



Ojai Water System Improvements Project

Final Initial Study – Mitigated Negative Declaration



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Acronyms and Abbreviations

AFY	Acre-Feet per Year
AMSL	Above Mean Sea Level
AQMP	Air Quality Management Plan
BMP	Best Management Practice
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBA	Condition Based Assessment
CBC	California Building Code
CEQA	California Environmental Quality Act
CIP	Capital Improvement Plan
CMP	Congestion Management Plan
CMWD	Casitas Municipal Water District
CO	Carbon Monoxide
CO ₂ e	Carbon Dioxide Equivalent
CY	Cubic Yards
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	Greenhouse Gases
GPM	Gallons per Minute
GSWC	Golden State Water Company
HDD	Horizontal Directional Drilling
HMMSCP	Hazardous Materials Management and Spill Control Plan
IS-MND	Initial Study-Mitigated Negative Declaration
LF	Linear Feet

Casitas Municipal Water District
Ojai Water System Improvements Project

MRZ	Mineral Resource Zone
MT	Metric Tons
NAAQS	National Ambient Air Quality Standards
NOx	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
OVSD	Ojai Valley Sanitary District
RCNM	Roadway Construction Noise Model
ROC	Reactive Organic Compounds
RWQCB	Regional Water Quality Control Board
SCAQMD	South Coast Air Quality Management District
SR	State Route
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
UBC	Uniform Building Code
USDA	United States Department of Agriculture
VCAPCD	Ventura County Air Pollution Control District
VCTC	Ventura County Transportation Commission
WMP	Water Master Plan

Chapter 1: Introduction

1.1 Project Title

Ojai Water System Improvements Project

1.2 Lead Agency Name and Address

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1.4 Project Background and Overview

Casitas Municipal Water District (CMWD) provides potable water to customers throughout its 137.5-square-mile service area in western Ventura County. CMWD serves over 65,000 residential customers and hundreds of agricultural customers throughout its service area. The CMWD service area boundary encompasses the city of Ojai, Upper Ojai, the Ventura River Valley area, the city of Ventura to Mills Road, and the Rincon and beach areas from Solimar to the Santa Barbara County line. The city of Ojai is in the northern portion of CMWD's service area. The Ojai Water System (Ojai system) was formerly owned and operated by Golden State Water Company (GSWC), a private water purveyor, although CMWD provided a portion of water supplies to the city. In June 2017, CMWD acquired the entire system from GSWC.

The Ojai system serves approximately 2,940 residences and businesses through a network of 45 miles of distribution pipeline, six storage reservoirs, five booster stations, and six groundwater wells. Historically, groundwater from the Ojai Valley Basin supplied over 85 percent of water to the Ojai system, with the remainder sourced from surface water in Lake Casitas (GSWC 2011). The Ojai Valley Basin has an operational safe yield of 5,026 acre-feet per year (AFY) with approximately 149 privately and publicly owned wells supplying water for tree crop agriculture, residents, and businesses in Ojai and the surrounding areas (CMWD 2018). Prior to CMWD's acquisition of the Ojai system, GSWC's extractions to supply potable water to the system accounted for approximately 41 percent of the basin's annual extraction, with the remainder extracted for agricultural and individual residential use (CMWD 2016). Other users of the groundwater basin include individual private wells and a number of mutual water companies serving agricultural and residential areas overlying the basin. The Ojai Basin Groundwater Management Agency oversees management and planning efforts for the non-adjudicated basin. CMWD also manages surface water in Lake Casitas.

The Ojai Water System Improvements Project (proposed project) involves the replacement of pipeline segments to improve fire flow and/or pipeline segments approaching the end of their service life. The general purpose of the proposed project is to improve fire flow and replace aging mains, not to increase pipeline capacity to serve additional customers. The proposed project replaces approximately eight miles of pipeline segments throughout the Ojai system service area, and includes plans to rehabilitate two tanks, demolish three existing tanks, and construct one new tank; rehabilitate one booster pump station, upgrade an additional pump station, demolish and construct two new pump stations, and abandon one pump station; and rehabilitate or replace six active wells in the Ojai system. Tank, booster pump station, and well rehabilitation involves replacing existing infrastructure with similar capacity infrastructure. Booster pump station upgrades would occur at the Heidelberger pump station and involve activities similar to pump rehabilitation, such as replacement of existing pumps, but also include installation of an additional pump. The proposed project also includes potential construction of a new well in the Ojai system.

Chapter 2, *Project Description*, provides a detailed description of the proposed project, including figures showing the proposed pipeline replacement and supporting infrastructure rehabilitation.

1.5 Project Location

The proposed project includes the potable water distribution system service area for the city of Ojai in western Ventura County. This system also serves unincorporated areas north and south of the city of Ojai and a small portion of the unincorporated Meiners Oaks community, west of Ojai. Ojai is approximately 15 miles inland from the city of Ventura and is bounded generally by San Antonio Creek to the east and south, State Route (SR) 33 to the west, and the Topa Topa Mountains to the north. Figure 1 shows the regional location of the Ojai system service area.

1.6 The Ojai Water System Condition Based Assessment and Water Master Plan

In November 2018, CMWD finalized the *Ojai Water System Condition Based Assessment (CBA) and Water Master Plan (WMP)* to “assist CMWD in long-term planning and budgeting for water system projects” (CMWD 2018). CMWD prepared the CBA and WMP to assess the ability of the system to meet the needs of current and future customers and evaluate the system condition and remaining useful life of Ojai system assets. The CBA and WMP identified a list of improvements to the Ojai system necessary to ensure existing and projected demands, including fire flow demands, are met. The Capital Improvement Plan (CIP) includes these projects and ranks them based on priority for completion.

Existing Potable Water Facilities

The Ojai Water System consists of approximately 45 miles of distribution pipelines and transmission mains. Transmission mains are large pipelines conveying raw water from supply sources to treatment and storage facilities; distribution pipelines connect to the transmission mains and transport water to customers in much smaller piping infrastructure. The CBA and WMP found most areas in the distribution system have adequate pressures across a range of demand scenarios, but the assessment identified four locations with low or high pressure due to their elevation in relation to the gravity reservoir in each zone. Many water mains are recommended for upgrade to improve system fire flow and pipeline velocities, and to replace aging infrastructure currently beyond its useful life.

The CBA and WMP evaluated pipeline condition using pipe age, material, historical leak reports, and CMWD operations staff knowledge. Approximately four miles of pipeline included in the CIP are recommended for replacement or abandonment based on condition. A pipeline replacement curve was generated based on when pipelines and assets will reach the end of their useful lives. Findings indicate over three miles of pipeline are close to exceeding their useful life, excluding pipes identified in a capacity or condition project. The CBA and WMP recommends CMWD budget \$0.72 million for pipeline replacements annually to replace aging infrastructure and maintain reliable service to existing customers (CMWD 2018).

CMWD maintains and operates five booster pump stations in the Ojai system. The CBA and WMP determined all stations are sized adequately to meet system demands except the Heidelberger Pump Station. This facility must meet maximum day demand plus fire flow. The CBA and WMP analysis recommended construction of a fire pump at the Heidelberger Pump Station to meet the requirements for fire flow. The condition of all booster pump stations ranged from poor to fair. The CBA and WMP determined all pump stations would require at least minor rehabilitation within the next ten years, with some needing major replacements (CMWD 2018). Subsequent technical memoranda prepared for CMWD recommend demolition of existing and construction of new Arbolada and Signal pump stations, and abandonment of the Valley View pump station.

The CBA and WMP included an evaluation of existing storage infrastructure in the Ojai system, specifically six storage tanks maintained by CMWD to provide operational, emergency, and fire flow storage. Diving inspection of these tanks revealed three tanks in poor condition: two Running Ridge tanks and the Signal tank. The CBA and WMP and subsequent technical memoranda prepared for CMWD recommend demolition of the Running Ridge tanks and Signal tank. The CBA and WMP predicts the Ojai system will face a storage deficit of 0.5 million gallons by 2027 and proposes more detailed technical evaluation of potential solutions, including abandonment and replacement of existing storage facilities or improvements in reliable pumping capacity and zone connections to increase storage throughout the system (CMWD 2018). An additional 0.6-million gallon (MG) tank at the Arbolada facility or a vacant parcel to be acquired by CMWD may be constructed to meet storage demands.

1.7 Existing Setting and Surrounding Land Uses

Land uses in and around the project area are predominantly residential with some commercial, mixed-use, and public facilities zoning. The pipeline alignments primarily traverse public roads through residential and commercial areas.

1.8 General Plan Land Use Designation

The proposed project is in the vicinity of the following City of Ojai and County of Ventura General Plan land use designations: Agriculture, Open Space/Resource, Institutional/Recreational, Very Low Density Residential, Low Density Residential, Medium Density Residential, Medium High Density Residential, High Density Residential, General Commercial, Downtown Commercial, Commercial Manufacturing, Manufacturing Planned Development, Public/Quasi-Public, Village Mixed-Use, and Rural/ Urban Reserve.

1.9 Required Approvals

CMWD is the lead agency under the California Environmental Quality Act (CEQA) with responsibility for approving the project. Table 1 lists the other approvals potentially required for the project.

Table 1 Summary of Potentially Required Approvals

Regulating Agency	Potential Permit/Approval	Reason for Permit/Approval
State Water Resources Control Board, Los Angeles Regional Water Quality Control Board	National Pollutant Discharge Elimination System (NPDES) Stormwater Construction General Permit, Clean Water Act Water Quality Certification	Construction activities resulting in ground disturbance exceeding one acre
Caltrans	Encroachment Permit	Pipeline replacement along Ojai Avenue (SR 150)
County of Ventura Department of Transportation	Encroachment Permit	Pipeline replacement in County rights-of-way, including along County-managed segments of Country Club Drive and Verano Drive
City of Ojai	Encroachment Permit	Pipeline replacement along roadway segments in the city of Ojai
Ventura County Air Pollution Control District	Authority to Construct and Permit to Operate	Ensure all replacements of and modifications to existing CMWD facilities comply with Ventura County Air Pollution Control District rules, as well as state and federal new source review requirements
<u>Ventura County Watershed Protection District</u>	<u>Encroachment Permit/Watercourse Permit</u>	<u>Required for activities in WPD right-of-way/Potentially required for potential activities within, over or under the bed or banks of a WPD jurisdictional channel</u>
State Water Resources Control Board Division of Drinking Water	Domestic Water Supply Permit/Permit Amendment	Potential new well construction and operation
California Department of Fish and Wildlife	Lake and Streambed Alteration Agreement	Potential disturbance of riparian habitat ¹

¹ As described in Section 3.4, *Biological Resources*, the California Native Diversity Database (CNDDDB) lists three sensitive plant communities in the nine quadrangles surrounding the BSA. One of these communities, southern California steelhead stream, is present in the BSA (i.e., San Antonio Creek). The other two communities, southern coast live oak riparian forest and southern sycamore alder riparian woodland, were not observed within the BSA.

1.10 Scope and Use of this Document

This Initial Study-Mitigated Negative Declaration (IS-MND) provides an assessment of the potential impacts to environmental resources resulting from implementation of the proposed project. The discussion and level of analysis are commensurate with the expected magnitude and severity of each impact to environmental resources. This document addresses the environmental effects of constructing, replacing, and operating potable water conveyance and storage infrastructure. The analyses in Chapter 3 are based on technical reports and studies prepared for the project,

supplemented with other public information sources, provided in the list of references. This IS-MND evaluates the potential impacts to resource areas in Appendix G of the *State CEQA Guidelines*.

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

Mitigation measures have been developed where necessary to reduce potential impacts to a less than significant level. The Mitigation Monitoring and Reporting Program (Appendix G) specifies the conditions of approval necessary for the proposed project to mitigate or avoid significant effects on the environment.

1.11 Impact Terminology

The anticipated environmental impacts are identified for each of the resource areas listed above. The level of significance for each resource area uses CEQA terminology as specified below:

- **Potentially Significant.** Adverse environmental consequences with the potential to be significant according to the threshold criteria identified for the resource, even after mitigation strategies are applied and/or a potentially significant adverse for which no mitigation has been identified. If any potentially significant impacts are identified, an Environmental Impact Report (EIR) must be prepared to meet the requirements of CEQA.
- **Potentially Significant Unless Mitigation is Incorporated.** Adverse environmental consequences with the potential to be significant but can be reduced to less than significant levels through the application of identified mitigation strategies not already incorporated into the proposed project.
- **Less than Significant.** Potential adverse environmental consequences have been identified, but they are not so adverse as to meet the significance threshold criteria for the resource. Therefore, no mitigation measures are required.
- **No Impact.** No adverse environmental consequences have been identified for the resource or the consequences are negligible or undetectable. Therefore, no mitigation measures are required.

1.12 Recommended Level of Environmental Documentation

Based on the analysis presented herein, an MND is the appropriate level of environmental documentation for the project.

Chapter 2: Project Description

The proposed project involves the trenching and replacement of pipelines to improve fire flow and/or which are approaching the end of their service life. The general purpose of the proposed project is to improve fire flow and replace aging mains, not to increase pipeline capacity for additional customers. The proposed project would replace approximately eight miles of pipeline segments throughout the Ojai system service area. Project implementation would occur over approximately ten years, with the first phase of project construction in the first three years and the second phase of construction in the subsequent seven years. The pipelines identified in the CMA and WMP represent the initial scope of pipeline replacements. Over the course of project implementation, more pipelines may be identified as having multiple leaks or breaks, or for which replacement makes sense because they are close to other planned replacements. This work will be performed at the discretion of CMWD. The details of additional pipeline improvements are unknown; thus pipeline or other water system improvements not described in this document will require separate environmental review under CEQA.

The proposed project includes plans to rehabilitate two tanks, demolish three existing tanks, and construct up to one new tank; rehabilitate one booster pump station, upgrade an additional pump station, demolish and construct two new pump stations, and abandon one pump station; and rehabilitate or replace six active wells in the Ojai system. The proposed project also includes potential construction of a new well in the Ojai system.

The project site is in the city of Ojai and in surrounding unincorporated areas in west Ventura County. Figure 1, Regional Project Location, Figure 2, Project Site Vicinity, and Figure 3, Jurisdictional Boundaries, show the project site in a regional and local context, including in relation to city and county boundaries.

2.1 Purpose of the Project

CMWD finalized a CBA and updated the WMP for the Ojai system in November 2018. The CBA and WMP identified a prioritized list of improvements to the Ojai system necessary to meet existing potable water demand and existing and projected fire flow demands for continued reliable water service. The WMP recommended projects to correct existing and anticipated future deficiencies in the Ojai system. Several of these projects include pipeline replacement, storage tank rehabilitation, well improvements, potential well construction, and booster pump rehabilitation and upgrades.

The proposed project consists of recommended construction included in the CIP and would result in improved water system function, improved fire flow, and replacement of aging infrastructure and pipelines. The proposed project would replace undersized pipelines and associated infrastructure or infrastructure approaching the end of service utility. It would not increase pipeline capacity to serve additional customers.

2.2 Pipeline Construction

The proposed project would replace approximately 42,000 linear feet (LF) of potable water pipeline in public rights-of-way in the city of Ojai and surrounding unincorporated areas of Ventura County

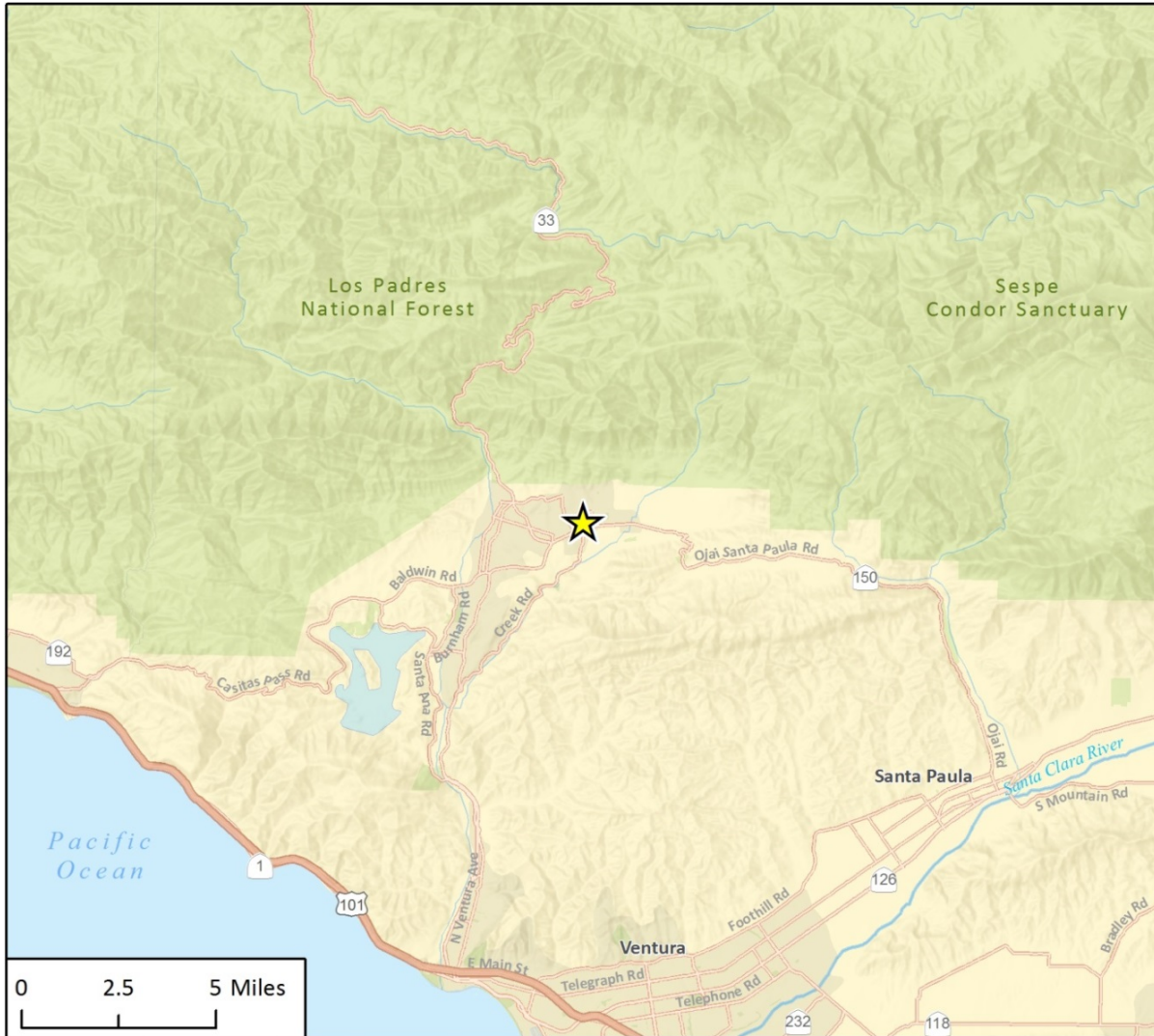
(Figure 2). The majority of the pipeline replacement would be in Ojai, with approximately 0.5 miles of pipeline repairs and replacement extending into unincorporated Ventura County. The new pipeline would only replace and rehabilitate existing infrastructure to ensure effective use. It would not expand the water system network and would only increase service distribution capacity to improve fire flow. Most of the pipeline repairs and replacement would occur in the Main Zone, one of six pressure zones for the Ojai system indicated in Figure 4. The following streets contain pipelines needing improvements due to age, leaks, and condition decay. Figure 5 shows streets where improvements will be done.

1. Grand Avenue (from Montgomery Street to near San Antonio Creek)
2. Aliso Street (from Foothill Road to Montgomery Street)
3. Foothill Road (from El Toro Road to Aliso Street)
4. Palomar Road (from northern terminus to El Camino Road)
5. Montgomery Street (from Aliso Street to Grand Avenue)
6. Del Norte Road (below Arbolada Reservoir)
7. Emily Street (from East Summer Street to Raymond Street)
8. Ventura Street (from Ojai Avenue to Summer Street)

The following streets contain pipelines needing replacement for fire flow improvements. Figure 5 shows them as well.

1. Cuyama Road (from Sierra Road to El Paseo Road)
2. El Paseo Road (from Sierra Road to Cuyama Road)
3. Topa Topa Drive (from Ojai Avenue to San Antonio Street)
4. San Antonio Street (from Topa Topa Drive to unnamed drive at 411 San Antonio Street)
5. Crestview Drive (from Santa Ana Street to approximately 300 feet south of Santa Ana Street – eastern intersection)
6. Canada Street (from Matilija Street to Summer Street)
7. Sunset Place (from Mountain View Avenue to Grandview Avenue)
8. Country Club Drive (from Ojai Valley Inn and Spa to approximately 400 feet south of Oak Drive)
9. West and East Ojai Avenue (from Bristol Road/San Antonio Street to El Paseo Road; from Ventura Street to Oak Glen Avenue)
10. Lion Street (from Aliso Street to Grand Avenue)
11. Pleasant Avenue (from Drown Avenue to Daly Road)
12. Daly Road (from Pleasant Avenue to Montgomery Street)
13. Verano Drive (from Cuyama Road to terminus)
14. Park Avenue (from Signal Street to Olive Street)
15. Blanche Street (from West Topa Topa Street to Santa Ana Street)
16. Santa Ana Street (from Blanche Street to Ventura Street)
17. Fairway Lane (from Ojai Avenue to terminus)

Figure 1 Regional Project Location



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★ Project Location

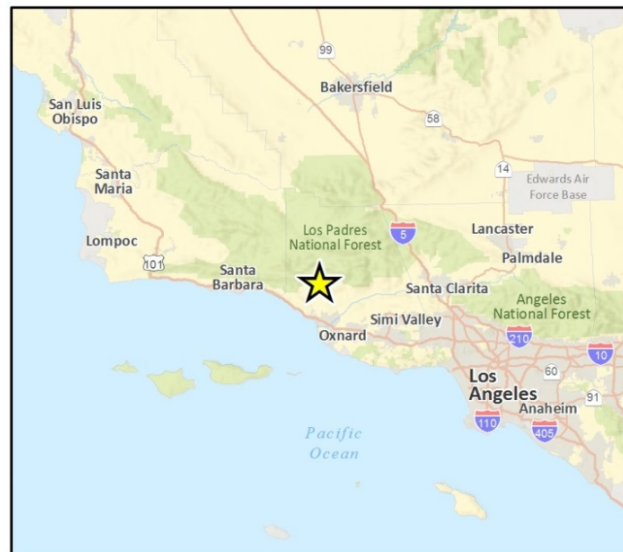
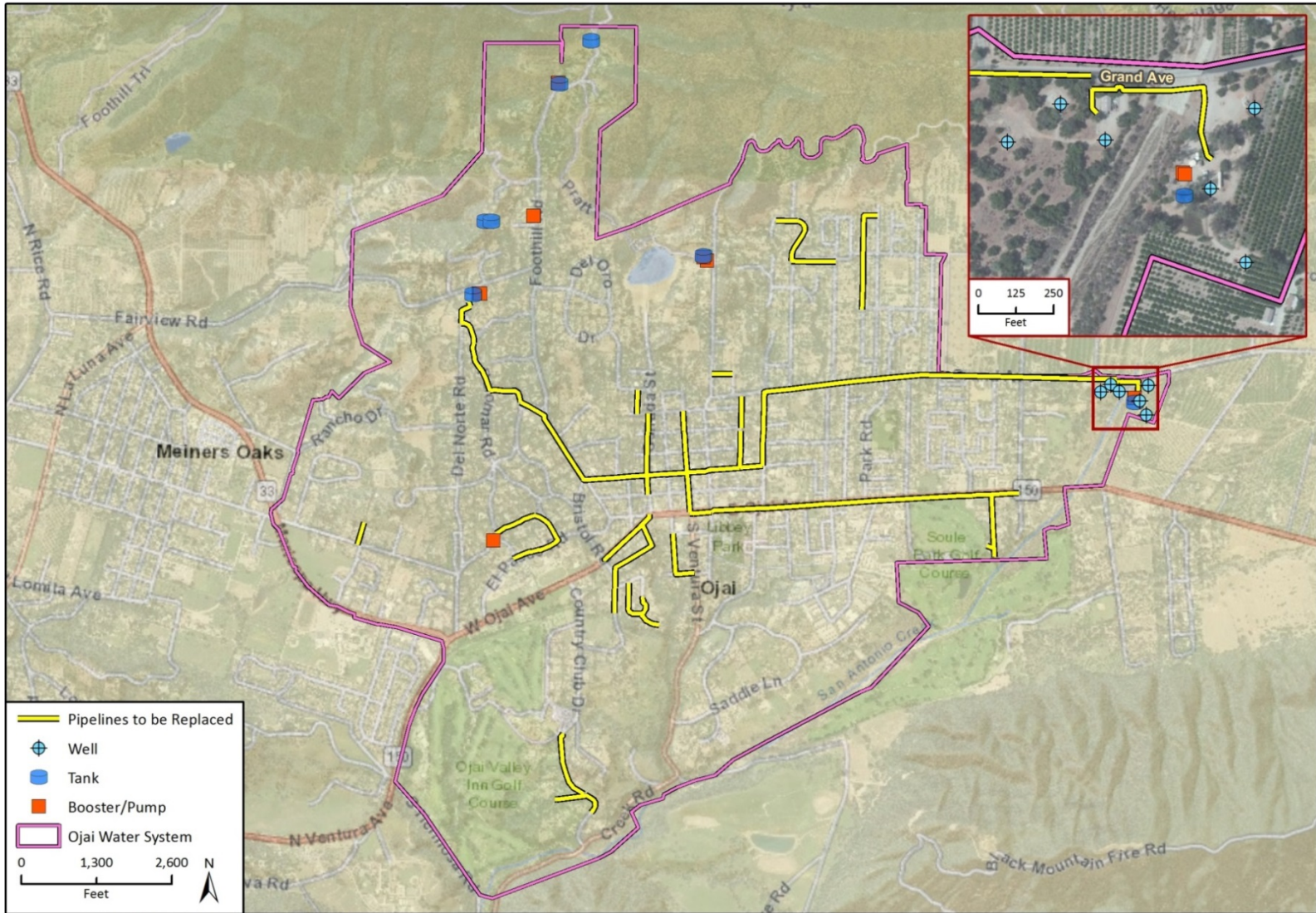


Fig 1 Regional Location

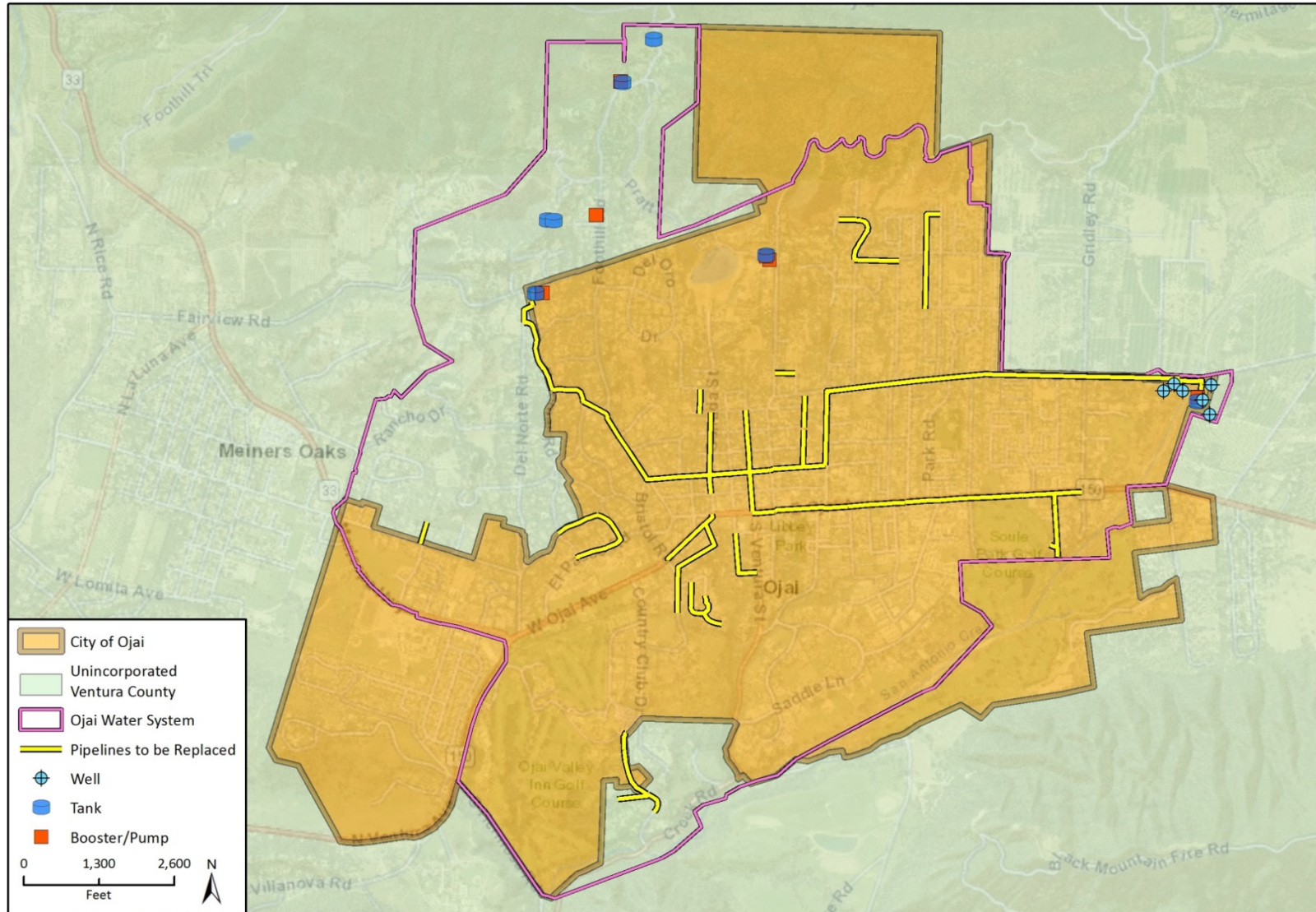
Figure 2 Project Site Vicinity



Imagery provided by Esri, Microsoft Bing and their licensors © 2018.
 fCMWD, 2018.

Fig 2 Project Location

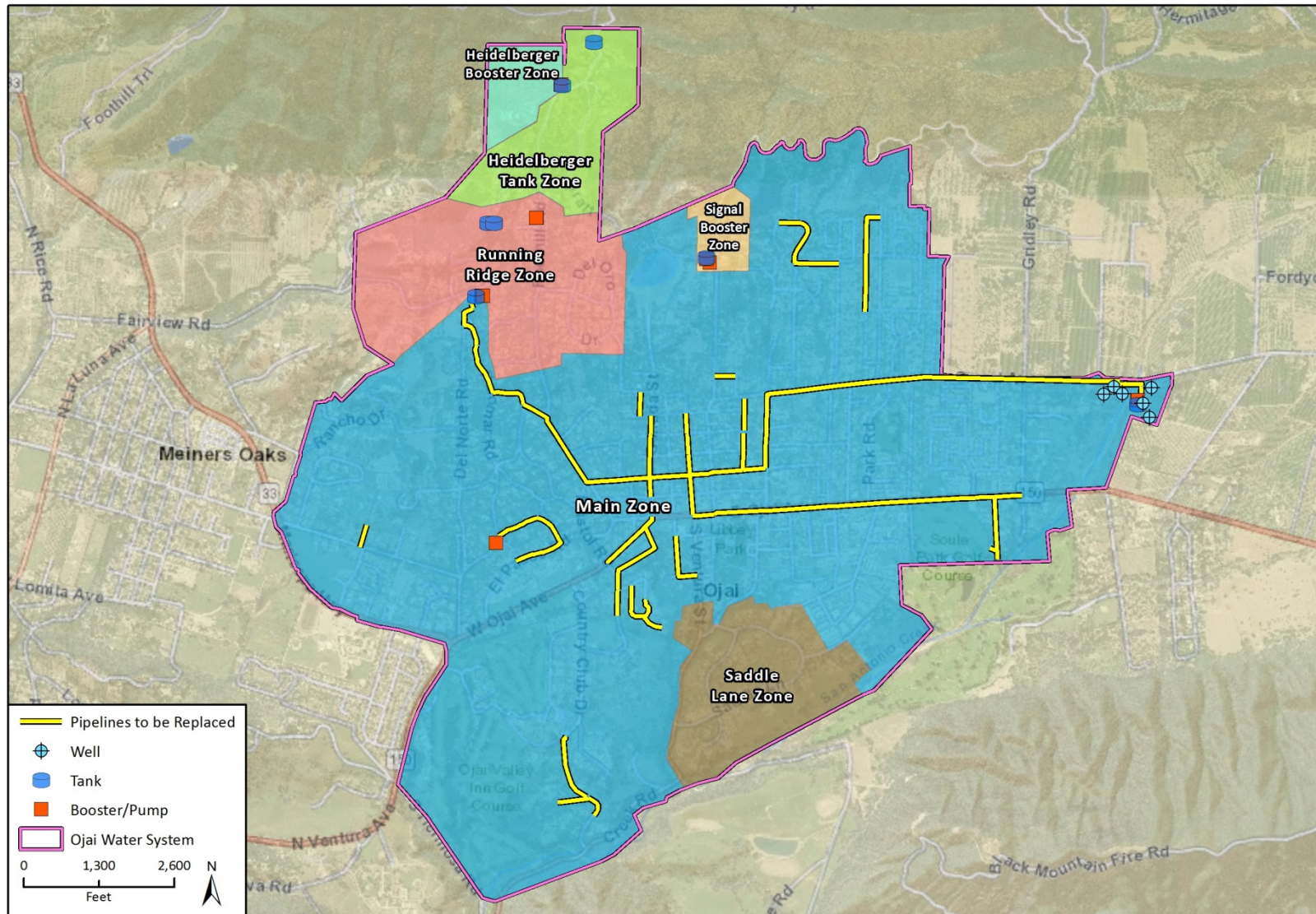
Figure 3 Jurisdictional Boundaries



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Fig 3 Project Jurisdictions

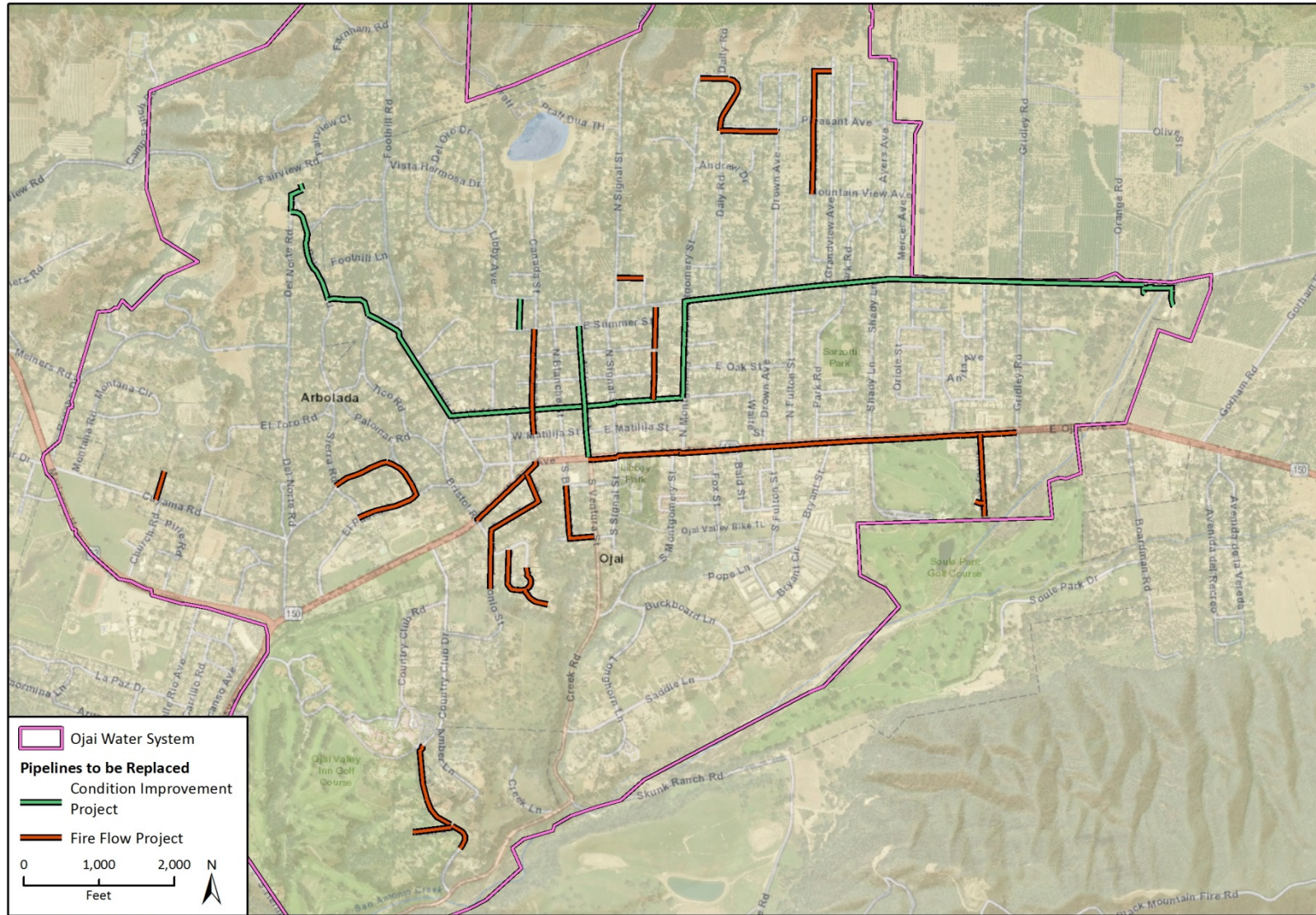
Figure 4 Ojai System Pressure Zones



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 Additional data provided by CMWD 2018.

Fig 5 Pressure Zones

Figure 5 Pipeline Replacement Project Types



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Fig 4 CondFireProj

Typically, pipeline replacement will be completed using open-cut trenching. In the event trenchless methods are required, construction may include pipe bursting, jack and bore, and horizontal directional drilling if preliminary designs show utility conflicts, significant traffic control requirements, or other issues with the potential to interfere with trenching activities. Pipelines would be typically eight to twelve inches in diameter and would require a three-foot wide trench in which to work and place the pipe. Trenches would be no more than five feet deep, unless there is a need to cross another utility. In this case, the trench depth would depend on the depth and required clearance (generally, at least one foot) between the pipeline and the other utility line.

Typical open-cut pipeline construction would be accomplished at 200 to 300 feet per-day. This includes trenching, installing the pipe, backfilling, and temporary plating. Backfill material around pipelines would be compacted sand and/or sand-cement slurry. Material would be placed at least four inches under the pipe, six inches on each side, and one foot above the pipe. The total volume of backfill required is dependent on the length of the pipeline. Generally, every linear foot of pipeline requires 0.11 cubic feet of sand (1,000 feet of pipeline requires 110 cubic feet of sand). Assuming two feet of cover over the sand backfill, earth backfill requires approximately 0.22 cubic feet of backfill per linear foot of pipeline. Paving materials would make up the remaining one foot of trench backfill.

Final paving would be performed once the entire pipeline segment is installed. Paving would progress at the rate of approximately 1,000 square feet per day. Pipeline construction using open-cut method requires the use of an excavator, wheeled loader, dump truck, and vibrating compactor. Trenchless pipeline construction uses specialized equipment depending on the method used. Paving after the pipeline is installed would require a wheeled loader, paving machine, and roller.

Materials required for pipeline construction include pipe, fittings and appurtenances, sand, cement slurry, and natural earth material for backfill, and paving materials. All materials would be delivered to the staging areas—CMWD wellfield and tank sites—for each project at the beginning of construction and materials needed for the day's work would be taken from the staging area to the work site. The number of vendor or material delivery trips would depend on the size of the specific project. It is estimated for each 1,000 feet of pipeline construction, five material deliveries per day would occur.

2.3 Tank Construction

In addition to pipeline improvements, the proposed project would also involve rehabilitating two water storage tanks at the Heidelberger and San Antonio Forebay facilities, demolition of two tanks in the Running Ridge Zone and one in the Signal Zone, and construction of a new tank in the Signal Zone. Figure 2 shows the locations of these water storage tanks. Several options to address the poor condition of both Running Ridge water storage tanks were evaluated and considered, including: abandonment of the existing tanks and construction of a new tank in a different location; conversion of this pressure zone to a pumped zone; or use of an existing CMWD tank close to the same elevation. The recommended project includes: connecting the Running Ridge zone to an existing CMWD reservoir; constructing a new flow meter and control valve assembly; constructing a new sodium hypochlorite feed system; and demolishing the Running Ridge Tanks. A similar evaluation was conducted to determine the best course of action to address the poor condition of the Signal Zone water storage tank. Options considered included adding storage at the same site, construction of a water storage tank at a new site, or making use of existing CMWD storage in the overall system. The recommended project includes: constructing a new tank in the Signal Zone;

constructing a new flow meter and control valve assembly; constructing a new sodium hypochlorite feed system; constructing a new booster pump station at a lower elevation; and demolishing the existing Signal Tank and booster pump station. Sites for the new booster pump station and new tank have not yet been identified; CMWD will acquire these sites once this has taken place. This analysis assumes that the sites for the new tank and new booster pump station would be similar to the sites for other existing tanks and pump stations and would not contain sensitive biological or cultural resources. Depending on the characteristics of the chosen sites, additional CEQA documentation may be required. See Section 2.5, *Booster Pump Construction*, for additional details about the proposed booster pump improvements.

Tank construction would require over-excavation to create a suitable pad for the tank and depends on the underlying soil conditions. No more than five feet of over-excavation is anticipated, but this would be confirmed with geotechnical investigation during the project design phase. The diameter of the excavation depends on the size of the tank. Tank piping would be installed underground, with trench depth expected to be less than five feet. Tank construction would require an excavator, wheeled loader, dump truck, crane, water truck, and vibrating compactor. Pipe, fittings and appurtenances, sand for tank bedding, steel tank plates, electrical equipment, concrete for the tank foundation and drainage improvements, and asphalt paving materials would be required for tank construction. Materials would be delivered in phases as needed for construction. An estimated ten material deliveries would occur per day during construction.

The duration of construction would depend on the size of the tank and the site conditions. Assuming an undeveloped parcel, site mobilization and clearing would take approximately four weeks. Excavation and grading would last approximately eight weeks. Underground pipeline construction would take approximately eight weeks. Tank erection, including coating, would require approximately eight weeks. Electrical and instrumentation would last approximately four weeks. Site improvements, such as paving and drainage, would take approximately four weeks, and final testing and acceptance would take an additional approximately four weeks. The total time required for tank construction and testing would be approximately 40 weeks.

Tank rehabilitation may include interior and exterior recoating of the tank, replacing ladders and fall protection equipment, installing cathodic protection, and installing seismic anchors. The tank will have to be empty to facilitate the work. Providing water to customers affected by the temporary loss of tank storage during rehabilitation includes installation of temporary storage tanks and piping. Construction equipment would typically include work trucks, sand blasting equipment if the existing coating is to be removed, spray equipment for coating application, and pile driving equipment for seismic anchors. Depending on the size of the tank, rehabilitation may take two to three months per tank. Tank rehabilitation usually occurs during the winter when water demands are low.

Demolition of bolted steel tanks includes removal of the roof, then the bolts holding each wall panel in place, followed by removal of the panels from the top down. Scaffolding would be used to support workers and a crane would be used to remove each panel. The panels may be cut into smaller sections to facilitate removal from the site. Aboveground piping would be removed. The concrete foundation, if removed, would be broken up using a jackhammer. Below-grade piping would be severed and be abandoned in place. Depending on the size of the tank, demolition would occur over approximately one to two months.

2.4 Well Construction

The proposed project would also rehabilitate or replace six existing wells in the Ojai system. These wells are the San Antonio #3 Well, San Antonio #4 Well, Gorham Well, Mutual Well #4, Mutual Well #5, and Mutual Well #6. Figure 2 shows the location of these wells. CMWD is also considering constructing a new well at the Grand Avenue pump plant site to improve production capacity. Improvements to the existing wells would occur in the form of chemical and/or mechanical rehabilitation or well replacement. CMWD identified these wells for rehabilitation or replacement based on design capacity versus 2017 observed capacity at each well. The intent of the proposed project is to restore the design capacity of the wells either through rehabilitation or replacement of the existing wells or installation of a new well. Aging, inefficient wells threaten supply reliability throughout the Ojai system. Well rehabilitation and installation would improve supply reliability as opposed to increasing groundwater supplies through withdrawals from the Ojai Valley Basin. Table 2 shows design capacity and 2017 observed capacity (in gallons per minute [gpm]) of each of the wells proposed for rehabilitation.

Table 2 Well Production Capacity

Well	Design Capacity (gpm)	2017 Observed Capacity (gpm)
Mutual Well #4	275	76
Mutual Well #5	670	140
Mutual Well #6	471	280
San Antonio #3	551	152
San Antonio #4	500	240
Gorham	1,000	239
Total	3,467	1,061

gpm: gallons per minute
 Source: CMWD 2018

Well drilling would be performed using the mud rotary method with a conventional truck-mounted drill rig. Support equipment for construction would include a flatbed truck, water truck, skip loader, crew truck, generator, and lights. Materials required for well drilling would include drill mud, steel casing and screen, sand for the annular space, and a grout seal. All materials would be delivered and stored at the well site at the beginning of construction. An estimated five material deliveries would occur per day.

Well construction scheduling and duration would depend on the depth of the well. Assuming a new well at the San Antonio site, Mutual site, or an undeveloped parcel, site mobilization and clearing would take approximately four weeks. Well drilling work would be conducted in continuous shifts (24 hours per day, seven days per week) until the desired depth is reached. Well drilling would take approximately three weeks. Other work includes electrical service and pump installation, which would be completed in approximately two weeks. Well construction would last approximately nine weeks.

2.5 Booster Pump Construction

Several booster pump stations throughout the system have been identified for improvements, rehabilitation, and upgrades. The CBA and WMP recommends the addition of a fire pump at the Heidelberger Booster Pump Station and the evaluation of the Signal and Running Ridge zones for improvements at the Signal and/or Arbolada (formerly Fairview) and Heidelberger Booster pump stations. The proposed project would replace booster pumps at the Heidelberger pump station and add a fire pump to provide a fire protection zone. Rehabilitation efforts have also been identified for the San Antonio pump station. Based on a recent engineering evaluation, the proposed project would also involve demolition of the existing Signal Booster Pump Station and construction of a new booster pump station at a lower elevation as described in Section 2.3, *Tank Construction*.

Demolition and reconstruction of the Arbolada pump station would also occur, with the existing pump station replaced by a new pump station with pumps serving the Running Ridge and Heidelberger Zones. The existing Valley View pump station would be abandoned.

CMWD identified stations for upgrades and rehabilitation based on their design capacity versus the 2017 observed capacity. The proposed project would restore the design capacity of the pump stations through rehabilitation of the existing pumps to reliably meet existing system demand. Table 3 shows the design capacity and 2017 observed capacity (in gpm) of each of the booster pumps proposed for improvement.

Demolition of a pump station includes removal of pumps, motors, and electrical and other above-grade equipment. Above-grade piping would be removed to approximately three feet below grade and remaining below-grade piping would be abandoned in place. The site would then be graded to a uniform grade. Typical construction equipment would include: a crane to remove pumps, motors, and large electrical equipment, such as a backhoe to excavate pipe, a grader to restore the site, and typical work trucks for construction workers. Pump station demolition would take one to two months.

Construction of a new pump station includes site grading, underground and aboveground piping, concrete pads for pumps, piping, and electrical equipment, electrical service from Southern California Edison, installation of pumps, motors and electrical equipment, minor site improvements such as fencing and awnings over equipment, and start-up and testing. Typical construction equipment includes an excavator, grader, crane, and standard work trucks. Depending on the size, pump station construction may take two to three months per station.

Typical pump station rehabilitation includes replacement of pumps nearing the end of their useful life or which have lost efficiency, replacing electrical equipment, upgrading lighting fixtures, recoating aboveground piping, seismic anchoring, and minor site improvements such as fencing. Construction equipment includes work trucks and a crane to install pumps and/or electrical cabinets. Overall pump station rehabilitation would take approximately one to two months per site.

Table 3 Pump Plant Capacity

Booster Pump Station	Pump	Design Capacity (gpm)	2017 Observed Capacity (gpm)
San Antonio	Booster A	1,500	1,529
	Booster B	1,500	1,469
Signal A	Signal A	600	181
Signal B	Signal B	100	56
Arbolada (formerly Fairview)	Arbolada A	250	283
	Arbolada B	250	263
Valley View	Valley View A	250	198
	Valley View B	250	288
Heidelberger	Heidelberger A	75	6
	Heidelberger B	75	38
Total		4,850	4,311

gpm: gallons per minute
 Source: CMWD 2018

2.6 Construction Activities, Staging, and Timing

A majority of project construction activities would occur during normal CMWD working hours, from 8:00 a.m. to 4:30 p.m. Well drilling would occur 24 hours per day until the proper well depth is reached. Pipeline construction in Ojai Avenue would be subject to an encroachment permit from the California Department of Transportation (Caltrans), which would limit construction activities to either 9:00 a.m. to 3:00 p.m. or night hours. Other special circumstances, such as emergency repairs, may also require an alternative construction schedule for certain project components.

CMWD would use the wellfield sites and tank sites for material and equipment storage throughout the duration of the construction period. For pipeline construction, contractor employees would likely park on public streets where it is allowed. For construction at tanks and wells, the contractor and employees would park on site. Approximately 10 roundtrips would occur per day for pipeline, tank, and well construction.

Pipeline construction would progress at the rate of approximately 200 to 300 feet of pipeline per day. Full street closures during this work would not be necessary, as the trench should be on one side of the street, in the public right-of-way. Traffic control would be set up to allow one travel lane with flagmen to the greatest extent possible during construction.

Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact determined to be “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

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


Determination

Based on 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 to the project have been made by or agreed to by 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.

Casitas Municipal Water District
Ojai Water System Improvements Project

- I find that although the proposed project could have a significant effect on the environment, because all potential 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

Julia Aranda, PE

Printed Name

April 17, 2019

Date

Engineering Manager

Title

Chapter 3: Environmental Checklist

3.1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Except as provided in Public Resources Code Section 21099, would the project:

a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a. Would the project have a substantial adverse effect on a scenic vista?

The project site is located in the Ojai Valley, mostly in the city of Ojai. Some project components extend into unincorporated Ventura County, including approximately 0.5 mile of planned pipeline replacement, the Running Ridge and Heidelberger storage tanks, the Valley View and Heidelberger booster stations, and Gorham Well #1. Figure 2, *Project Site Vicinity*, and Figure 3, *Jurisdictional Boundaries*, in Chapter 2, *Project Description*, show the project alignment, the surrounding area, and the jurisdictions crossed by the project alignment.

The County of Ventura General Plan Resources Element identifies scenic viewsheds of lakes warranting special protection, including Lake Casitas and Matilija Lake near Ojai (County of Ventura 2011). The project area is approximately 3.2 miles southeast of Matilija Lake and 4.3 miles northeast of Lake Casitas. No portion of the project area is located within the designated scenic viewshed for either of these lakes, as delineated in Figure 1.7.2 of the County’s General Plan Resources Element

(County of Ventura 2011). The City of Ojai General Plan does not specifically designate scenic vistas but the City's General Plan Open Space Element does state scenic open space includes those areas with views of the city and featuring the aesthetic quality of the Ojai Valley's ridgelines (City of Ojai 1987b). Although surrounded by mountainous areas, the relatively flat nature of the Ojai Valley floor means scenic vistas of mountains and ridgelines are commonly obscured by intervening structures and vegetation in the project area. Nevertheless, public rights-of-way in the project area offer occasional views of the undeveloped Topa Topa Mountains in Los Padres National Forest to the north and of Sulphur Mountain to the south.

Construction activities may include grading, excavation, trenching, and erection of temporary safety barriers and temporary exclusion fencing. These activities may temporarily obstruct or degrade scenic vistas for residents and motorists in the project site vicinity, but this change would end once project construction is complete and the project site is restored to pre-construction conditions. Following construction, the pipeline replacements would not be visible and would not result in permanent changes affecting scenic vistas. The proposed project alignments, as well as upgraded, rehabilitated, or replaced well, pump station, and tank sites would be returned to a similar pre-construction setting following project completion. Tank demolition may occur under the project at the Running Ridge and Signal tank sites. The project may involve construction of a new tank, either at the Arbolada facility or a vacant parcel to be acquired by CMWD. While this would involve construction of new infrastructure on a currently undeveloped site, the infrastructure would be similar in size to surrounding structures and existing CMWD tanks, which do not obstruct scenic vistas in the project area. Therefore, impacts to scenic vistas from construction and operation of the proposed project would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings in a state scenic highway?

No state scenic highways are visible from the proposed pipeline alignment or well, tank, or pump station improvement sites. SR 33 is the closest designated state scenic highway, from 6.4 miles north of SR 150 to the Santa Barbara County line (Caltrans 2018). This stretch of highway is approximately 3.5 miles north of the nearest proposed project improvements at the Heidelberger tank and pumping station, and obstructed from view by the Topa Topa Mountains. All of SR 150, including Ojai Avenue through the project site, is eligible for listing as a state scenic highway, but the roadway is not designated officially. The proposed project consists of belowground pipeline replacements and improvements to wells, pump stations, and tanks. Pipelines would be constructed underground primarily within previously disturbed public rights-of-way. Tanks, pump stations, and wells would appear substantially similar to existing conditions following rehabilitation, upgrades, or replacement. No trees, rock outcroppings, or historic buildings within a state scenic highway would be affected. Therefore, the project would not result in a substantial adverse effect on scenic resources visible from a state scenic highway and no impact would occur.

NO IMPACT

- c. *Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

The project area is surrounded by undeveloped mountain areas to the north and south. While elevations range from under 700 feet above mean sea level (amsl) in the southern portion of the project area to approximately 1,400 feet amsl near the Heidelberger tank and pumping station in the north, the majority of the project area is relatively flat through the city of Ojai. The small town visual character of the project site is characterized by urban and suburban commercial and residential development surrounded by recreational open space, agricultural uses, and undeveloped mountain ridges. Figure 6 shows images representing the visual character of the project area.

The project area spans the city of Ojai and small portions of unincorporated Ventura County. Title 10, Chapter 2, Article 20 of the Ojai Municipal Code contains the City's design review policies. Pursuant to California Government Code 53091, the project would not be subject to the design review policies contained in the City's zoning regulations. Local zoning ordinances do not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water.

Construction of the proposed project would be visible from surrounding land uses and would temporarily alter the existing visual character and quality of the project area and vicinity. A temporary change in visual character would result from the presence of construction equipment and material, stockpiles of soil, and construction vehicles during pipeline replacement and well, tank, and pump station rehabilitations and upgrades. Pipeline replacement would progress at the rate of approximately 200 to 300 LF per day. Therefore, the visual impacts of construction activity at any given location would be limited to a few days. Well, tank, and pump station improvements would primarily occur at the sites of existing infrastructure and, therefore, would not substantially alter the scenic quality or visual character of these sites. A new tank, if constructed, would be similar in size, massing, and appearance to existing tanks and potable water infrastructure in the project area and would not substantially alter the scenic quality or visual character. Construction equipment and materials would be removed from all sites upon completion of construction activities. Due to the temporary nature of construction activities and the removal of most visible project components following completion of construction, construction and operation of the proposed project would not substantially degrade the existing visual character or quality of the project site and its surroundings and would not conflict with any regulations governing scenic quality in the project area as no regulations related to scenic quality apply to the proposed project. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

Figure 6 Project Area Photos



Photo 1: North Montgomery Street at East Aliso Street, looking south toward Sulphur Mountain.



Photo 2: El Camino Road, looking west.



Photo 3: Canada Street at West Oak Street, looking north toward Los Padres National Forest.



Photo 4: Mutual well site along Grand Avenue, looking south.

- d. *Would the project create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?*

The proposed pipeline replacements would not create a new source of light or glare once construction is complete, as the pipelines would be located underground. The project would involve rehabilitation of two tanks, one booster pump station, upgrades to an additional booster pump station, and demolition and reconstruction of two pump stations. Rehabilitation, upgrades, or reconstruction of these facilities may involve upgrading lighting fixtures. However, such improvements would be similar to existing infrastructure during operation, and additional lighting beyond what is currently provided for existing tanks, pump stations, and wells is not proposed. Operational impacts with respect to light and glare would be less than significant.

Proposed project components may create light and glare during construction due to the presence of construction vehicles and equipment. Construction would occur primarily during the daytime hours, though late afternoon activities during the winter could require the use of lighting. Additionally, nighttime construction may be required in some cases, including during work along SR 150 pursuant to the Caltrans encroachment permit. This light may be visible from surrounding roadways and residential and other land uses, but the lighting would not face toward adjacent uses and would be directed towards pipeline installation activities. Along the project alignment, SR 150 is a commercial corridor with few residential receptors sensitive to light trespass or glare. Any construction lighting used would be shielded to minimize impacts to any nearby receptors. As such, light and glare from occasional nighttime construction activities would not disturb sensitive receptors substantially. Pipeline construction would progress at the rate of approximately 200 to 300 LF per day.

Therefore, construction activities would be temporary, lasting no more than a few days at any given location, and potential impacts during construction associated with light or glare would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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3.2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

-
- a. *Would the project convert Prime Farmland, Unique Farmland, 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. *Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*
 - c. *Would the project 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. *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

- e. *Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?*

The project area is not currently in agricultural production and does not contain Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or land with a Williamson Act contract (California Department of Conservation [DOC] 2016). No part of the proposed project is located on forest land or timber land (City of Ojai 1997).

The proposed project also would not cause the loss of forest land or conversion of forest land to non-forest use. Due to the absence of agricultural land at the project site or in the surrounding area, the proposed project would not involve changes to the existing environment which could result in conversion of Farmland to a non-agricultural use. The project would not expand potable water service capacity and, therefore, would not result in or support new residential development leading to the conversion of Farmland to non-agricultural use. No impact to agricultural or forest resources would occur.

NO IMPACT

3.3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The project area is in the South Central Coast Air Basin (Basin) which covers San Luis Obispo, Santa Barbara, and Ventura Counties. The Ventura County Air Pollution Control District (VCAPCD) monitors and regulates the local air quality in Ventura County and administers the Air Quality Management Plan (AQMP). The analysis presented in this section is based on information found in the Ventura County Air Quality Assessment Guidelines (Guidelines), adopted by the VCAPCD in 2003.

Air quality is affected by stationary sources (e.g., industrial uses and oil and gas operations) and mobile sources (e.g., motor vehicles). Air quality at a given location is a function of several factors, including the quantity and type of pollutants emitted locally and regionally, and the dispersion rates of pollutants in the region. Primary factors affecting pollutant dispersion are wind speed and direction, atmospheric stability, temperature, the presence or absence of inversions, and topography. The project site is located in the southeastern portion of the Basin, which has moderate variability in temperatures, tempered by coastal processes. The air quality within the Basin is influenced by a wide range of emission sources, such as dense population centers, heavy vehicular traffic, industry, and weather.

Air Quality Standards and Attainment

The VCAPCD is required to monitor air pollutant levels to ensure National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) are met. If the standards are met, the Basin is classified as being in “attainment.” If the standards are not met, the Basin is classified as being in “nonattainment” and the VCAPCD is required to develop strategies to meet the standards. According to the California Air Resources Board (CARB) Area Designation Maps, the project site is located in a region identified as being in nonattainment for the ozone NAAQS and CAAQS and nonattainment for the particulate matter less than 10 microns in diameter (PM₁₀)

CAAQS (CARB 2015). In February 2017, the VCAPCD adopted the 2016 Ventura County AQMP, which provides a strategy for the attainment of federal ozone standards (VCAPCD 2017).

San Joaquin Valley Fever (formally known as Coccidioidomycosis, hereafter referred to as Valley Fever) is an infectious disease caused by the fungus *Coccidioides immitis*. Valley Fever is a disease of concern in the Basin. Infection is caused by inhalation of *Coccidioides immitis* airborne spores, formed when dry, dusty soil or dirt is disturbed by natural processes, such as wind or earthquakes, or by human-induced ground-disturbing activities, such as construction, farming, or other activities (VCAPCD 2003). From 2011 to 2015, the number of cases of Valley Fever reported in California averaged 3,611 per year, with an average of 50 cases per year reported in Ventura County (California Department of Public Health 2016).

Air Emission Thresholds

The VCAPCD's Guidelines recommend specific air emission thresholds for determining whether a project may have a significant adverse impact on air quality within the Basin. These air emission thresholds differ between the Ojai Planning Area, which is defined as the Ojai Valley and includes the project area, and the remainder of Ventura County. Because the proposed project is in the Ojai Planning Area, it would have a significant impact if its mobile source emissions exceed five pounds per day of Reactive Organic Compounds (ROC; also referred to as Reactive Organic Gases) or five pounds per day of Nitrogen Oxides (NO_x). The five pounds per day threshold for ROC and NO_x is not intended to be applied to construction emissions since such emissions are temporary. Nevertheless, VCAPCD's Guidelines state construction-related emissions should be mitigated if estimates of ROC or NO_x emissions from heavy-duty construction equipment exceed this threshold.

The VCAPCD has not established quantitative thresholds for particulate matter for either operation or construction. The VCAPCD indicates a project generating fugitive dust emissions in such quantities as to cause injury, detriment, nuisance, or annoyance to any considerable number of persons, or which may endanger the comfort, repose, health, or safety of any such person, or which may cause or have a natural tendency to cause injury or damage to business or property, would have a significant air quality impact. This threshold is applicable to the generation of fugitive dust during grading and excavation activities. The VCAPCD Guidelines recommend fugitive dust mitigation measures to be applied to all dust-generating activities. Such measures include minimizing the project disturbance area, watering the site prior to commencement of ground-disturbing activities, covering all truck loads, and limiting on-site vehicle speeds to 15 miles per hour or less.

Applicable VCAPCD Rules and Regulations

The VCAPCD implements rules and regulations for emissions generated by various uses and activities. The rules and regulations detail pollution-reduction measures to be implemented during construction and operation of projects. Relevant rules and regulations to the project include those listed below.

Rule 50 (Opacity)

This rule sets opacity standards on the discharge from sources of air contaminants. This rule would apply during construction of the proposed project.

Rule 51 (Nuisance)

This rule prohibits any person from discharging air contaminants or any other material from a source which would cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public or which endangers the comfort, health, safety, or repose to any considerable number of persons or the public. The rule would apply during construction and operational activities.

Rule 55 (Fugitive Dust)

This rule requires fugitive dust generators, including construction and demolition projects, to implement control measures limiting the amount of dust from vehicle track-out, earth moving, bulk material handling, and truck hauling activities. The rule would apply during construction and operational activities.

Rule 55.1 (Paved Roads and Public Unpaved Roads)

This rule requires fugitive dust generators to begin the removal of visible roadway accumulation within 72 hours of any written notification from the VCAPCD. The use of blowers is expressly prohibited under any circumstances. This rule also requires controls to limit the amount of dust from any construction activity or any earthmoving activity on a public unpaved road. This rule would apply throughout all construction activities.

Rule 55.2 (Street Sweeping Equipment)

This rule requires the use of PM₁₀ efficient street sweepers for routine street sweeping and for removing vehicle track-out pursuant to Rule 55. This rule would apply during all construction activities.

Rule 74.4 (Cutback Asphalt)

This rule sets limits on the type of application and volatile organic compound (VOC) content of cutback and emulsified asphalt. The proposed project is required to comply with the type of application and VOC content standards set forth in this rule.

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

According to the VCAPCD's Guidelines, a project may be inconsistent with the applicable air quality plan if it would cause the existing population to exceed forecasts contained in the most recently adopted AQMP. The VCAPCD adopted the 2016 Ventura County AQMP to demonstrate a strategy for and reasonable progress toward attainment of the federal 8-hour ozone standard. The 2016 Ventura County AQMP relies on the Southern California Association of Governments' 2016 Regional Transportation Plan/Sustainable Communities Strategy forecasts of regional population growth in its projections for managing Ventura County's air quality.

The proposed project would involve replacement of approximately eight miles of pipeline, and various rehabilitation efforts and updates to system tanks, booster pumps, and wells to ensure reliable water system function throughout the service area. The replacement pipeline would not increase the water system network or service distribution capacity; it would only repair, replace, and rehabilitate existing infrastructure to ensure effective use. The proposed project would not expand system capacity, nor would it generate new housing or businesses. Consequently, it would

not contribute directly or indirectly to population growth and would not cause exceedances of the growth forecasts employed in the 2016 Ventura County AQMP. No impact would occur.

NO IMPACT

b. *Would the project 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?*

The proposed project would generate short-term emissions associated with project construction and long-term emissions associated with operation of the pump stations. Because this project would include several construction components (i.e., pipeline installation, tank construction, and well drilling), emissions for each component were modeled individually using the California Emissions Estimator Model (CalEEMod) version 2016.3.2.¹ Additionally, a combined model was generated to estimate a “reasonable worst-case-scenario”, accounting for construction of two different 300 LF segments of pipeline and one stationary component (i.e., construction or replacement of a tank or well) simultaneously on one single day. This was used because VCACPD thresholds are based on maximum daily emissions for construction. The stationary component found to generate the greatest emissions was the construction of a new water storage tank, based on CMWD’s specific construction details; therefore, this was the stationary component used in the “reasonable worst-case-scenario” evaluated below.

For the purposes of modeling and to account for conservative “worst-case-scenario” emissions, the analysis relied upon the following assumptions:

- Pipeline would be constructed via open trench measuring three feet in width.
- Installation of the pipeline would occur over approximately eight miles of existing segments within the Ojai system, with approximately 300 LF of pipeline constructed per day.
- Tank construction was assumed to include the complete construction of a new tank with demolition of existing tanks using the Running Ridge Tank for reference measurements.²
- Based on CMWD provided information, approximately 70 cubic yards (cy) of material would be exported and approximately 33 cy of material would be imported for each 300 LF of pipeline construction. Approximately 71 cy of material would be imported and exported for tank construction.
- Materials and equipment storage throughout the duration of the construction period would occur on the wellfield and tank sites. Approximately ten roundtrips would occur per day for pipeline, tank, and well construction.
- Phase 1 construction projects, as described above in *Project Description*, would take place from years one to three of the project, with additional projects from Phase 2 to occur from years four to ten. Generally, crews would work five days per week for all projects, except during well drilling which would occur 24 hours a day, seven days a week until appropriate well depth is reached. Since the pipelines would be constructed in segments along their alignments, individual construction phases would occur repeatedly throughout the construction period. Construction phases were modeled consecutively and over the course of one year in CalEEMod,

¹ CalEEMod was developed by the South Coast Air Quality Management District (SCAQMD) and is used by jurisdictions throughout the State to quantify criteria pollutant emissions.

² Although most tank construction would only include rehabilitation and demolition efforts, analysis for total construction is included in the event a new tank is constructed.

though, to provide more conservative emissions information. For open trench construction, construction phase lengths were based on days of equipment usage.

- Construction activities would comply with VCAPCD Rules 55 and 74.2, existing regulations controlling fugitive dust and architectural coating emissions (discussed in more detail under “Construction Impacts”).
- No heavy-duty equipment would be required for pump station upgrades.

Construction Emissions

Project construction would generate temporary air pollutant emissions. These impacts are associated with fugitive dust and exhaust emissions from heavy-duty construction vehicles. The excavation phase of the project would involve the largest use of heavy equipment and generation of fugitive dust. Table 4 summarizes maximum daily pollutant emissions during a potential construction scenario where two segments of 300 LF of pipeline and tank construction are occurring simultaneously on one day for a conservative estimate of maximum daily emissions over the course of the project.

Table 4 Construction Emissions

	Estimated Maximum Daily Emissions (pounds/day)					
	ROC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Open Trench Pipeline Construction						
Daily Maximum	3.8	33.9	26.8	<0.1	2.2	1.7
Multiplied by two	7.6	67.8	53.6	0.1	4.4	3.4
Stationary Source Construction (Water Tank)						
Daily Maximum	2.4	13.1	10.4	<0.1	1.0	0.8
Total for “Worst-case” Emissions						
Daily Maximum	10.0	80.9	64	0.1	5.4	4.2

ROC: reactive organic compounds; NO_x: nitrogen oxides; CO: carbon monoxide; SO_x: sulfur oxides; PM₁₀: particulate matter less than 10 microns in diameter; PM_{2.5}: particulate matter less than 2.5 microns in diameter

See Appendix A for modeling details and CalEEMod results.

Notes: Emissions presented are the highest of the winter and summer modeled emissions. Emissions data is sourced from “mitigated” results, which incorporate emissions reductions from measures to be implemented during project construction, such as watering of soils during construction required under VCAPCD Rule 55.

The VCAPCD’s Ojai Planning area threshold of five pounds per day for ROC and NO_x do not apply to construction emissions since such emissions are temporary. Section 7.4.3 of the VCAPCD Guidelines includes recommended ROC and NO_x mitigation measures. These measures, as described above, include reducing equipment idling times, maintaining equipment engines per manufacturer specifications, and using alternatively fueled equipment, when feasible. CMWD, and its contractor(s), would adhere to these measures to ensure reduced construction emissions as recommended by the VCAPCD Guidelines. Incorporation of these measures would further reduce the ROC and NO_x emissions presented in Table 4.

With respect to fugitive dust emissions, the VCAPCD states significant construction-related air quality impacts result if fugitive dust emissions are generated in such quantities as to cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which may endanger the comfort, repose, health, or safety of any such person or the public. For construction impacts, the VCAPCD recommends minimizing fugitive dust through dust control measures.³

Fugitive dust control measures are required by VCAPCD Rule 55. Such measures include securing tarps over truck loads, removing vehicle track-out using PM₁₀ efficient sweepers, and watering bulk material to minimize fugitive dust. As a result, compliance with Rule 55 would ensure construction emissions would not be generated in such quantities as to cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or endanger the comfort, repose, health, or safety of any such person or the public.

The population of Ventura County has been and will continue to be exposed to Valley Fever from agricultural and construction activities occurring throughout the region. The fungal spores responsible for Valley Fever generally grow in virgin, undisturbed soil. Soils along the project alignment are already disturbed from construction of roadways, commercial structures, and residences, as well as activities associated with agricultural production. Due to the previous amount of disturbance along the alignment, disturbance of soils during construction activities is unlikely to pose a substantial risk of infection. Substantial increases in the number of reported cases of Valley Fever tend to occur only after major ground-disturbing events such as the 1994 Northridge earthquake (VPAPCD 2003). Construction of the proposed project would not result in a comparable amount of ground disturbance. Furthermore, the standard construction measures, listed above, would reduce fugitive dust generation, which would further minimize the risk of infection. Therefore, construction of the proposed project would not significantly increase the risk to public health above existing background levels. Because the project area does not pose a substantial risk for Valley Fever, Valley Fever-specific mitigation measures detailed in the VCAPCD Guidelines would not be required.

Given the temporary nature of construction emissions, incorporation of fugitive dust reduction measures through compliance with existing VCAPCD regulations and mitigation measures, and the negligible operational emissions, this impact would be less than significant.

Operational Emissions

The new pipelines would not require regular maintenance beyond what is already required for existing infrastructure and therefore, would not generate any new, ongoing maintenance trips or activities. The upgraded pump station would not generate substantial operational emissions because it would be connected to the regional electricity grid which is increasingly powered by renewable energy, would restore lost efficiency in the water distribution system, would not be used to increase the retail water supply or serve additional customers, and would primarily serve to improve fire flow. Rehabilitation or replacement of wells would increase the efficiency of these wells and would not increase operation emissions beyond what was produced by existing well operations. Therefore, emissions associated with long-term project operation and maintenance

³ Measures pertaining to fugitive dust control—including watering exposed areas, reducing vehicle speeds to 15 miles per hour on unpaved roads, and cleaning/sweeping paved roads—were incorporated into the modeling of construction emissions as “mitigation”. Other measures, such as those reducing emissions of ozone precursors, were not incorporated into the modeling of construction emissions, but would further reduce construction emissions beyond those presented in this analysis.

would remain unchanged from current conditions and would have a less than significant impact on regional air quality.

LESS THAN SIGNIFICANT IMPACT

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

The VCAPCD defines sensitive receptors as facilities or land uses which include members of the population particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of sensitive receptors listed in the VCAPCD Guidelines include schools, hospitals, and daycare centers (VCAPCD 2003). The pipeline alignment follows several main roads such as Grand Avenue, West and East Ojai Avenue, and Montgomery Street through a largely urbanized portion of the city, with some of the proposed alignment extending to the more rural fringes of the city and into unincorporated west Ventura County. Potential sensitive receptors within 0.25 mile of the project alignment include numerous residences, ten schools, four nursing/convalescent homes, and one hospital/medical office.

As discussed under items (b) and (c), project construction would result in emissions of criteria pollutants, including fugitive dust, ROC, and NO_x. Such emissions would be temporary in nature and reduced through compliance with existing regulations, such as VCAPCD Rule 55. Furthermore, emissions at a given sensitive receptor would occur for only a limited portion of the overall construction period. Construction activities would install approximately 200-300 LF of pipeline per day before moving to the next segment of pipeline. Sensitive receptors would therefore be in the vicinity of active construction along the project alignment (i.e., within approximately 900 feet) for approximately three days. Additionally, construction activities for wells would occur on the fringe of the city of Ojai and are not located near any sensitive receptors. Although the existing tanks and pumps to be rehabilitated are located near residences, construction activities at these locations would be similar to other construction activities occurring near residences in the city (such as residential and commercial construction) and would not expose sensitive receptors to substantial pollutant concentrations.

Traffic-congested roadways and intersections have the potential to generate elevated localized carbon monoxide (CO) levels (i.e., CO hotspots). In general, CO hotspots occur in areas with poor circulation or areas with heavy traffic. Existing CO levels in Ventura County have been historically low enough that VCAPCD monitoring stations throughout the county ceased monitoring ambient CO concentrations in March and July 2004 (VCAPCD 2010). The proposed project would not require regular maintenance trips, with approximately one trip per year anticipated to ensure valves are working properly. Construction activities would cause a temporary increase in vehicle traffic. Because construction is a short-term activity and impacts would move as work progresses along the pipeline corridor, construction-related traffic impacts with potential to cause temporary CO hotspots would not be substantial.

Therefore, the project would not result in CO hotspots on adjacent roadways. The project would not expose sensitive receptors to substantial pollutant concentrations and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The proposed pipelines would be installed below ground and would not create objectionable odors during project operation. Project construction could generate odors associated with heavy-duty equipment operation and earth-moving activities. Such odors would be temporary in nature and limited to the duration of construction in the vicinity of a given site along the project's alignment. This would amount to approximately three days at any point along the project's alignment, given anticipated construction of a maximum of 300 LF of pipeline per day. Additionally, construction activities for wells would occur on the fringe of the city of Ojai and would not create objectionable odors affecting a substantial number of people. Although the existing tanks and pumps to be rehabilitated are located near residences, construction activities at these locations would be similar to other construction activities occurring near residences in the city (such as residential and commercial construction) and would not create other emissions, such as those leading to objectionable odors, affecting a substantial number of people. Therefore, this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

3.4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

In November of 2018, Rincon Consultants, Inc. conducted a Biological Resources Assessment, including a literature review and field reconnaissance survey to document existing site conditions and the potential presence of special-status biological resources, including plant and wildlife species, plant communities, jurisdictional waters and wetlands, and habitat for nesting birds. The following summarizes the findings of the assessment. The complete Biological Resources Assessment is contained in Appendix B of this document.

The Biological Study Area (BSA) includes the pipeline segments, wells, pump stations, and tanks associated with the project and a 50-foot buffer on both sides of the project footprint (Figures 5 through 8 in Appendix B). Prior to the establishment of Ojai, the land was dominated by oak woodland habitat. Presently, land uses in and around the BSA are predominantly residential with some commercial, mixed-use, and public facilities zoning. The project footprint occurs primarily in roadways and public rights-of-way.

The BSA occurs between 600 to 1,500 feet amsl (United States Geological Survey Topographic Quadrangle Maps, Google Earth 2018). The United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey delineates thirteen soil map units within the BSA. Three of these soil map units, including Anacapa gravelly sandy loam, Cortina stony sandy loam, and Riverwash, are designated as hydric soils in the Ventura Area (USDA NRCS 2018).

The BSA is dominated by residential development situated around remnant oak trees. The project footprint is primarily located within paved, developed or disturbed areas devoid of vegetation (i.e., public rights-of-way). Numerous ornamental species are present throughout the BSA, reflecting Ojai's current and historic use for residential, commercial, mixed-use, and public facilities land uses. Examples of ornamental species observed include Peruvian pepper tree (*Schinus molle*), Russian olive (*Elaeagnus angustifolia*), agave (*Agave* sp.), Japanese maple (*Acer palmatum*), oleander (*Nerium oleander*), and French lavender (*Lavandula stoechas*). Emergent coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), California sycamore (*Platanus racemosa*), and California black walnut (*Juglans californica*) were observed throughout the BSA. The emergent species were observed to be overhanging the project footprint. The majority of the understory is mowed annually for fuel clearance.

Within a small location of the BSA adjacent to San Antonio Creek, coast live oak trees are codominant in the tree layer with California sycamore, willow (*Salix* sp.), and eucalyptus (*Eucalyptus* sp.) present. The shrub layer is dominated by laurel sumac (*Malosma laurina*). The herbaceous layer adjacent to the creek is dominated by non-native, invasive species such as smilo grass (*Stipa miliacea*), red brome (*Bromus madritensis*), and wild oats (*Avena fatua*). Within this unit, no vegetation was observed within the project footprint. Riverine vegetation was observed in San Antonio Creek, including willow and non-natives such as castor bean (*Ricinus communis*) and tree tobacco (*Nicotiana glauca*).

An approximate 0.25-mile stretch in the north portion of the BSA contains disturbed oak woodland. As with the developed oak woodland, developed parcels surround the project footprint in this area. The project footprint in this location does not occur along developed road shoulder but is located within private properties containing vegetation including coast live oak and valley oaks. Proposed project activities in the disturbed oak woodland habitat would only replace previously developed infrastructure in kind.

The majority of the project footprint occurs within previously developed areas or disturbed bare ground. Remnant coast live oak, valley oak, and California sycamore trees are outside of the project

footprint, but the canopy driplines of these species may overhang the project footprint in some locations.

The California Native Diversity Database (CNDDDB) lists three special-status plant communities in the nine quadrangles surrounding the BSA. One of these communities, southern California steelhead stream, is present in the BSA (i.e., San Antonio Creek). The other two communities, southern coast live oak riparian forest and southern sycamore alder riparian woodland, were not observed within the BSA.

The BSA provides suitable habitat for wildlife species commonly occurring in semi-rural, residential areas. The wildlife species detected on site are common, widely distributed, and adapted to living in proximity to human development. Common avian species detected on or adjacent to the site include Anna's hummingbird (*Calypte anna*), California scrub-jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), acorn woodpecker (*Melanerpes formicivorus*), California quail (*Callipepla californica*), and house finch (*Haemorhous mexicanus*). Other wildlife species observed include western fence lizard (*Sceloporus occidentalis*), western brush rabbit (*Sylvilagus bachmani*), and California ground squirrel (*Otospermophilus beecheyi*).

The BSA is located in the Ventura River watershed near San Antonio Creek, Stewart Canyon Creek, and Fox Canyon Barranca. These drainages are subject to the jurisdiction of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) because each feature has a hydrologic surface connection to the Ventura River, which is a relatively permanent water. The drainages also function as small-scale habitat corridors facilitating wildlife movement. Fully developed properties are present adjacent to the BSA for Fox Canyon Barranca and Stewart Canyon Creek and common wildlife adapted to urban and suburban areas (e.g., raccoon [*Procyon lotor*] and striped skunk [*Mephitis mephitis*]) could use the concrete-lined ephemeral drainages for local movement. Wildlife species could also use the riverine habitat of San Antonio Creek for local movement.

The project site does not occur within any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan areas.

Tree Protection Ordinances

Both the Ojai Municipal Code and Ventura County Code contain tree protection regulations which would apply to the proposed project. Title 4, Chapter 11 of the Ojai Municipal Code contains the City's tree ordinance, which protects oak, sycamore, heritage, or other mature trees as historical, aesthetic, and ecological resources. Specifically, the Ojai Municipal Code states a permit is required when encroachment in a protected tree dripline is unavoidable. Applications for a permit to impact protected trees must be accompanied by a certified arborist report. The report should list each of the protected trees located within the work area, show the protected tree's location on a development plan, and recommend a program for protecting the trees prior to, during, and after construction. Ventura County Code Section 8107-25 contains the County's tree protection regulations. Removal, alteration, or encroachment into a tree protection zone (dripline) of a tree regulated by the County of Ventura requires a permit to be obtained from the County. Minor pruning does not require a permit and includes pruning dead limbs or roots, pruning living limbs or roots 20 percent less than the trunk's girth, and pruning living limbs or roots less than 20 percent of the tree's overall canopy or root system. The removal, encroachment, or alteration of five protected trees (only three of which can be oaks or sycamores; none of which can be heritage or historical trees) may occur through a ministerial permit process.

- a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the United States Fish and Wildlife Service?*

Special-status species are those plants and animals 1) listed, proposed for listing, or candidates for listing as Threatened or Endangered by the United States Fish and Wildlife Service and National Marine Fisheries Service under the federal Endangered Species Act; 2) listed or proposed for listing as Rare, Threatened, or Endangered by the CDFW under the California Endangered Species Act; 3) recognized as Species of Special Concern by the CDFW; 4) afforded protection under the Migratory Bird Treaty Act (MBTA) and/or California Fish and Game Code (CFGC); and 5) occurring on Lists 1 and 2 of the CDFW California Rare Plant Rank system per the following definitions:

- List 1A = Plants presumed extinct in California
- List 1B.1 = Rare or endangered in California and elsewhere; seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- List 1B.2 = Rare or endangered in California and elsewhere; fairly endangered in California (20 to 80 percent occurrences threatened)
- List 1B.3 = Rare or endangered in California and elsewhere, not very endangered in California (<20 percent of occurrences threatened or no current threats known)
- List 2 = Rare, threatened or endangered in California, but more common elsewhere

In addition, special-status species are ranked globally (G) and subnationally (S) 1 through 5 based on NatureServe's (2010) methodologies:

- G1 or S1 – Critically Imperiled Globally or Subnationally (state)
- G2 or S2 – Imperiled Globally or Subnationally (state)
- G3 or S3 – Vulnerable to extirpation or extinction Globally or Subnationally (state)
- G4 or S4 – Apparently secure Globally or Subnationally (state)
- G5 or S5 – Secure Globally or Subnationally (state)
- ? – Inexact Numeric Rank
- T – Intraspecific Taxon (subspecies, varieties, and other designations below the level of species)
- Q – Questionable taxonomy that may reduce conservation priority

Rincon biologists determined the majority of the study area does not contain suitable habitat for any special-status plant species based on a pedestrian survey of the alignment and various records searches (refer to Appendix B). The BSA and project alignment generally lack appropriate plant community types, soils and other components to support special-status plant species.

Rincon determined four wildlife species have potential to occur within the project site (Appendix B). These species were determined to have a low potential to occur in the BSA based on known ranges, habitat preferences for the species, species occurrence records from the CNDDDB, and species occurrence records from other sites in the vicinity of the survey area. Southern California steelhead has a potential to occur in the BSA. Suitable habitat for the species is located within San Antonio Creek; the proposed project has been designed to avoid direct impacts to the creek. The species is confined to aquatic habitat, proposed construction would not occur below top of bank and no equipment is proposed within the creek. Further, mitigation measure BIO-1 is suggested to avoid construction adjacent to San Antonio Creek during the rainy season (~~December~~ November through

April). This measure would avoid construction work adjacent to San Antonio Creek when water has the potential to rise to the top of bank. Therefore, the project would not directly impact southern California steelhead. Indirect impacts to steelhead could result from construction equipment mobilization and operation of heavy equipment near the river area in the form of water quality degradation (i.e., sediment transport, leaking equipment operated above the creek, track-off on roadways from heavy equipment use mobilizing into creeks and drainages during rain events), if the species is present. Implementation of mitigation measures BIO-1 and BIO-8 through BIO-16 will ensure the water quality of San Antonio Creek is not affected, thereby reducing indirect effects to steelhead to less than significant.

The San Bernardino ringneck snake and coast patch-nosed snake have low potential to occur in the BSA. Elements of suitable habitat are present for the species adjacent to San Antonio Creek and adjacent to the daylighted portions of Fox Canyon Barranca and Stewart Canyon Creek. Although habitat for these species occurs throughout the BSA, the project footprint occurs primarily within previously developed infrastructure. This infrastructure includes a paved road system, concrete and gravel substrates (i.e., the foundation below the booster pumps, tanks, and wells), and highly disturbed herbaceous layer (i.e., mowed grasses). Little cover for these species of snakes was observed in the project footprint. Both species are not likely to frequent sites without cover in the form of vegetation or burrows. Little vegetation or burrows were observed within the project footprint. Potential impacts to San Bernardino ringneck snake and coast patch-nosed snake, if present, could occur during construction equipment transport and operation of heavy equipment near potential habitat. Effects of these activities on these species would be minimized by surveying for and relocating individuals out of harm's way prior to and during activities. Mitigation measures BIO-2 and BIO-3 require pre-construction surveys in suitable habitats for the species and environmental education to aid workers in recognizing special-status biological resources with potential to occur in the project area. The effects to San Bernardino ringneck snake and coast patch-nosed snake would be less than significant with mitigation incorporated.

The hoary bat has a low potential to occur in the BSA. Suitable roosting and foraging habitat for the species occurs within the BSA adjacent to San Antonio Creek, within the developed and disturbed woodland in the BSA, and adjacent to the BSA near Fox Canyon Barranca and Stewart Canyon Creek. Impacts could occur if construction occurs adjacent to maternity roosts during the breeding season, because unlike adult bats, juvenile bats are unable to escape impacts. As a winter migrant the hoary bat does not commonly form maternity roosts in California. The proposed project does not include removal or trimming of trees or vegetation, therefore, the project has been designed to avoid impacts to the species' roosting habitat. In addition, the hoary bat requires a permanent water source. San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek are ephemeral water sources and would not support the species. It is unlikely construction would impact foraging bats because construction hours would most likely occur outside of this species' nocturnal feeding period. Foraging bats are expected to evade the construction areas with the onset of disturbance. Therefore, direct and indirect impacts to special-status bats would be less than significant.

The BSA contains habitat with potential to support nesting birds, including raptors protected under the CFGC and the MBTA. The adjacent native trees, ornamental vegetation and orchards along the project footprint provide suitable nesting habitat for avian species. Specifically, the tall eucalyptus trees adjacent to the existing infrastructure in Unit A contain suitable habitat for raptor species. Also, Grand Avenue Bridge and culverts below East Ojai Avenue and Aliso Street which channel flows from Fox Canyon Barranca and Stewart Canyon Creek, respectively, may provide habitat for mud and cavity-nesting birds such as tree swallows (*Tachycineta bicolor*) and black phoebe (*Sayornis*

nigricans). The project could adversely affect raptors and other nesting birds if construction occurs while they are present within or adjacent to the project footprint, through direct mortality or abandonment of nests. The loss of a nest due to construction activities would be a violation of the MBTA and CFGC Section 3503. BIO-6 and BIO-7 are recommended for compliance with the MBTA and CFGC 3503.

Mitigation Measures

The following mitigation measures would reduce the impact to a less than significant level.

BIO-1 Avoid Work above San Antonio Creek during the Rainy Season

Project activities associated with pipe replacement on the bridge above San Antonio Creek shall not occur during the rainy season (~~December~~ November 15 to April 15), to avoid work when higher flows and steelhead could be present. If activities at this location must occur during the rainy season, a pre-activity survey shall be conducted by a qualified fisheries biologist to determine if flow conditions are suitable for steelhead passage. If flow conditions are not suitable, pipeline replacement can proceed and the activity should be monitored by a qualified biologist, as needed, to confirm flow conditions do not change during the project activity. If flow conditions are suitable for steelhead passage, pipeline replacement shall be postponed until a qualified biologist determines the conditions are no longer suitable and the species is not likely to be present.

BIO-2 Worker Environmental Awareness Program

Prior to initiation of all construction activities (including staging and mobilization), all personnel associated with project construction shall attend a Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in recognizing special status biological resources potentially occurring in the project area. This training will include information about southern California steelhead, San Bernardino ringneck snake, coast patch-nosed snake, and hoary bat, as well as other special-status species with potential to occur in the project area.

The specifics of this program shall include identification of special-status species and habitats, a description of the regulatory status and general ecological characteristics of special-status resources, and review of the limits of construction and measures required to avoid and minimize impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employees, and other personnel involved with construction of the project. All employees shall sign a form provided by the trainer documenting they have attended the WEAP and understand the information presented to them. The crew foreman shall be responsible for ensuring crew members adhere to the guidelines and restrictions designed to avoid impacts to special-status species.

BIO-3 Pre-Construction Wildlife Surveys

Within one week prior to the commencement of project activities, a qualified wildlife biologist shall conduct pre-construction surveys in portions of the access and construction area, particularly those containing natural vegetation. The surveys will be conducted within the project footprint locations specified below. A 50-foot buffer around the project footprint will be surveyed with inaccessible areas (i.e., private lands) surveyed with binoculars, as practicable.

A qualified biologist will conduct a survey within the following locations of the project footprint: Heidelberg Tank, 100 feet east and west San Antonio Creek at Grand Avenue, adjacent to the

daylighted portions of Fox Canyon Barranca and Stewart Canyon Creek, and within the disturbed oak woodland habitat in Unit B (if trenching is to occur in this area). The biologist will document existing conditions and search for special-status species (i.e., San Bernardino ringneck snake and coast patch-nosed snake). If San Bernardino ringneck snake and coast patch-nosed snake are found, individual animals shall be relocated to similar habitat away from construction activities, at least 200 feet from any area of project construction.

BIO-4 Night Construction Avoidance

Night-time construction shall be avoided adjacent to San Antonio Creek, daylighted portions of Fox Canyon Barranca, and daylighted portions of Stewart Canyon Creek as practicable, to avoid impacts to special-status wildlife in and near these drainages.

BIO-5 Night Lighting

If construction must occur at night (between dusk and dawn), all lighting will be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties and to reduce impacts on local wildlife.

BIO-6 Nesting Bird Season Avoidance.

To avoid disturbance of nesting and special-status birds, including raptor species protected by the MBTA and CFGC 3503, activities related to the project including, but not limited to, vegetation removal, ground disturbance, and construction and demolition shall occur outside of the bird breeding season for migratory birds (February 1 through August 31), if practicable.

BIO-7 Nesting Birds

If construction must begin during the breeding season, then a pre-construction nesting bird survey shall be conducted no more than seven days prior to initiation of ground disturbance and vegetation removal activities. The nesting bird pre-construction survey shall be conducted on foot inside the project footprint, including a 100-foot buffer (300-foot for raptors), and in inaccessible areas (e.g., private lands) from afar using binoculars to the extent practicable. The survey shall be conducted by a biologist familiar with the identification of avian species known to occur in southern California coastal communities. If nests are found, an avoidance buffer (dependent upon the species, the proposed work activity, and existing disturbances associated with land uses outside of the site) shall be determined and demarcated by the qualified biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No ground-disturbing activities shall occur inside this buffer until the avian biologist has confirmed breeding/nesting is completed, and the young have fledged the nest. Encroachment into the buffer shall occur only at the discretion of the qualified biologist.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Plant communities are considered sensitive natural communities if they have limited distributions, have high wildlife value, include special-status species, or are particularly susceptible to disturbance. The CDFW ranks sensitive natural communities as "threatened" or "very threatened" and keeps

records of their occurrences in CNDDDB. Similar to special-status plant and wildlife species, vegetation alliances are ranked 1 through 5 based on NatureServe's (2010) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive.

A southern California steelhead stream, San Antonio Creek, is present within the BSA, but not within the project footprint. As stated above, the proposed construction was designed to avoid direct impacts to San Antonio Creek and proposed work will replace existing infrastructure in-kind. Implementation of mitigation measures BIO-8 through BIO-16 will ensure construction materials do not indirectly impact the creek. Therefore, the project would have a less than significant impact to this southern California steelhead stream with implementation of these measures.

Mitigation Measures

The following mitigation measures shall be implemented within 50 feet of San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek and would reduce the impact to a less than significant level.

BIO-8 Disturbance Area

Areas of temporary disturbance shall be minimized to the extent practicable.

BIO-9 Staging Equipment

Staging and laydown areas shall be unvegetated areas and previously disturbed sites only.

BIO-10 Pollutant Management

All vehicles and equipment shall be in good working condition and free of leaks. The contractor shall prevent oil, petroleum products, or any other pollutant from contaminating the soil or entering a watercourse (dry or otherwise). When vehicles or equipment are stationary, mats or drip pans shall be placed below vehicles to contain fluid leaks.

BIO-11 Material Storage

Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage. Material storage shall be at least 100 feet from San Antonio Creek, and daylighted portions of Fox Canyon Barranca, and Stewart Canyon Creek. Any material/spoils from project activities shall be located and stored 100 feet from potential jurisdictional areas (San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek). Construction materials and spoils shall be protected from stormwater run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.

BIO-12 Tracking Loose Material

Implement Best Management Practices (BMPs) to prevent the off-site tracking of loose construction and landscape materials such as street sweeping, vacuuming, and rumble plates, as appropriate.

BIO-13 Pollution Prevention

Prevent the discharge of silt or pollutants off of the site when working adjacent to potentially jurisdictional waters. Install BMPs (i.e., silt barriers, sand bags, straw bales) as appropriate.

BIO-14 Site Materials and Refuse Management

All food related trash shall be disposed of in closed containers and removed from the project area each day during the construction period. Construction personnel shall not feed or otherwise attract wildlife to the construction area. At project completion, all project-generated debris, vehicles, building materials, and rubbish shall be removed from the project footprint.

BIO-15 Re-fueling and Maintenance

All re-fueling, cleaning, and maintenance of equipment will occur at least 100 feet from San Antonio Creek and other potentially jurisdictional waters (Fox Canyon Barranca, Stewart Canyon Creek).

BIO-16 Responding to Spilled Materials

Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned, and any contaminated materials properly disposed. For all spills, the project foreman or other designated liaison will notify CMWD immediately.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- c. *Would the project 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?*

The proposed project would not 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. As stated above, several features observed within the BSA are subject to the jurisdiction of the USACE, RWQCB, and CDFW. San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek are located outside of the project footprint, but within the BSA. The proposed project is designed to avoid direct impacts to these water features.

Indirect impacts from construction materials (e.g., stockpiled materials, construction equipment, and trash) potentially stored on site could adversely affect water quality (e.g., increased turbidity, altered pH, decreased dissolved oxygen levels, etc.) within the water features if runoff were to occur during storm events. Therefore, mitigation measures BIO-1 and BIO-8 through BIO-16 listed above are required to avoid potential indirect impacts to water quality within the potentially jurisdictional waters. The implementation of these mitigation measures would reduce potential impacts to potential jurisdictional waters to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- d. *Would the project 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?*

The northern extent of the BSA is located within a known wildlife corridor providing connectivity for wildlife north of the city of Ojai. San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek could also act as movement corridors for wildlife species. As stated above, fully developed properties are present adjacent to the BSA for Fox Canyon Barranca and Stewart Canyon Creek and common wildlife adapted to urban and suburban areas (e.g., raccoon and striped skunk) could use the concrete-lined ephemeral drainages for local movement. Wildlife species could also use the riverine habitat of San Antonio Creek for local movement. The proposed project would not modify

any of these features, nor substantially increase the level of disturbance beyond ambient conditions.

Overall, the proposed project is not expected to hinder wildlife movement in the region, considering none of the project components are designed in such a way as to create a barrier to wildlife movement. The project footprint is located within previously developed infrastructure and no new infrastructure footprint is proposed. Therefore, the project would have a less than significant impact to wildlife movement.

LESS THAN SIGNIFICANT IMPACT

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

In the City and County jurisdictions, a number of protected trees were observed within the BSA including California sycamore, coast live oak, valley oak, and potential historical or heritage trees. Impacts to protected trees may include construction equipment compacting soil around the trees and disturbance of the canopy and the root zone. Trenching may occur in the root zone of potentially protected trees throughout the BSA, but the proposed project is replacing infrastructure currently in place. The majority of the project alignment is located within developed public right-of-way.

The Ojai Municipal Code states a permit is required when encroachment to a protected tree dripline is unavoidable. Applications for a permit to impact protected trees must be accompanied by a certified arborist report. The report should list each of the protected trees located within the work area, show the protected tree's location on a development plan, and recommend a program for protecting the trees prior to, during, and after construction.

Removal, alteration, or encroachment into a tree protection zone (dripline) of a tree regulated by the County of Ventura requires a ministerial permit to be obtained from the County. Minor pruning does not require a permit and includes pruning dead limbs or roots, pruning living limbs or roots 20 percent less than the trunk's girth, and pruning living limbs or roots less than 20 percent of the tree's overall canopy or root system. The removal, encroachment, or alteration of five protected trees (only three of which can be oaks or sycamores; none of which can be heritage or historical trees) may occur through a ministerial permit process. A ministerial permit requires the following:

- Ministerial tree permit application;
- Site sketch (no construction involved) or Site Plan (if involves new/expanding development);
- \$100 (non-refundable) application fee for one tree, \$315 for more than one tree;
- Color photos of tree(s); and
- Arborist Verification of Tree Protection Measures (Tree Form M5), if applicable.

Removal, encroachment, or alteration of more than the ministerial permit process may trigger a discretionary tree permit which requires the following:

- \$750 application deposit (if not part of another discretionary permit request), and
- An Arborist Report (Tree Doc D-AR).

The Ventura County General Plan (Biological Resources Policy 1.5.2-3 and 1.5.2-4) and Ojai Municipal Code (10-2.1004) also contain policies to protect potentially jurisdictional waters from development. No new development is proposed. Within the City and County jurisdiction,

infrastructure would be replaced outside the top of bank of jurisdictional water features observed within the BSA including San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek. No work within the channel is proposed and all infrastructure to be constructed is replacing infrastructure currently in place. Further, implementation of BIO-1 and BIO-8 through BIO-16 would avoid and minimize potential indirect impacts to these water features. BIO-8 through BIO-16 would be implemented within 50 feet of San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek, to avoid potential indirect impacts to water quality within these jurisdictional waters. Therefore, the proposed project would not conflict with local policies or ordinances protecting potentially jurisdictional waters and impacts would be less than significant.

The Ventura County General Plan contains a policy to protect wildlife migration corridors. Within the County jurisdiction, three tanks observed in the BSA (Heidelberger Tank and Running Ridge Tanks) are located within an Essential Connectivity Area (ECA). These tanks (within the project footprint) are located at the boundary of the ECA and developed portions of Ojai. The ECA surrounds the northern portion of Ojai and is approximately ten miles wide. Each tank is approximately 50 feet in diameter or less and the tanks do not represent a barrier to wildlife movement because the ECA is sufficiently wide to allow for wildlife movement around and past the tanks. Further, implementation of BIO-14 would minimize the attraction of wildlife to the project footprint. Therefore, the proposed project would not conflict with local policies or ordinances protecting habitat connectivity and impacts would be less than significant.

The Ventura County General Plan Biological Resources Policy 1.5.2-5 requires consultation with the appropriate resource agency when discretionary development may affect significant biological resources, which include locally important species. Rincon reviewed the list of locally important species and no species were observed within the BSA. The proposed project would replace existing infrastructure. Therefore, the proposed project would not conflict with local policies or ordinances protecting locally important species and impacts would be less than significant.

Generally, the project would be consistent with local policies or ordinances protecting biological resources. Nevertheless, due to potential impacts to protected trees in the City and County jurisdictions, this impact would be potentially significant unless mitigation is incorporated.

Mitigation Measures

The following mitigation measure would reduce the impact to a less than significant level.

BIO-17 Arborist Study

Prior to obtaining a permit from either jurisdiction, an Arborist Study shall be conducted within portions of the project footprint occurring within 20 feet of the canopy drip line of protected trees. The study shall plot the location of protected trees in this zone, identify each protected tree, and determine the jurisdiction of any trees to be impacted. An Arborist Report shall be prepared by a Certified Arborist in compliance with both the City of Ojai and County of Ventura ordinance guidelines. Specifically, the Arborist Report shall include, at minimum, the following:

- An inventory of all trees containing a canopy drip line within 20 feet of the project footprint, as feasible without trespassing on private lands. Inventory data should record, at minimum: diameter at breast height (DBH), height, canopy cover information/mapping, health and vigor rating
- Representative photographs of each regulated tree proposed to be encroached upon within the disturbed oak woodland footprint

- Description of proposed site development activities including, but not limited to, excavation for trenching, any tree trimming for access, and construction access routes
- A project-specific Tree Protection Plan (TPP) shall be prepared which would at minimum include site plans, protective tree fencing, the designated tree protection zone (identifying an area sufficiently large enough to protect the tree and its roots from disturbance), activities prohibited/permitted within the tree protection zone, encroachment boundaries, and potential transplanting or replacement tree plantings

The Arborist Report shall be submitted to the appropriate department of the City of Ojai or County of Ventura for approval prior to the start of any tree-disturbing construction activities, as necessary.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

The project site does not occur within any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan areas. The proposed project would not conflict with the provisions of any such plans. Therefore, no impact would occur.

NO IMPACT

3.5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Information in this section regarding cultural (i.e., archaeological and historical) resources includes data from the cultural resources technical report (Appendix C) prepared by Rincon Consultants, Inc. The significance of cultural resources and impacts to those resources is determined by whether or not those resources can increase our collective knowledge of the past. The primary determining factors are site content and degree of preservation.

For the purpose of this analysis, a significant impact would occur if physical changes to these resources would result in the following conditions, listed in Appendix G of the State CEQA Guidelines:

- 1) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines §15064.5
- 2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5
- 3) Disturb any human remains, including those interred outside of formal cemeteries

A “substantial adverse change” in the significance of a historical resource is defined as “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.” State CEQA Guidelines Section 15064.5(b) states the significance of an historical resource is “materially impaired” when a project does any of the following:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource conveying its historical significance and justifying its inclusion in, or eligibility for inclusion in the California Register of Historical Resources (CRHR)
- Demolishes or materially alters in an adverse manner those physical characteristics accounting for its inclusion in a local register of historical resources or its identification in an historical resources survey, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence the resource is not historically or culturally significant

- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource conveying its historical significance and justifying its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA

State CEQA Guidelines Section 15064.5 also states the term “historical resources” shall include the following:

- 1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in, the CRHR (Public Resources Code [PRC] Section 5024.1, Title 14 California Code of Regulations [CCR], Section 4850 et. seq.).
- 2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates it is not historically or culturally significant.
- 3) Any object, building, structure, site, area, place, record, or manuscript which 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 in the CRHR (PRC Section 5024.1, Title 14 CCR, Section 4852) as follows:
 - Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage
 - Is associated with the lives of persons important in our past
 - 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
 - Has yielded, or may be likely to yield, information important in prehistory or history (State CEQA Guidelines Section 15064.5)

Properties listed on the National Register of Historic Properties (NRHP) are automatically listed on the CRHR, along with State Landmarks and Points of Interest. The CRHR can also include properties designated under local ordinances or identified through local historical resource surveys.

To address historical resources and archaeological resources, a cultural resources study was prepared for the project including a cultural resources records search at the South Central Coastal Information Center (SCCIC) and pedestrian survey. The study was documented in the Cultural Resources Technical Report (Appendix C), with confidential information removed and on file with the CMWD.

Built Environment Setting

One historic built environment resource, the Ojai Water Distribution System, was identified within the project area. Consisting of a series of pipelines, tanks, booster pump stations, and wells, the water distribution system services the city of Ojai and the immediately surrounding area. The distribution system contains approximately 45 miles of distribution and transmission mains, six

storage reservoirs, five booster pump stations, six wells, and three interconnections. The system is divided into six distribution zones and contains seven pressure zones.

The Ojai Water Distribution System is not eligible for listing in the CRHR under any applicable designation criteria. It was constructed to provide adequate water supply to the growing town of Ojai and surrounding area. This system did not contribute to the establishment of the community, nor does it appear to have encouraged growth of the community. The Ojai Water Distribution System is just one of many such water distribution systems which operated throughout Southern California in the early twentieth century; it is not associated with any events which made a significant contribution to the broad patterns of California's history and cultural heritage (CRHR Criterion 1). The system was constructed by the Golden State Water Company, a subsidiary of the American States Water Company, and is not associated with the lives of any specific individuals who were important to our past (CRHR Criterion 2). The system is a ubiquitous property type which is also not significant for its design or construction (CRHR Criterion 3). As confirmed by the cultural resources study, there is no evidence to suggest the system has potential to yield important information in history or prehistory (CRHR Criterion 4). Thus, the system is not considered a historical resource. The Cultural Resources Technical Report (Appendix C) contains a full description of the Ojai Water Distribution System and evaluation as a historical resource.

Archaeological Resources Setting

Two previously recorded archaeological sites (P-56-000061 and P-56-001109) were identified within the project site as a result of the cultural resource study. P-56-000061, also known as the Soule Park Site, is a prehistoric archaeological site potentially representing the location of the prehistoric/ethnohistoric Chumash village of "awha'y", from which Ojai got its name. The site contains numerous burials, thermal features, rock concentrations, and midden deposits, the latter of which exceed one meter in depth. P-56-001109 consists of a raised berm representing the remains of the Ventura River and Ojai Valley Railroad. Built in 1898, the approximately 16-mile-long railroad spur ran between Nordhoff (Ojai) and Ventura. The railroad was abandoned in the 1950s with the tracks and rails removed in 1969. The portion of P-56-001109 which runs through Ojai is now used as a recreational path. Neither resource has been previously evaluated for listing in the CRHR or NRHP. For the purposes of this project, both P-56-000061 and P-56-001109 are assumed to be historical resources under CEQA.

Three additional archaeological sites (P-56-000137, P-56-001779, and P-56-001151) are located in close proximity to the current project area. P-56-000137 and P-56-001151 date to the prehistoric period with P-56-001779 consisting of historic-period remains. None of the archaeological sites have been previously evaluated for listing in the CRHR or NRHP and are therefore assumed to be historical resources under CEQA. No evidence of the three archaeological resources was identified within the project site during the field survey; the subsurface extent of each of these sites is not currently known.

- a. *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*
- b. *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

The Ojai Water Distribution System was the only built historical resource identified in the project area. As discussed above, the Ojai Water Distribution System is not eligible for listing in the CRHR under any applicable designation criteria.

Construction activities associated with the project would have the potential to substantially adversely affect identified and unidentified archaeological resources in the project area. A field survey of P-56-000061, the Soule Park Site, failed to identify any prehistoric archaeological remains within the mapped boundary of the site. There is the possibility cultural deposits associated with the site remain beneath the surface. Proposed construction in this area will be confined to the replacement of existing pipeline in previously disturbed sediments. While, it is unlikely the project will impact any intact buried cultural deposits at P-56-000061, archaeological and Native American monitoring during ground-disturbing activities within a 100-foot radius of the mapped boundary of P-56-000061 is required to reduce potential impacts to a less than significant level (see CUL-1 and CUL-2 below).

Resource P-56-001109 consists of a historic railroad alignment. The findings of the field survey indicate the two segments of P-56-001109 which intersect the project site have been destroyed by road construction and maintenance activities, and by the installation of a recreational path. Because this resource was originally above grade and exhibits little potential to contain subsurface deposits, the replacement of the pipeline in these areas will not result in any further impacts to P-56-001109 and will not cause a substantial adverse change in the significance of the resource.

Sites P-56-000137, P-56-001779, and P-56-001151 are located in close proximity to the project area. The subsurface extent of these sites is currently unknown and thus they may be impacted by ground disturbance conducted as part of the project. Mitigation is required to reduce potential impacts to a less than significant level. Archaeological and Native American monitoring are required for all ground-disturbing work occurring within a 100-foot radius of the mapped site boundaries of prehistoric sites P-56-000137 and P-56-001779, and archaeological monitoring is required within a 100-foot radius of the mapped boundary of historic site P-56-001779 (see CUL-1 and CUL -2 below).

In addition to the known archaeological sites on the project site, there remains the potential to encounter previously unknown archaeological resources during project construction. Mitigation Measure CUL-3 below would reduce potential impacts to unknown resources to a less than significant level.

Mitigation Measures

The following mitigation measures are required to reduce potential impacts to historical and archaeological resources to a less than significant level.

CUL-1 Archaeological Monitoring

Ground-disturbing activities shall be monitored by a qualified archaeologist within the mapped boundary of P-56-000061, as well as within a 100-foot radius of the site. Additionally, archaeological monitoring shall be conducted for ground disturbance occurring within 100-feet of the mapped boundaries of P-56-000137, P-56-001779 and P-56-001151. The archaeological monitor shall work

under the direction of an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983). If cultural resources are encountered during ground-disturbing activities, work in the immediate area shall halt and the find shall be evaluated for significance under CEQA.

CUL-2 Native American Monitoring

Ground-disturbing activities shall be observed by a Native American monitor within the mapped boundary of P-56-000061 as well as within a 100-foot radius of the site. Further, Native American monitoring shall be conducted within 100-feet of the mapped boundaries of P-56-000137 and P-56-001779. If cultural resources are encountered during ground-disturbing activities, work in the immediate area shall halt and the find shall be evaluated by an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) for significance under CEQA.

CUL -3 Unanticipated Discovery of Cultural Resources

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt, and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation, Native American consultation, and archaeological monitoring may be warranted to mitigate any significant impacts.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

Previous archaeological investigations at P-56-000061 encountered a number of prehistoric burial features containing human remains. Although there is a potential for the recovery of human remains during ground-disturbing activities in the vicinity of the site, construction activities within the mapped boundaries of P-56-000061 will be limited to the replacement of existing pipelines in previously disturbed sediments. As such, it is unlikely the project will impact any intact human remains during ground-disturbing activities. Archaeological and Native American monitoring during ground-disturbing activities within a 100-foot radius of the mapped boundary of P-56-000061 is required to reduce potential impacts to a less than significant level (see CUL-1 and CUL-2 above).

If human remains are found, existing regulations outlined in the State of California Health and Safety Code Section 7050.5 state no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of being granted access and provide recommendations as to the treatment of the remains to the landowner.

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3.6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

California is one of the lowest per capita energy users in the United States, ranked 48th in the nation, due to its energy efficiency programs and mild climate (United States Energy Information Administration [EIA] 2018a). California consumed 292,039 gigawatt-hours of electricity and 2,110,829 million cubic feet of natural gas in 2017 (California Energy Commission [CEC] 2019, EIA 2018b). In addition, Californians consume approximately 18.7 billion gallons of motor vehicle fuels per year (Federal Transit Administration 2017). The single largest end-use sector for energy consumption in California is transportation (39.8 percent), followed by industry (23.7 percent), commercial (18.9 percent), and residential (17.7 percent) (EIA 2018a).

Most of California's electricity is generated in-state with approximately 30 percent imported from the Northwest and Southwest in 2017 (CEC 2018). In addition, approximately 30 percent of California's electricity supply comes from renewable energy sources, such as wind, solar photovoltaic, geothermal, and biomass (CEC 2018). Adopted on September 10, 2018, Senate Bill (SB) 100 accelerates the state's Renewable Portfolio Standards Program, codified in the Public Utilities Act, by requiring electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

To reduce statewide vehicle emissions, California requires all motorists use California Reformulated Gasoline, which is sourced almost exclusively from in-state refineries. Gasoline is the most used transportation fuel in California with 15.1 billion gallons sold in 2015 and is used by light-duty cars, pickup trucks, and sport utility vehicles (CEC 2016a). Diesel is the second most used fuel in California with 4.2 billion gallons sold in 2015 and is used primarily by heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles (CEC 2016b). Both gasoline and diesel are primarily petroleum-based, and their consumption releases greenhouse gas (GHG) emissions, including CO₂ and NO_x. The transportation sector is the single largest source of GHG emissions in California, accounting for 41 percent of all inventoried emissions in 2016 (CARB 2018).

- 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?*

Energy use during project construction would be primarily in the form of fuel consumption to operate heavy equipment, light-duty vehicles, machinery, and generators. Temporary grid power may also be provided to construction trailers or electric construction equipment. Energy use during construction would be temporary in nature, and construction equipment used would be typical of construction projects in the region. Therefore, project construction would not result in a potential impact due to wasteful, inefficient, or unnecessary consumption of energy resources. No impact would occur during construction.

The proposed project would not expand the existing water supply pipeline network and would only increase service distribution capacity to improve fire flow and replace aging infrastructure. The project would not increase energy demands associated with existing tanks, wells, and booster pump stations because the rehabilitation of existing tank, well, and pump station infrastructure would not involve an expansion of design capacity. Additionally, any rehabilitation to well sites would increase the efficiency of these wells, which would reduce energy use. Pump station improvements would incrementally increase daily electricity use, but this energy demand would be supplied by the regional electricity grid which is increasingly powered by renewable energy, would restore lost efficiency in the water distribution system, would not be used to increase the retail water supply or serve additional customers, and would primarily serve to improve fire flow. Operational trips associated with maintenance of the infrastructure would be the same as under existing conditions. As such, project operation would not result in a potential impact due to wasteful, inefficient, or unnecessary consumption of energy resources. No impact would occur during operation.

NO IMPACT

- b. *Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

As mentioned above, SB 100 mandates 100 percent clean electricity for California by 2045. Because the proposed project would be powered by the existing electricity grid, the project would eventually be powered by renewable energy mandated by SB 100 and would not conflict with this statewide plan. Casitas MWD, the City of Ojai and the County of Ventura do not have any specific renewable energy or energy efficiency plans with which the project could comply. Nonetheless, the project would not conflict with or obstruct the state plan for renewable energy; therefore, no impact would occur.

NO IMPACT

3.7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving:				
1. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is made unstable as a result of the project, and potentially result in on or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Geologic Setting

The project area is located in the Ojai Valley, flanked by Sulphur Mountain to the south and the Topa Topa Mountains to the north. The project site is located in the Transverse Ranges Geomorphic Province, characterized by anomalous east-west trending mountain ranges. The province is bounded on the north by the Coastal Ranges (Sierra Madre Mountains), on the south by the Peninsular Ranges, on the east by the Mojave Desert, and on the west by the Pacific Ocean.

The Transverse Ranges province is seismically active, bounded by three major fault zones, including the San Andreas Fault and Big Pine Fault to the north and the Malibu Coast Fault to the south. Seismic events can result in groundshaking, liquefaction, landslides, subsidence, tsunami and seiche. In addition to the three major faults described above, numerous smaller faults are located in and around the Ojai Valley, including the Santa Ana Fault/Mission Ridge Fault Zone and the San Cayetano Fault. The Mission Ridge Fault Zone is closest to the project site, approximately 0.6 mile southwest of the nearest project component (pipeline replacement along Verano Drive).

Paleontological Resources Setting

Geologic Units in the Project Area

The project area is mapped at a scale of 1:24,000 by Tan and Irvine (2005), Tan and Jones (2006), and Dibblee and Ehrenspeck (1987a, b). Several sedimentary units are mapped at the surface of the project area, including: the Eocene Coldwater Sandstone (Tcw), Eocene to Miocene (predominately Oligocene) Sespe Formation (Ts), Quaternary older alluvium (Qpa) of Pleistocene age and Quaternary younger alluvium of Holocene age (Qha, Qhf, Qw).

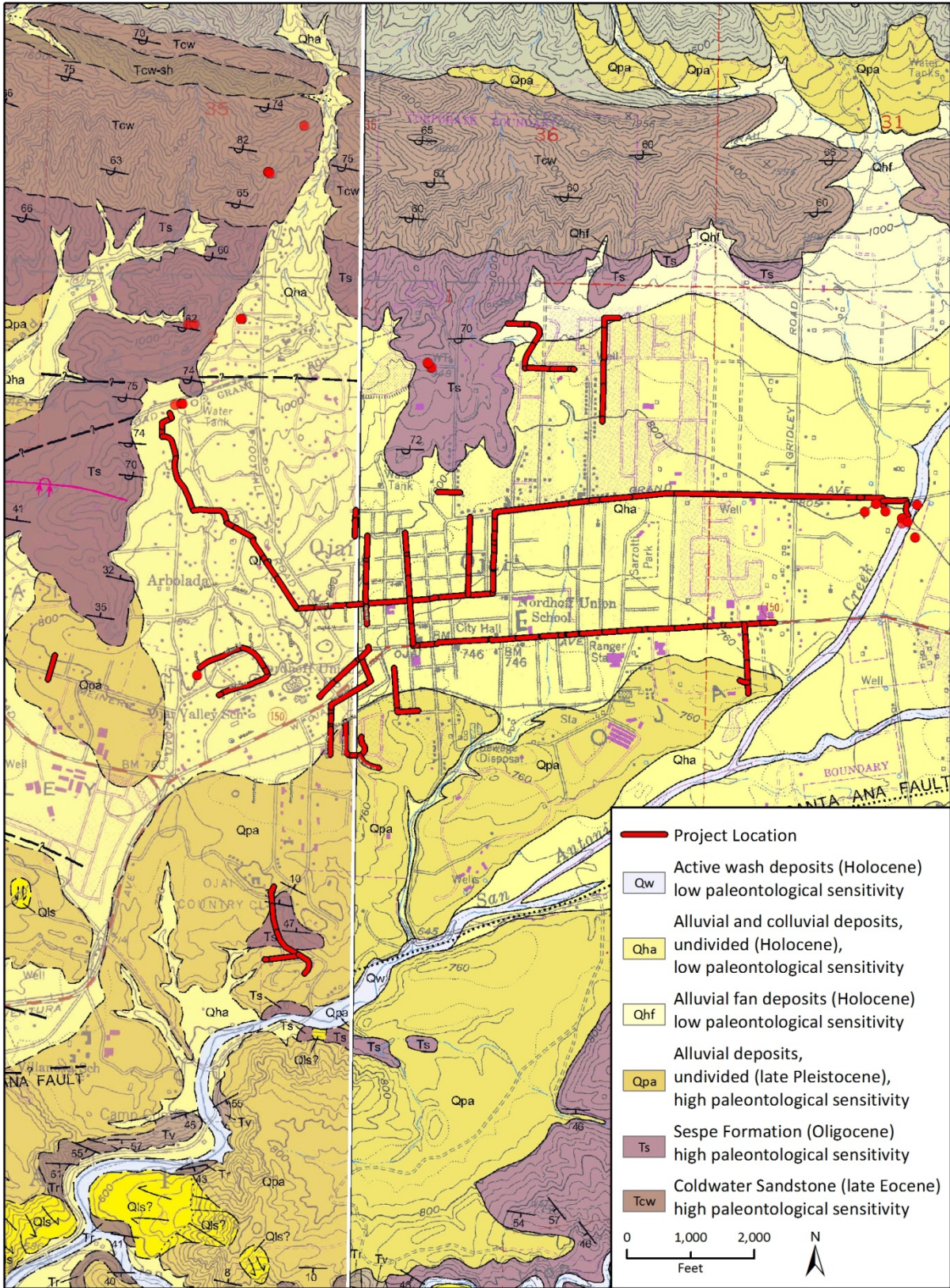
The non-marine Sespe Formation is composed of red-brown to yellow-brown, well-indurated, commonly crossbedded sandstone with imbricated pebble conglomerate and dark brown claystone. The Sespe Formation has yielded hundreds of fossil specimens of at least 35 mammalian, rodent, reptile, and bird species, including 15 type specimens (Kelly 1990, 1992, 2009, 2010; Kelly and Whistler 1994; Lander 1983; UCMP 2018). The marine Coldwater Sandstone is composed of sandstone, greenish-gray shale and siltstone, pebble conglomerate, and oyster reef debris (Dibblee 1966). The Coldwater Formation has produced numerous invertebrate and microfossil localities and at least two vertebrate localities yielding unidentified mammal specimens (UCMP 2018). The Quaternary alluvial units are composed of unconsolidated to moderately consolidated, silt, sand, and gravel deposits. Pleistocene alluvial deposits have proven to yield significant vertebrate fossil localities throughout southern California from the coastal areas to the inland valleys. These localities have produced fossil specimens of terrestrial mammals such as mammoth, horse, camel, bison, rodent, bird, and reptile (Jefferson 1991; UCMP 2018).

Figure 7 shows geologic units underlying the project area and their respective paleontological sensitivity.

Locality Record Search

A search of paleontological locality records at the Natural History Museum of Los Angeles County (LACM) resulted in no previously recorded fossil localities within the project area. According to LACM collection records, the closest vertebrate locality from Pleistocene alluvium was identified south of the project area in Sexton Canyon on Sulphur Mountain. The vertebrate locality LACM [CIT] 211 produced a fossil specimen of extinct goose (*Chendytes lawi*), with depth of recovery unreported. A supplemental review of University of California Museum of Paleontology (UCMP)

Figure 7 Geologic Units and Paleontological Sensitivity



Geological base map provided by Tan and Irvine (2005), Tan and Jones (2006).

Geofig1 Geologic Units and Paleontological Sensitivity in the Project Area

vertebrate fossil collection records resulted in no vertebrate fossil localities in the project area. The closest Pleistocene vertebrate localities identified on the UCMP online database include V5697, V5809, and V65287, recovered southwest of Ojai near the city of Ventura. The localities yielded fossil specimens of mammoth, horse, bison, and seal. The UCMP has at least two previously-recorded vertebrate localities (V82372 and V81116) for the Eocene Coldwater Sandstone in the immediate vicinity of Ojai, which yielded rodent specimens. In addition, the UCMP has at least 28 previously-recorded vertebrate localities for the Eocene-Miocene Sespe Formation in Ventura County, which yielded over 300 vertebrate specimens including taxa of perissodactyl, artiodactyl, rodent, reptile, and bird. Depth of recovery was unreported.

Paleontological Sensitivity

Based on a literature review and museum locality search, and in accordance with Society of Vertebrate Paleontology (2010) guidelines, the Quaternary alluvial units underlying the project area were determined to have low to high paleontological sensitivity. The Sespe Formation (Ts), Coldwater Sandstone (Tcw), and Quaternary older alluvium (Qpa) have been assigned a high sensitivity because similar deposits have previously yielded vertebrate fossils in Ventura County and near the project area (McLeod 2018; UCMP 2018). The Holocene alluvium (Qha, Qhf, Qw) has been assigned a low paleontological sensitivity because Holocene age sedimentary deposits, particularly those younger than 5,000 years, are too young to preserve fossils.

- a1. *Would the project directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving 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?*
- a2. *Would the project directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?*
- a3. *Would the project directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?*
- a4. *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?*

Pursuant to state law, the California Geological Survey has designated Alquist-Priolo Earthquake Fault Zones for the Ojai and Matilija Quadrangles in which the project site is located. No portion of the project site is located in an Alquist-Priolo earthquake fault zone. The nearest Alquist-Priolo earthquake fault zones to the project site are the Mission Ridge Fault Zone, approximately 0.6 mile southwest of the project site in the unincorporated community of Meiners Oaks, and the San Cayetano Fault Zone, approximately 3.6 miles east of the project site in unincorporated Ventura County (California Department of Conservation 2018).

Although the proposed project is located in a seismically active area, it will not itself expose people or structures to seismically induced risk. The proposed project involves replacement of belowground pipeline and improvements to existing pump stations, wells, and storage tanks; it does not involve construction of or modification to any habitable structures. A large seismic event, such as a fault rupture, seismic shaking, or ground failure, could result in breakage of the pipelines, failure of joints, or underground leakage from the pipelines. This risk already exists with the current pipelines in place in the project area. In such an event, the pipelines would be inspected and repaired. Additionally, materials and installation standards of the American Water Works Association as

required pursuant to 22 CCR Chapter 16 would incorporate appropriate standard engineering practices and specifications in any facility design to minimize risk of structural failure in a seismic event and would reduce any potential secondary impacts.

In the event of a major earthquake, seismically induced liquefaction and landslides would be expected throughout Ventura County. Liquefaction hazard zones in the vicinity of the project site include areas along San Antonio Creek and a portion of downtown Ojai along Canada, Ventura, and Summer Streets (California Department of Conservation 2018). These zones include portions of the proposed pipeline replacement alignment as well as improvements to the San Antonio Booster Pump Station and storage tank. Additionally, improvements to the Heidelberger Booster Pump Station and tank are located in or adjacent to a seismically-induced landslide hazard zone at the base of the Topa Topa Mountains. Project development would consist of minimal aboveground structures, none of which are habitable. Aboveground facility upgrades proposed by the project would serve as improvements to existing aboveground facilities and, therefore, would not exacerbate risks from geologic hazards beyond those associated with existing structures on the project site.

The proposed project would not involve development of habitable structures, is not located within an Alquist-Priolo earthquake fault zone, and does not cross an active fault. Therefore, the project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, seismic-related ground failure, or landslides. This impact would be less than significant.

Construction workers in pipeline trenches or near heavy equipment and materials would be exposed to heightened health and safety risks should seismically-induced ground shaking occur during construction activities. Construction activities would limit risk to construction workers by complying with Occupational Safety and Health Administration (OSHA) rules for safety during excavation activities. With adherence to existing regulations, potential impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in substantial soil erosion or the loss of topsoil?

The project area is previously disturbed, and the majority of the proposed pipeline alignment is paved. Nevertheless, construction activities involving soil disturbance, such as excavation, stockpiling, and grading could result in increased erosion and sediment transport by stormwater to surface waters.

The proposed project would minimize soil erosion via implementation of BMPs, in accordance with the Waste Discharge Requirement for Stormwater (Wet Weather) and Non-Stormwater (Dry Weather) Discharges from the Municipal Separate Storm Sewer Systems within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities Therein (Order R4-2010-0108, NPDES Permit No. CAS004002; MS4 Permit) and the Construction General Permit (Order Nos. 2009-0009-DWQ as amended by 2010-0014-DWQ and 2012-0006-DWQ). Compliance with the MS4 Permit requires implementation of an effective combination of erosion and sediment control BMPs, such as hydraulic mulch and hydroseeding, silt fencing and sand bag barriers, spill prevention and control, soil binders, and street sweeping, to prevent erosion and sediment loss. Furthermore, the Construction General Permit requires the development of a Stormwater Pollution Prevention Plan (SWPPP) to reduce erosion and topsoil loss from stormwater runoff. Compliance with these two permits would ensure the proposed project implements BMPs during construction and prevents

substantial soil erosion or the loss of topsoil. The SWPPP would include additional erosion control BMPs, such as covering of stockpiles, use of desilting basins, limitations on work during high-wind events, and post-construction revegetation and drainage requirements. Implementation of the required SWPPP and BMPs would ensure this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *Would the project be located on a geologic unit or soil that is unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*

In the event of a major earthquake, seismically induced landslides would be expected throughout Ventura County, particularly in areas with high slope angles. The project area does not contain any mapped landslides, but components of the project—including improvements at the Heidelberger Booster Pump Station and storage tank—are located on or adjacent to a seismically-induced landslide hazard zone (County of Ventura 2013; California Department of Conservation 2018). Liquefaction hazard zones in the vicinity of the project site include areas along San Antonio Creek and a portion of downtown Ojai along Canada, Ventura, and Summer Streets (California Department of Conservation 2018). These zones include portions of the proposed pipeline replacement alignment as well as improvements to the San Antonio Booster Pump Station and storage tank. The project site and vicinity is not located in a probable subsidence zone, as delineated in the County of Ventura General Plan Hazards Appendix (County of Ventura 2013).

The proposed project involves replacement of underground pipeline through existing developed urban land primarily within public rights-of-way. Rehabilitation, upgrades, and replacement of existing wells, tanks, and pump stations would generally occur on sites where this infrastructure currently exists. As discussed previously, although the proposed project would be located in a seismically active area, the project is not anticipated to adversely affect soil stability or increase the potential for local or regional landslides, subsidence, liquefaction, or collapse. Trenching activities would implement BMPs such as shoring during open trenching. Additionally, the project involves rehabilitations and upgrades to existing facilities and, therefore, would not increase risks associated with soil instability beyond current conditions. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. *Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?*

Expansive soils expand when wet and contract when dry, creating cracks in foundations and causing considerable damage to structures (County of Ventura 2013). Expansive soils have been documented throughout Ventura County, including portions of the Ojai Valley (County of Ventura 2013). Based on the USDA Soil Survey for the Los Padres National Forest Area and Ventura Area Map Units, the project site contains mostly sandy loams, including Ojai very fine sandy loam and stony fine sandy loam, Anacapa gravelly sandy loam, and Garretson loam and gravelly loam (USDA NRCS 2018). The plasticity index of soils underlying the project site generally ranges from 2.5 to 15 percent, and liquid limits generally range from 25 to 50 percent, indicating low expansion potential. Nevertheless, given the localized nature of expansive soils, such soils may be present in small, isolated portions of the project site.

Expansive soils pose the greatest risk to structures. The project would involve rehabilitations and upgrades to existing facilities and would not involve construction of any habitable structures. Furthermore, compliance with the American Water Works Association’s materials and installation

requirements pertaining to expansive soils, including foundation construction techniques, grading techniques, and proper site surface drainage for any proposed structures, would minimize risk associated with expansive soils, if present. Therefore, the project would not create a substantial risk to life or property associated with expansive soils. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- e. *Would the project 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?*

The proposed project would not include the use of septic-tanks or alternative wastewater disposal systems. No impact would occur.

NO IMPACT

- f. *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?*

While paleontological locality records searches resulted in no previously recorded fossil localities in the project area, portions of the project area are underlain by the Sespe Formation, Coldwater Sandstone, and Quaternary older alluvium; these geologic units have high paleontological sensitivity. As a result, grading, excavation, and other ground disturbing activities in previously undisturbed portions of the project area underlain by geologic units with a high paleontological sensitivity may result in significant impacts to paleontological resources by crushing or otherwise damaging such resources. Impacts would be significant if construction activities result in the destruction, damage, or loss of scientifically important paleontological resources and associated stratigraphic and paleontological data. Mitigation is necessary to reduce potential impacts to a less than significant level.

Mitigation Measures

The following mitigation measure would reduce potentially significant impacts relating to the discovery of paleontological resources during project implementation and ground-disturbing activities to a less than significant level.

GEO-1 Paleontological Resources

Prior to the commencement of ground disturbing activities within previously undisturbed portions of the project area, a qualified professional paleontologist shall be retained to conduct paleontological monitoring during project ground disturbing activities. The Qualified Paleontologist (Principal Paleontologist) shall meet Ventura County's (2010) Minimum Qualifications for Paleontological Consultants, including possession of at least Bachelor's Degree or equivalent work experience in paleontology, knowledge of the local paleontology, and experience with paleontological procedures and techniques.

Ground disturbing construction activities (including grading, trenching, drilling with an auger greater than three feet in diameter, and other excavation) within project areas with high paleontological sensitivity (i.e., Sespe Formation, Ts; Coldwater Sandstone, Tcw; and, Pleistocene alluvium, Qpa) shall be monitored on a full-time basis. Spot-check monitoring is recommended for project areas underlain by geologic units with low paleontological sensitivity (i.e., Holocene alluvium; Qha, Qhf, Qw) to determine if underlying sensitive units are being impacted. Monitoring shall be supervised by

the Qualified Paleontologist and shall be conducted by a qualified paleontological monitor, who is defined as an individual who meets the minimum qualifications per standards set forth by the Society of Vertebrate Paleontology (2010), which includes a B.S. or B.A. degree in geology or paleontology with one year of monitoring experience and knowledge of collection and salvage of paleontological resources.

The duration and timing of the monitoring shall be determined by the Qualified Paleontologist. If the Qualified Paleontologist determines full-time monitoring is no longer warranted, he or she may recommend to reduce monitoring to periodic spot-checking or cease monitoring entirely. Monitoring would be reinstated if any new ground disturbances are required and reduction or suspension would need to be reconsidered by the Qualified Paleontologist.

If a paleontological resource is discovered, the monitor shall have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected. If a paleontological resource is discovered during construction, construction activities must halt in the area of the discovery, the Qualified Paleontologist shall be notified, and a site evaluation shall be conducted as necessary to assess the site and determine further mitigation measures, as appropriate. Once salvaged, significant fossils shall be prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection (such as the LACM). Curation fees are the responsibility of the project owner.

A final report shall be prepared describing the results of the paleontological monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. The report shall be submitted to CMWD. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the designated museum repository.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

3.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with any applicable plan, policy, or regulation adopted for the purposes of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Background

Climate change is the observed increase in the average temperature of the Earth’s atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. Climate change is the result of numerous, cumulative sources of greenhouse gases (GHGs) contributing to the “greenhouse effect,” a natural occurrence which takes place in Earth’s atmosphere to help regulate the temperature of the planet. The majority of radiation from the sun hits Earth’s surface and warms it. The surface, in turn, radiates heat back towards the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions, but anthropogenic activities since the beginning of the industrial revolution (approximately 250 years ago) are adding to the natural greenhouse effect by increasing the gases in the atmosphere which trap heat. Emissions resulting from human activities thereby contribute to an average increase in Earth’s temperature.

GHGs occur both naturally and as a result of human activities, such as fossil fuel burning, methane generated by landfill wastes and raising livestock, deforestation activities, and some agricultural practices. GHGs produced by human activities include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF₆). Since 1750, estimated concentrations of CO₂, CH₄, and N₂O in the atmosphere have increased over by 36 percent, 148 percent, and 18 percent, respectively, primarily due to human activity. Potential climate change impacts in California may include loss of snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (California Energy Commission 2009).

In response to climate change, California implemented Assembly Bill (AB) 32, the “California Global Warming Solutions Act of 2006.” AB 32 requires achievement by 2020 of a statewide GHG emissions limit equivalent to 1990 emissions (essentially a 15 percent reduction below 2005 emission levels) and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. On September 8, 2016, the governor signed SB 32 into law, extending AB 32 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by

2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of six metric tons (MT) CO₂e by 2030 and two MT CO₂e by 2050 (CARB 2017). Additionally, on September 10, 2018, the governor signed SB 100 into law, increasing California Renewables Portfolio Standard requirements. SB 100 establishes a state goal of 100 percent clean energy for California by 2045 and accelerates SB 350 mandate of 50 percent clean renewable energy from 2030 to 2026.

Significance Thresholds

The majority of individual projects do not generate sufficient GHG emissions to influence climate change directly. Physical changes caused by a project can contribute incrementally to significant cumulative effects, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15064[h][1]).

According to CEQA Guidelines, projects can tier from a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. This approach is considered by the Association of Environmental Professionals (2016) in its white paper, *Beyond Newhall and 2020*, to be the most defensible approach presently available under CEQA to determine the significance of a project's GHG emissions. Ventura County includes a climate change chapter in its 2040 General Plan Background Report (Chapter 12)(County of Ventura 2017). The chapter includes findings and discussion of countywide emissions, as well as potential localized effects of climate change in the county. While both the City of Ojai and the County of Ventura have taken steps toward development and adoption of a Climate Action Plan (CAP), neither the City nor the County has formally adopted a CAP or other GHG reduction plan addressing community-wide emissions to date. Additionally, CMWD does not currently have a formal CAP or GHG reduction plan. Thus, this approach is not currently feasible for this analysis.

To evaluate whether a project may generate a quantity of GHG emissions with the potential to have a significant impact on the environment, state agencies developed a number of operational bright-line significance thresholds. Significance thresholds are numeric mass emissions thresholds which identify the level at which additional analysis of project GHG emissions is necessary. If projects attain the significance target, with or without mitigation, they would result in less than significant GHG emissions.

VCAPCD has not established quantitative significance thresholds for evaluating GHG emissions in CEQA analyses, but it recommends using the California Air Pollution Control Officers Association (2008) *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act* white paper and other resources when developing GHG evaluations (VCAPCD 2006). The *CEQA and Climate Change* paper provides a common platform of information and tools to support local governments and was prepared as a resource, not as a guidance document. CEQA Guidelines section 15064.4 expressly provides a "lead agency shall have discretion to determine, in the context of a particular project," whether to "[u]se a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use." A lead agency also has

discretion under the CEQA Guidelines to “[r]ely on a qualitative analysis or [quantitative] performance based standards.”

In light of the lack of a specific GHG threshold from VCAPCD, it is appropriate to refer to guidance from other agencies when discussing GHG emissions. Thus, for the purposes of this analysis, the bright-line threshold developed by the SCAQMD (3,000 MT CO₂e per year for development projects) is considered appropriate to determine the significance of GHG emissions.

Because the project involves pipeline replacement and system facilities rehabilitation, the vast majority of the project’s GHG emissions would be from construction and operational emissions would be negligible. Although construction activity is addressed in this analysis, CAPCOA does not discuss whether any threshold approaches adequately address impacts from temporary construction activity. As stated in the *CEQA and Climate Change* white paper, “more study is needed to make this assessment or to develop separate thresholds for construction activity” (CAPCOA 2008). Nevertheless, air districts such as the SCAQMD (2008) have recommended GHG emissions from construction be amortized over 30 years and added to operational GHG emissions to determine the overall impact of a proposed project.

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Project construction would generate GHG emissions from the operation of heavy machinery for pipeline construction and installation, motor vehicles, and worker trips to and from the site. Construction GHG emissions would be temporary and would cease upon completion of construction. Operation of the project would generate negligible vehicle trips, estimated at one maintenance trip per year to operate valves. Because the proposed project would replace aging pumps with new, more efficient pumps and would replace aging, roughened pipes with new, smoother pipes to convey water more efficiently, implementation of the proposed project would result in a reduction in indirect GHG emissions from electricity generation by the electric service provider. Therefore, project operation would not result in a substantial net increase in power consumption or GHG emissions.

Construction GHG emissions were estimated using CalEEMod version 2016.3.2 and a conservative “worst-case-scenario” assumption for construction activities. The construction emissions for one year were estimated by aggregating all pipeline construction for the entire alignment which could occur in one year, demolition of an existing tank and replacement with a new storage tank, and construction of a well in an undeveloped area with pump installation. This was used for modelling purposes as several project components are unknown and could change based on specific site conditions for each project. The “worst-case” estimate accounts for complete construction of new facilities and is not likely to occur for most project components, but it was used in these conservative estimates. Because booster pump installation would not require the use of heavy machinery and would therefore not contribute substantial GHG emissions, it was not included in the modelling. Table 5 shows the breakdown of annual GHG emissions anticipated to result from construction of the proposed project. SCAQMD recommends GHG emissions from construction be amortized over 30 years and added to operational GHG emissions to determine the overall impact of the proposed project.

Table 5 Estimated GHG Emissions

Year	Emissions (MT CO ₂ e)
Total Pipeline Construction Emissions	323.4
Total Tank Construction Emissions	84.6
Total Well Construction Emissions	27.2
Total Construction Emissions	435.2
Amortized Construction Emissions (over 30 years)	14.5
Total Annual Emissions	14.5
SCAQMD Recommended Threshold	3,000
Threshold Exceeded?	No

CO₂e: carbon dioxide equivalent; MT: metric tons; SCAQMD: South Coast Air Quality Management District
 See Appendix A for CalEEMod results.
 Values are approximations and have been rounded to nearest tenth.

Both the proposed project’s total annual construction emissions (435.2 MT of CO₂e) and amortized annual construction emissions (14.5 MT of CO₂e) fall below the SCAQMD’s interim recommended bright-line significance threshold of 3,000 MT of CO₂e per year. The proposed project would replace and rehabilitate aging and inefficient infrastructure with water system components designed to improve operational efficiency and reduce the amount of water and energy being wasted under current conditions. Therefore, impacts related to GHG emissions would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Because the proposed project would not result in a significant increase in GHG emissions, it would not be in conflict with any applicable plans, policies, or regulations for the purpose of reducing GHG emissions. The VCAPCD, City, and County have not adopted any plans, policies, or regulations for the purpose of reducing the emissions of GHGs. Therefore, this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

3.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a. *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*
- b. *Would the project 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?*

Construction of the proposed project would temporarily increase the transport and use of hazardous materials in the area through the operation of construction vehicles and equipment. Ground-disturbing activities could cause an accidental upset or accident condition. If such conditions cause a release of hazardous materials into the environment, potential impacts could occur. Limited quantities of miscellaneous hazardous substances, such as diesel fuel, oil, solvents, and other similar materials, would be brought onto the construction site, used, and stored during the construction period. These materials would be disposed off-site in accordance with all applicable laws pertaining to the handling and disposal of hazardous waste.

The transport, use, and storage of hazardous materials during construction would be conducted in accordance with all applicable State and federal laws, such as the Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, the California Hazardous Material Management Act, and the California Code of Regulations, Title 22. The proposed project would be required to comply with VCACPD Rule 62.1 (Hazardous Materials), which mandates no hazardous materials shall be discharged from any source so as to result in concentrations at or beyond the property line in excess of any State, federal or local standards or emission limits established. In the absence of specific standards for a particular hazardous material, the airborne concentrations of such materials shall not exceed those levels and time intervals established by the State Division of Industrial Safety or OSHA. Compliance with Rule 62.1 would ensure hazardous materials would not be discharged from the project site; therefore, construction activities would not pose a significant hazard to the public or to the environment.

Project construction activities would comply with all relevant regulations, including the enforcement of hazardous materials treatment, handling, notification, and transportation regulations and implementation of BMPs. Nevertheless, upset or accident conditions could result in the unanticipated spill or release of hazardous materials such as vehicle and equipment fuels, potentially introducing a hazard to the public or the environment. To ensure an additional level of safety and reduce potential impacts to a less than significant level, Mitigation Measure HAZ-1 would be implemented.

Mitigation Measures

With implementation of the following mitigation measure, the potential impacts related to hazardous materials would be reduced to a less than significant level.

HAZ-1 Hazardous Materials Management and Spill Control Plan

Before construction begins, the construction contractor shall submit to CMWD for review and approval a Hazardous Materials Management and Spill Control Plan (HMMSCP) including a project-specific contingency plan for hazardous materials and waste operations. The HMMSCP shall establish policies and procedures consistent with applicable codes and regulations, including but not limited to the California Building and Fire Codes, as well United States Department of Labor OSHA and California OSHA regulations. The HMMSCP shall articulate hazardous materials handling practices to prevent the accidental spill or release of hazardous materials.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

There are several schools located within the project area which spans the entire Ojai Water Distribution System service area. The majority of the schools are located in the city of Ojai where several of the pipe replacements or repairs would occur. The wells, pumps and tanks to be repaired or improved with project construction are located toward the service area fringes and are therefore farther from most of the schools in the area. Construction staging and materials storage would occur at the wellfield and tank sites which are not located near any schools in the area.

There is the potential for an accidental spill or release of hazardous or potentially hazardous materials such as vehicle and equipment fuels to occur during project construction. Project activities would not occur on a school property, and impacts associated with a potential release of hazardous materials on or near a school site as a result of the project would not occur. Additionally, implementation of mitigation measure MM HAZ-1, *Hazardous Materials Management and Spill Control Plan*, would ensure potentially significant impacts associated with project activities would be reduced to a less-than-significant level. As described in Section 3.17, *Transportation*, Mitigation Measure TRA-3 *Notification of Construction to Service Providers and Educational Institutions* requires the written notification to local schools and police and fire departments so detour routes for emergency responses can be planned for the construction period.

Therefore, potential impacts associated with a potential emission or release of hazardous materials or wastes in proximity to a school would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. *Would the project be located on a site included on a list of hazardous material 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?*

Government Code section 65962.5 requires the California Environmental Protection Agency to develop an updated Cortese List. The Department of Toxic Substance Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information for the Cortese List (DTSC 2018). The analysis for this section included a review of the following resources on October 30, 2018 to provide hazardous material release information:

- SWRCB GeoTracker database
- DTSC EnviroStor database

There are no known active hazardous materials sites located within the project area. SWRCB's GeoTracker database lists a number of closed case cleanup sites in the vicinity of the project area. In 2011, California Environmental Protection Agency identified and requested an Application for Waste Discharge Requirements (WDRs) for discharge of groundwater from a well into pond water and for discharge of filter backwash water from the San Antonio Treatment Plant at 2235 Grand Avenue. The site is currently under draft as a WDR site (SWRCB 2011). The San Antonio facility would be repaired as one of the proposed project's tank rehabilitation efforts which would see to the wastewater discharge issue.

Figure 8 shows the hazardous waste cleanup sites near the project area. The County of Ventura Resource Management Agency, Environmental Health Division served as the cleanup oversight

agency for all of the identified hazardous waste cleanup sites. The Los Angeles RWQCB served as the cleanup oversight agency for the historical and draft WDR sites. Potential future remediation activities in the project area would be overseen by the County of Ventura Resource Management Agency, Environmental Health Division or the Los Angeles RWQCB.

All identified hazardous waste cleanups have been completed and closed. According to the environmental database review, the project alignment overlaps numerous closed cleanup sites for hazardous materials compiled pursuant to Government Code Section 65962.5. Therefore, impacts would be less than significant with implementation of the mitigation measure listed below.

Mitigation Measures

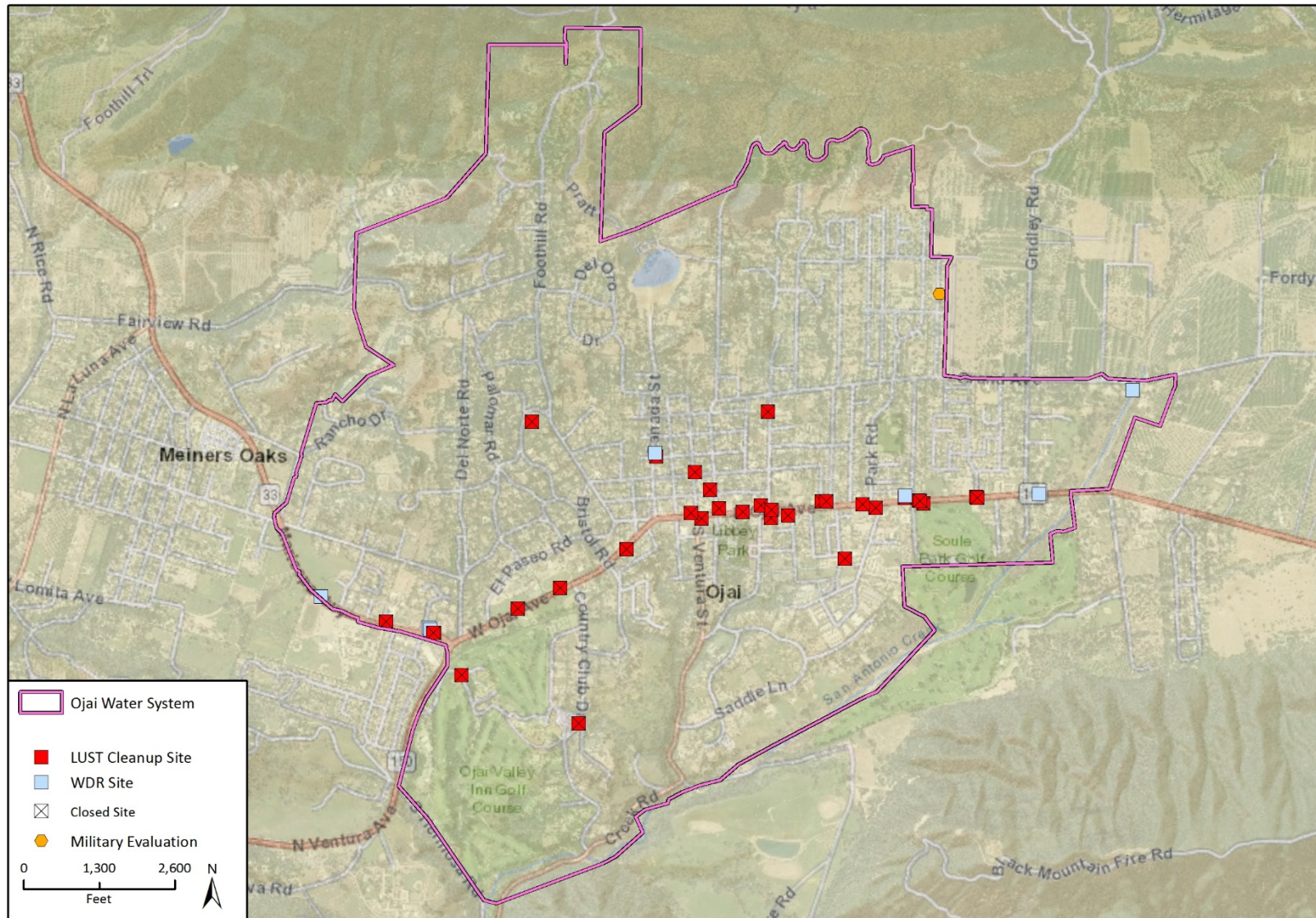
With implementation of the following mitigation measure, the potential impacts related to hazardous materials cleanup sites would be reduced to a less than significant level.

HAZ-2 Unanticipated Discovery of Contaminated Soil or Groundwater

In the event unanticipated, existing soil or groundwater contamination is discovered during construction of the proposed project, the construction contractor shall implement appropriate procedures for the treatment, handling, and notification of unanticipated hazardous materials. The construction contractor shall promptly notify CMWD in writing regarding any material the construction contractor believes may be a hazardous waste. The construction contractor also shall promptly notify CMWD in writing regarding unknown physical conditions at the project site of any unusual nature, different materially from those ordinarily encountered. Upon such notification, CMWD shall promptly investigate the conditions at the project site. If the construction contractor encounters a hazardous environmental condition, the construction contractor shall immediately secure or otherwise isolate such condition, stop all work in connection with such condition and in any area affected thereby, and notify CMWD of the hazardous environmental condition. The construction contractor shall not be required to resume work in connection with such condition or in any affected area until after CMWD has obtained any required permits related thereto and delivered written notice to the construction contractor specifying such condition and any affected area is or has been rendered safe for the resumption of work and specifying any special conditions under which such work may be resumed safely. The construction contractor is required to comply with all applicable laws related to the work performed, including laws governing hazardous materials treatment, handling, notification, transportation, and disposal of contaminated soil and import of clean fill.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Figure 8 Hazardous Sites Located within the Project Area



- 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?*

The closest public airport to the project is the Santa Paula Airport, a privately-owned public-use airport located approximately 12 miles southeast of the project area. The proposed project would not extend into an airport land use plan and is not located within two miles of a public or public-use airport. Additionally, the proposed project is not located near a private airstrip. Therefore, the project would have no impact related to safety hazards for people residing or working in the project area due to proximity to a public or private airport.

NO IMPACT

- f. *Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Construction activities associated with the proposed project may require temporary lane or road closures which could impede emergency response. The Traffic Control Plan required in Mitigation Measure TRA-1 (see Section 3.17, *Transportation*) would implement safe and effective traffic control measures at all construction sites and would address any potential interference with emergency response and/or evacuation plans. With the Traffic Control Plan in place, the impact would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- g. *Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?*

Construction and operation of the project would not introduce potentially flammable activities in fire-prone areas. The city of Ojai is susceptible to the hazard of wildland fires from the native vegetation surrounding the developed portion of Ojai (City of Ojai 1991a). Wildland fires are also a major concern due to large tracts of sparsely populated land in the surrounding area which must be protected from wildfires in hot dry summers. A portion of the project area is located in a Very High Fire Hazard Severity Zone, as determined by the California Department of Forestry and Fire Protection (CalFire 2010). Section 9-1.301(b) of the Ojai Municipal Code designates the entire city of Ojai as a High Fire Hazard. The proposed project would comply with design standards in the Uniform Building Code (UBC) to prevent loss during a wildland fire (as modified in Section 9-1.301 of the Municipal Code) and the design requirements of the Ventura County Fire Protection District. Additionally, the proposed project is intended to improve fire flow during the event of a wildfire and would therefore reduce the risk of wildfire hazards. Compliance with the required provisions of the Ventura County Fire Code and the UBC would reduce potential impacts to a less than significant level.

LESS THAN SIGNIFICANT IMPACT

3.10 Hydrology and Water Quality

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

The federal Clean Water Act establishes the framework for regulating discharges to Waters of the U.S. in order to protect their beneficial uses. The Porter-Cologne Water Quality Act regulates water quality within California and establishes the authority of the SWRCB and the nine RWQCBs. The SWRCB requires construction projects to provide careful management and close monitoring of runoff during construction, including on site erosion protection, sediment management, and prevention of non-stormwater discharges. The SWRCB and RWQCBs issue NPDES permits to regulate specific discharges. The NPDES Construction General Permit regulates stormwater discharges from construction sites disturbing more than one acre of land.

The project area predominately overlies the Ojai Valley Groundwater Basin (Basin Number 4-002), though an approximately 400-foot segment of proposed pipeline replacement along Verano Drive overlies the Ventura River Valley Basin, Upper Ventura River Sub-basin (Basin Number 4-003). The Ojai Valley Groundwater Basin underlies most of the Ojai Valley floor, and is bound by Tertiary Period rocks on the east and west, the Santa Ana Fault and Sulphur Mountain to the south, and the Topa Topa Mountains to the north (California Department of Water Resources [DWR] 2004). Groundwater in the basin is generally unconfined, found in alluvial sediments and fractures in the underlying sedimentary rock. Groundwater levels in the basin are seasonally variable and highly susceptible to inter-annual variation in precipitation, such as multi-year drought or wet cycles. Despite this shorter term variability, long-term groundwater storage has remained relatively stable (Ojai Basin Groundwater Management Agency, 2018). San Antonio Creek drains a portion of the basin, flowing south to the Ventura River. In 2014, the Ojai Basin Groundwater Management Agency became the Groundwater Sustainability Agency for the Ojai Valley basin for the purposes of implementing the Sustainable Groundwater Management Act.

- a. *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*
- e. *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

Surface Water

Excavation, grading, and other activities associated with construction of the proposed project would result in soil disturbance which could cause water quality violations through potential erosion and subsequent sedimentation of receiving water bodies. Construction activities could also cause water quality violations in the event of an accidental fuel or hazardous materials leak or spill. If precautions are not taken to contain contaminants, construction activities could result in contaminated stormwater runoff entering nearby waterbodies, such as San Antonio Creek and the Ventura River. Construction activities resulting in ground disturbance of one acre or more are subject to the permitting requirements of the NPDES General Permit for Stormwater Discharges associated with Construction and Land Disturbance Activities (Construction General Permit Order No. 2009-0009-DWQ). While most, if not all, individual pipeline replacements or well, tank, and booster pump improvements would disturb less than one acre of land, the Construction General Permit still covers construction activities disturbing less than one acre if such activities are part of a larger common plan of development. Because project components collectively would exceed one acre of land disturbance, the project would be subject to the requirements of the Construction General Permit.

The Construction General Permit requires the preparation and implementation of a SWPPP, which must be prepared before construction begins. The SWPPP includes specifications for BMPs

implemented during project construction to minimize or prevent sediment or pollutants in stormwater runoff. Additionally, the project would comply with erosion control requirements of the County's MS4 Permit, as discussed under Section 3.7, *Geology and Soils*.

Project construction would comply with the requirements of the NPDES Construction General Permit and the applicable MS4 Permit. The NPDES Construction General Permit would require preparation of a SWPPP for any project disturbing more than one acre, which would include the largest proposed pipeline replacements and infrastructure upgrades. Projects which would not exceed one acre of disturbance area would still implement BMPs pursuant to requirements in the Ventura County MS4 Permit, including erosion and sediment controls such as silt fences and sand bag barriers. These measures are required at construction sites less than one acre under the MS4 Permit. Additionally, mitigation measures BIO-8 through BIO-16 would further reduce pollutant discharges to waterways by requiring materials storage and management, spill response, and other pollution prevention measures. Finally, the project would involve replacement of and upgrades to existing infrastructure for the purposes of extracting, storing, and distributing potable water. The project would not involve discharge or conveyance of wastewater or raw non-potable water with potential to degrade water quality. Therefore, the proposed project would not violate any water quality standards or waste discharge requirements.

The project area is under the jurisdiction of RWQCB Region 4 (Los Angeles Region). The RWQCB provides permits for projects potentially affecting surface waters and groundwater locally, and is responsible for preparing the Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan). The Basin Plan designates beneficial uses of water in the region and establishes narrative and numerical water quality objectives. The State has developed total maximum daily loads (also called TMDLs), which are a calculation of the maximum amount of a pollutant a water body can have and still meet water quality objectives established by the region. In the project area, San Antonio Creek does not meet water quality objectives for its designated beneficial uses and is listed as impaired for indicator bacteria, nitrogen, and total dissolved solids (State Water Resources Control Board, 2018). With adherence to the requirements of the NPDES Construction General Permit, the Ventura County NPDES MS4 Permit, and implementation of mitigation measures BIO-8 through BIO-16, construction and operation of the proposed project would not exacerbate these impairments or contribute to other water body impairments in the vicinity of the project site.

Groundwater

The project area predominantly overlies the Ojai Valley Groundwater Basin. Groundwater impairments in the basin include high levels of total dissolved solids, averaging near 700 milligrams per liter, as well as elevated nitrate and sulfate concentrations (DWR 2004). Operation of construction equipment would have the potential to result in pollution of the underlying groundwater due to leaks of oil, gasoline, lubricants, or other chemicals. Implementation of mitigation measures BIO-10, BIO-11, BIO-14, and BIO-16 would reduce potential groundwater quality impacts to a less than significant level by requiring pollutant management, material storage, and refuse management BMPs.

In January 2019, DWR published revised ranked prioritizations of the state's groundwater basins, to help identify, evaluate, and determine the need for additional groundwater level monitoring. DWR ranked the Ojai Valley Groundwater Basin as a "High" priority basin (DWR 2019) and, therefore, the basin is required to develop and implement a Groundwater Sustainability Plan under the Sustainable Groundwater Management Act. The project would involve replacement, rehabilitation

of, and upgrades to existing infrastructure used to extract, distribute, and store potable water sourced from the Ojai Valley Groundwater Basin and Lake Casitas. Well rehabilitation, replacement, or construction of a new well would restore groundwater production capacity lost due to aging infrastructure over time. The project would not increase groundwater extraction rights nor result in groundwater extraction beyond the historical baseline and, therefore, would not obstruct implementation of the Groundwater Sustainability Plan.

Overall, project construction activities would have the potential to result in discharge of pollutants to surface water and leaching of pollutants to underlying groundwater. With adherence to existing regulatory requirements, as well as implementation of construction-related water quality BMPs incorporated as mitigation measures BIO-8 through BIO-16, impacts would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

The project would involve replacement, rehabilitation of, and upgrades to existing infrastructure used to extract, distribute, and store potable water sourced from the Ojai Valley Groundwater Basin and Lake Casitas. The project would not substantially increase impervious surface cover which could inhibit groundwater recharge, as most of the project would be constructed in existing roadways or on existing CMWD facilities. Well rehabilitation, replacement, or construction of a new well would restore groundwater production capacity lost due to aging infrastructure over time. Of the Ojai Water System's six extraction wells, four were constructed prior to 2000, with the San Antonio Well #3, Mutual Well #4, and Mutual Well #5 constructed prior to 1960. Average water levels in the Ojai Valley Groundwater Basin have remained fairly stable over time, with hydrographs indicating no long-term decline in the basin between 1973 and 2000 when the majority of wells operated closer to their design capacity (Ojai Basin Groundwater Management Agency 2018; DWR 2004). Moreover, the project does not propose expansion of the potable water distribution system capacity except where necessary to meet fire flow requirements. A new well, if constructed, would be designed to optimize production within the Ojai system and would not be designed to increase production capacity in the Ojai Valley Groundwater Basin beyond restoring past groundwater production capacity. Therefore, the project would not substantially deplete groundwater supplies or interfere with groundwater recharge such that the project would impede sustainable groundwater management of the Ojai Valley Groundwater Basin. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c1. 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 or through the addition of impervious surfaces, in a manner which would result in substantial erosion or situation on- or off-site?*
- c2. 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 or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*
- c3. 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 or through the addition of impervious*

surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would 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?

- c4. 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 or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?*

The proposed project would primarily consist of construction of underground pipelines generally located within existing paved public rights-of-way. Although construction activities would disturb paved roadways in the project area due to trenching and other pipeline installation methods, this disturbance would be temporary. Tank, pump station, and well improvements would generally occur on sites with existing infrastructure and would not substantially change the drainage characteristics of these sites. After construction, the project area would be restored to its original condition and any drainage pattern would be the same as it was prior to project construction activities. Therefore, the proposed project would not substantially alter the existing drainage pattern or the course of a stream or river and would not result in substantial erosion or siltation on or off site.

Further, because the pipelines would be constructed underground within developed areas, they would not increase the rate or amount of surface runoff so as to exceed the capacity of existing or planned drainage systems or provide additional sources of polluted runoff. Although individual project components would not exceed one acre of disturbance area, the overall project construction would disturb more than one acre of land; consequently, the project would comply with the State's Construction General Permit (Order No. 2009-0009-DWQ as amended by 2010-0014-DWQ and 2012-0006-DWQ). Preparation of the SWPPP in accordance with the Construction General Permit would require erosion-control BMPs in the construction areas. Additionally, project construction would be required to implement erosion and sediment control BMPs under the MS4 Permit.

Finally, according to the Federal Emergency Management Agency (2010) Flood Insurance Rate Maps, the portions of the project area within the 100-year flood hazard zone are limited to areas along San Antonio Creek and Stewart Canyon Creek on the southern and eastern portions of the city of Ojai. The proposed pipeline replacements, well rehabilitation or replacement, and new well construction would be located underground and would not impede or redirect flows. Proposed new booster pumps would be located at the Signal and Arbolada sites, both of which are located outside of the 100-year flood hazard zone. A new tank may be constructed to provide additional storage following demolition of the Running Ridge and Signal tanks. This tank may be constructed at the Arbolada site, which is not located in the 100-year flood hazard zone, or a vacant parcel to be acquired by CMWD. A new tank would be sited similarly to existing tank facilities, which are generally located in higher elevations in the northern portion of the project area, outside of the 100-year floodplain. Therefore, the project would not impede or redirect flood flows. Potential impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

Portions of the project area along San Antonio Creek and Stewart Canyon Creek on the southern and eastern portions of the city of Ojai are located in the 100-year flood hazard zone. Additionally, a

portion of central Ojai is within the inundation area for the Stewart Canyon Creek Debris Basin, including areas along Canada Street in downtown Ojai (County of Ventura 2015). There are no large bodies of water in the immediate project area. The project area is approximately 4.5 miles northeast of Lake Casitas and 10.5 miles northeast of the Pacific Ocean. Due to distance from the ocean and lack of large water bodies within the immediate project area, the project area is not subject to tsunamis or seiche. Furthermore, the project area is not located in a tsunami inundation hazard area, as delineated in the Ventura County General Plan Hazards Appendix (County of Ventura 2013). The project would involve replacement, rehabilitation, or construction of new potable water infrastructure. The project would not involve construction or installation of any structures or facilities using, processing, or storing pollutants which could be released in the event of inundation. Therefore, no impact would occur.

NO IMPACT

3.11 Land Use and Planning

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

The project area includes the potable water distribution system service area for the City of Ojai and surrounding areas in western Ventura County. The majority of the pipeline replacement would be in Ojai, with approximately 0.5 mile of pipeline repairs and replacement extending into unincorporated Ventura County.

a. Would the project physically divide an established community?

Once constructed, project facilities would consist of approximately eight miles of pipeline segments, and rehabilitated, replaced, or upgraded tanks, booster pump stations, and active wells throughout the Ojai system which would not have the potential to physically divide an established community. The proposed project includes the rehabilitation of potable water pipeline in a developed, primarily residential urban area. Staging would occur on the wellfield and tank sites where rehabilitation activities are planned throughout the Ojai system service area. The presence of construction-related equipment and workers would temporarily change the existing character of the vicinity to a construction zone. Construction staging would maintain local access for businesses and residences along the proposed alignment to the extent practicable throughout short-term construction of the proposed project. Therefore, the project would not displace or divide an established community and no impact would occur.

NO IMPACT

b. Would the project 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?

The goal of CMWD’s CBA and WMP is to ensure planned CIP expenditures and improvement projects reliably meet current and future water demands in a cost-effective and sustainable manner. The proposed project is therefore consistent with the objectives of the CBA and WMP for water conservation and development of water system improvements for the future.

The proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. The City of Ojai General Plan identifies goals and objectives to preserve the quantity and enhance the quality of water resources affecting the Ojai

Valley (City of Ojai 1987). The proposed project would be consistent with the following City of Ojai policies and programs:

Policy: The City shall ensure that adequate supplies of water be available to all City residents and uses requiring water.

Program: Coordination between the City and all water agencies and companies shall be maintained, and the City shall work together with any involved entities to enhance the quality and quantity of water in the Ojai Valley.

Policy: The City shall identify the sources and availability of water, flood potential, and sources of potential damage to the City's water supply and quality in order to maintain the optimum quality of water in the City and its watershed.

The County of Ventura's General Plan also identifies goals and policies to maintain adequate water supplies and quality in the county. The proposed project would be consistent with the following goals and policies:

Water Resources Goal 4: Ensure that demand for water does not exceed available water resources.

Water Resources Program 5: The Planning Division and Public Works Agency will continue to coordinate with water districts and other appropriate agencies to establish a data base on actual available supply, projected use factors for types of land use and development, and threshold limits for development within available water resources.

Water Resources Program 8: The Environmental Health Division will continue to monitor, inspect and regulate underground storage tanks.

There would be no conflicts with land use plans, policies, or regulations of the City of Ojai or County of Ventura. Therefore, the project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. No impact would occur.

NO IMPACT

3.12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project 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. *Would the project 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?*

Mineral resources in the region include sand, gravel, and crushed rock (collectively, “aggregate”), as well as petroleum resources. Mineral Lands Classification maps indicate the project area is located predominantly in Mineral Resource Zones 1 (MRZ-1) and 4 (MRZ-4), with a small area outside the city of Ojai in the western portion of the project site designated as MRZ-3 (California Department of Conservation 1981). In MRZ-1 areas, adequate information indicates no significant mineral deposits are present, while an MRZ-4 designation indicates available information is inadequate for assignment to any other classification (County of Ventura 2011). MRZ-3 areas are those which contain mineral deposits, the significance of which cannot be evaluated from available data. The project site contains no areas identified as MRZ-2, which are areas designated as having mineral resources of regional or statewide significance. Consequently, the project would not result in a loss of availability of a known mineral resource of value to the region and residents of the state.

The Ventura County General Plan Resources Appendix adopts the same MRZ designations identified by the California Department of Conservation described above (County of Ventura 2011). The City of Ojai General Plan Conservation Element references mineral resources identified in the City’s Master Environmental Assessment document, which designates areas with a MRZ-3 classification immediately outside the city of Ojai as “Significant Minerals” (City of Ojai 1988, 1987). Additionally, the Master Environmental Assessment identifies an existing petroleum field south of Ojai Avenue encompassing the proposed pipeline replacement alignment along Fairway Lane. Recent aerial imagery indicates the site has since been developed with single family homes, roadways, and a golf course. The Ventura County General Plan Resources Appendix does not identify any existing petroleum fields in the project site vicinity (County of Ventura 2011). The project would involve

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rehabilitation or upgrades to existing facilities and would not affect any ongoing mineral resource recovery operations in the project site vicinity. Therefore, no impact would occur.

NO IMPACT

3.13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Noise Background

Noise is unwanted sound resulting in a disturbance of human activity. Environmental noise levels typically fluctuate over time, and different types of noise descriptors are used to account for this variability. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). Because of the way the human ear interprets sound level, a sound must be approximately 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is noticeable, while 1 to 2 dBA changes are typically not perceived. Quiet suburban areas generally have noise levels in the range of 40 to 50 dBA, while arterial streets are in the 50 to 60+ dBA range. Normal conversational levels are in the 60 to 65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels typically attenuate (or drop off) at a rate of approximately 6 dBA per doubling of distance from point sources (such as construction equipment). Noise from lightly traveled roads typically attenuates at a rate of approximately 4.5 dBA per doubling of distance, while noise from heavily traveled roads typically attenuates at approximately 3 dBA per doubling of distance. Noise levels may also be reduced by intervening structures. For example, a single row of buildings between the receptor and the noise source reduces the noise level by approximately 5 dBA, while a solid wall or berm breaking the line-of-sight reduces noise levels by 5 to 10 dBA (Federal Transit Administration [FTA] 2018). The construction style for dwelling units in California generally provides

a reduction of exterior-to-interior noise levels of approximately 25 dBA with closed windows (FTA 2006).

In addition to the instantaneous measurement of sound levels, the duration of sound is important since sounds occurring over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. The equivalent noise level (Leq) is one of the most frequently used noise metrics and considers both duration and sound power level. The Leq is defined as the single steady A-weighted level equal to the same amount of energy contained in the actual fluctuating levels over a period of time (essentially, the average noise level). Typically, Leq is summed over a one-hour period. The highest root mean squared (RMS) sound pressure level within the measuring period is the Lmax. The lowest RMS sound pressure level within the measuring period is the Lmin.

Vibration Background

Vibration is a unique form of noise because its energy is carried through buildings, structures, and the ground, whereas noise is simply carried through the air. Thus, vibration is generally felt rather than heard. Some vibration effects can be caused by noise (e.g., the rattling of windows from passing trucks). This phenomenon is caused by the coupling of the acoustic energy at frequencies close to the resonant frequency of the material being vibrated. Typically, groundborne vibration generated by manmade activities attenuates rapidly as distance from the source of the vibration increases. The ground motion caused by vibration is measured as particle velocity in inches per second and is referenced as vibration decibels (VdB) in the United States.

The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources inside buildings such as the operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads.

Project Site Setting

The project is located in a developed, predominantly commercial and residential area of the city of Ojai and unincorporated Ventura County. The proposed pipeline replacements are located throughout the city of Ojai, with segments along Verano Drive, Country Club Drive, Palomar Road, and Del Norte Road extending into unincorporated Ventura County. All of the proposed alignments pass near single family or multi-family residences. Well, pump stations, and tank locations are generally concentrated along the northern side of the project area, adjacent to residential and open space land uses. The Mutual well and San Antonio tank and pump station are located along Grand Avenue at San Antonio Creek, adjacent to agricultural, open space, and residential land uses. Although the project area is largely urbanized, agricultural land borders the north side of the proposed Grand Avenue alignment east of Mercer Avenue, as well as the San Antonio wells, storage tank, and pump station to the east. Figure 2 and Figure 3 in Chapter 2, *Project Description*, show the location of proposed project improvements and the jurisdictions in which such improvements would occur. The project area contains no divided highways; SR 150 (Ojai Avenue) runs through the project area and SR 33 runs approximately 0.25 mile west of the project area.

Noise levels at the project site are typical of residential and commercial areas. Primary sources of noise can be attributed to roadway traffic along Ojai Avenue, Grand Avenue, and other city streets.

Traffic in these areas ranges from infrequent in the residential neighborhoods to moderate frequencies in the commercial areas of central Ojai.

The Ojai Valley contains no airports. The nearest airport to the project area is Santa Paula Airport, located approximately 12 miles to the east. Due to the distance from this airport, airport noise does not contribute to noise levels in the project area.

Rincon Consultants collected eight 15-minute noise measurements at points in the project area on Thursday, November 15, 2018 during the morning and evening peak hours. Noise measurements were sited in order to characterize ambient noise levels near clusters of noise sensitive receptors in the project area. While noise measurement locations are generally located along proposed pipeline replacements, Noise Measurement (NM) 7 and NM 8 also characterize noise levels near proposed improvements at the San Antonio tank and pump station and Fairview tank and pump station, respectively. All noise measurement locations were selected to avoid walls or structures which could interfere with collection of noise measurements. Table 6 shows the recorded noise measurements and Figure 9 shows the locations of the measurements.

Table 6 Noise Measurements

Measurement Number	Measurement Location	Sample Times ¹	Leq (dBA) ²	Lmin (dBA) ³	Lmax (dBA) ⁴
NM 1	El Paseo Road at Ojai Valley School/Matilija Junior High School	7:17 a.m. – 7:32 a.m.	60.5	47.0	75.6
NM 2	West Eucalyptus Street near North Ventura Street	4:23 p.m. – 4:38 p.m.	46.0	33.3	65.4
NM 3	East Ojai Avenue (Libbey Park)	7:44 a.m. – 7:59 a.m.	59.3	48.8	75.2
NM 4	North Montgomery Street near Grand Avenue	4:47 p.m. – 5:02 p.m.	58.0	45.3	74.7
NM 5	East Ojai Avenue and Shady Lane	8:08 a.m. – 8:23 a.m.	70.0	46.8	84.3
NM 6	Sunset Place near Mountain View Avenue	5:09 p.m. – 5:24 p.m.	46.9	33.4	71.1
NM 7	Grand Avenue near Orange Road	8:32 a.m. – 8:47 a.m.	61.4	29.9	77.9
NM 8	Del Norte Road near Rancho Drive ⁵	3:55 p.m. – 4:10 p.m.	39.9	65.2	32.9

¹ All measurements collected on Thursday, November 15, 2018 during the morning (7-9 a.m.) or evening (4-6 p.m.) or PM peak hour.

² A-weighted decibel (dBA) is defined as a decibel (dB) adjusted to be consistent with human response. The equivalent noise level (Leq) is defined as the single steady A-weighted level equivalent to the same amount of energy contained in the actual fluctuating levels over a period of time (essentially, the average noise level).

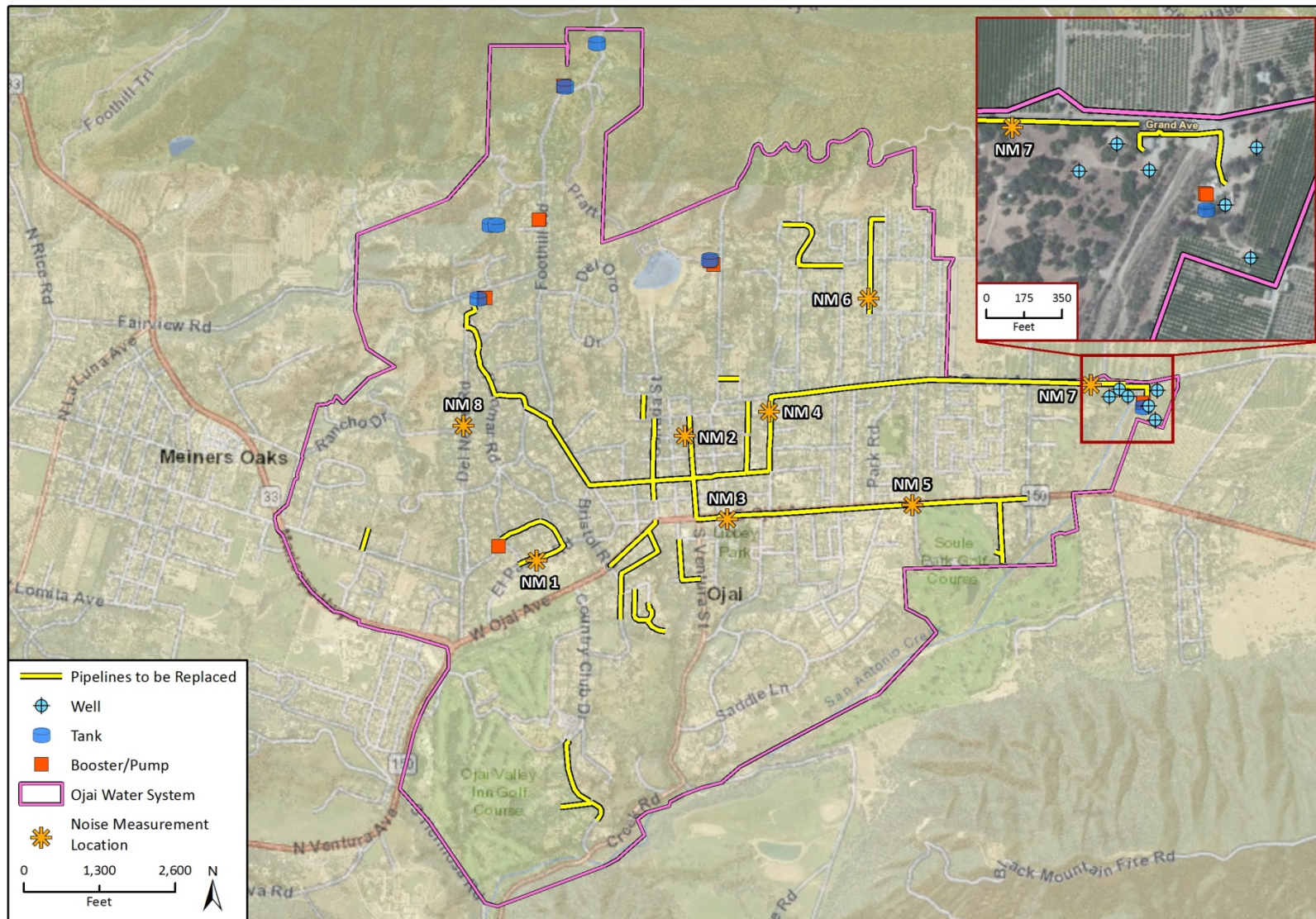
³ Lmin is the minimum sound level experienced within the recorded measurement with A-weighted frequency response.

⁴ Lmax is the maximum sound level experienced within the recorded measurement with A-weighted frequency response.

⁵ Due to insufficient public right-of-way in which to record a noise measurement adjacent to the proposed pipeline realignment on Del Norte Road, NM 8 was collected south of proposed improvements. Though this measurement is not located adjacent to proposed project improvements, it is representative of ambient noise levels in the residential neighborhood where such improvements would occur.

Source: Rincon Consultants, field visit on November 15, 2018 using ANSI Type 2 Integrating sound level meter. See Appendix D for noise monitoring data

Figure 9 Noise Measurement Locations



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 Additional data provided by CMWD 2018.

Fig X Noise Measurement Locations

Sensitive Receptors

Noise exposure goals for different types of land uses reflect the varying noise sensitivities associated with those uses. The City of Ojai General Plan Noise Element identifies particular land uses as sensitive to noise, including housing, schools, hospitals, museums, convalescent homes, libraries, and parks (City of Ojai 1991b). Additionally, the Noise Element identifies specific noise sensitive receptors in the city. Noise measurement locations were sited to characterize ambient noise levels at these receptors. Table 7 presents noise sensitive receptors identified by the Noise Element which are likely to be affected by project construction, as well as the nearest noise measurement location and nearest proposed project component.

Table 7 Noise Sensitive Receptors in Project Area

Sensitive Receptor	Noise Source	Nearest Noise Measurement Location ¹	Nearest Project Construction
Matilija Junior High School and Ojai Valley School	Traffic along SR 150, El Paseo Road	NM 1 (60.5 dBA Leq)	Pipeline replacement along El Paseo Road (approximately 50 feet north)
Whispering Oaks Senior Housing	Traffic along SR 150 (Ojai Avenue)	NM 5 (70.0 dBA Leq)	Pipeline replacement along Ojai Avenue (approximately 175 feet north)
Acacias Convalescent Housing	Traffic along Montgomery Street and Grand Avenue	NM 4 (58.0 dBA Leq)	Pipeline replacement along Montgomery Street and Grand Avenue (approximately 30 feet east)
Libbey Park	Traffic along Ojai Avenue	NM 3 (59.3 dBA Leq)	Pipeline replacement along Ojai Avenue (approximately 30 feet north)
Ojai Library	Traffic along Ojai Avenue and Ventura Street	NM 3 (59.3 dBA Leq)	Pipeline replacement along Ojai Avenue and Ventura Street (approximately 30 feet north)
Ojai Art Center	Traffic along Montgomery Street and Ojai Avenue	NM 3 (59.3 dBA Leq)	Pipeline replacement along Ojai Avenue (approximately 240 feet north)
Mim's Manor/Manor of Ojai Convalescent Hospital	Traffic along Ventura Street and Eucalyptus Street	NM 2 (46.0 dBA Leq)	Pipeline replacement along Ventura Street (approximately 170 feet east)
Grey Gables/Gables of Ojai residential care facility	Traffic along Grand Avenue and Montgomery Street	NM 4 (58.0 dBA Leq)	Pipeline replacement along Montgomery Street and Grand Avenue (approximately 70 feet south)

SR: State Route

¹ A-weighted decibel (dBA) is defined as a decibel (dB) adjusted to be consistent with human response. The equivalent noise level (Leq) is defined as the single steady A-weighted level equivalent to the same amount of energy contained in the actual fluctuating levels over a period of time (essentially, the average noise level).

Source: City of Ojai 1991b

In addition to the noise sensitive receptors identified above, proposed pipeline replacement alignments pass within approximately 30 feet of single-family and multi-family residential receptors throughout the City of Ojai.

Regulatory Setting

City of Ojai

OJAI MUNICIPAL CODE

Title 5, Chapter 11 of the Ojai Municipal Code, contains the City’s Noise Ordinance (this is not a Building or Zoning ordinance, which are provided in Title 9 and Title 10, respectively). The ordinance prohibits any person from making or permitting to be made any noise which unreasonably disturbs the peace and contains exterior and interior noise standards for residential, commercial, and industrial zones within the city. Table 8 summarizes the exterior noise standards outlined in Section 5-11.04 of the Ojai Municipal Code.

Table 8 Exterior Noise Standards

Land Use	Time Period	Noise Level (dBA Leq)
Residential Zone ¹	7:00 a.m. – 10:00 p.m.	55 dBA
	10:00 p.m. – 7:00 a.m.	45 dBA
Commercial/Industrial Zone	7:00 a.m. – 10:00 p.m.	65 dBA
	10:00 p.m. – 7:00 a.m.	55 dBA

¹ Includes Village Mixed Use.

Source: Ojai Municipal Code, Section 5-11.04

Additionally, Section 5-11.05, Special Noise Sources, provides specific provisions for construction noise. The ordinance sets hours of permitted construction activity between 7:00 a.m. and 5:00 p.m. on weekdays, with no construction activity permitted on weekends or City holidays. Construction activities authorized by a valid City permit or otherwise allowed may exceed the noise level limits established in the noise ordinance on a temporary and short-term basis during authorized construction hours. Additionally, all construction equipment is required to be operated with the standard factory silencer and/or muffler equipment attached and maintained in good working order.

Pursuant to Section 5-11.07, Exemptions, maintenance and repair of public facilities by City personnel and City-authorized contractors on weekends and holidays are exempt, and construction on public facilities or in the public right-of-way by City-authorized contractors and personnel is exempt from the provisions of the Noise Ordinance. Although CMWD construction contractors would not be considered City-authorized contractors under a strict interpretation of the Noise Ordinance, they generally would be afforded the same flexibility as the purpose of the proposed project is to repair and rehabilitate public facilities. Nevertheless, construction activities for the proposed project generally would occur on weekdays between 7:00 a.m. and 5:00 p.m. and therefore would not be subject to noise level restrictions. The Community Development Director or designee may issue after-hours construction permits if the public interest would be served by such a permit, such as authorizing construction near school grounds or with potential to interfere with vehicular or pedestrian traffic in heavily traveled areas. Also, emergency repairs, should they be

required during the course of project implementation, would be exempt from Noise Ordinance limits.

GENERAL PLAN

The Noise Element of the City of Ojai General Plan describes the acoustical environment in the City, including typical daytime and nighttime noise levels and noise sources, and identifies specific noise sensitive receptors. Additionally, the General Plan Noise Element provides goals, policies, and programs in an effort to control noise in the City. The applicable policies and programs to the proposed project are summarized below (City of Ojai 1991b).

Policies

Policy 6. The City should discourage nighttime traffic, particularly truck traffic, on streets in residential areas and schedule trash pickups between 7:00 a.m. and 5:00 p.m. in residential areas.

Policy 7. The City should adopt a new comprehensive community noise ordinance to ensure city residents are not exposed to excessive noise levels from existing and new stationary noise sources.

Programs

Program 5. Restrict hours of operation and days of the week of construction activities.

County of Ventura

VENTURA COUNTY GENERAL PLAN

Section 2.16 of the County of Ventura (County) General Plan Hazards Appendix contains the County's Noise Element (County of Ventura 2013). The Noise Element identifies primary noise sources in the county, develops noise contours for existing transportation, industrial, and miscellaneous sources, and provides mitigation strategies to reduce noise impacts in the county through the year 2020.

The Noise Element defines noise sensitive receptors by land use and time of sensitivity. According to the County's Noise Element, noise sensitive receptors include residences at any time, parks and other outdoor recreation areas, primarily during the day, and the interior of schools, churches, libraries, prisons, correctional facilities, and group shelters during the day.

VENTURA COUNTY CODE OF ORDINANCES

Article 11 of the County's Code of Ordinances prohibits loud or raucous noise within any residential zone which is audible to the human ear during the hours of 9:00 p.m. to 7:00 a.m. at a distance of 50 feet from the property line of the noise source or 50 feet from any such noise source if the source is in a public right-of-way. While the ordinance indicates "loud or raucous noise" can include operation of riding tractors or other mechanical or electrical devices or hand tools, which could be used during construction activities, Section 6299-2(a) exempts any government entity or public utility, such as CMWD, from the provisions of the ordinance.

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?*

Operation of the replaced pipeline would not perceptibly increase noise levels in the project area above existing conditions. New or rehabilitated wells would be located underground, and newly constructed or rehabilitated tanks would store water supply without the use of noise-generating equipment. Consequently, these project components would not generate substantial operational noise. The proposed project would introduce a new long-term noise source through operation of newly constructed pumping equipment, including aboveground pump stations and well pumps. Consistent with existing pump stations in the system, the equipment would be housed in an enclosure and pumps would be electric water pumps, therefore a substantial increase in ambient noise levels above levels existing without the proposed project would not occur. No additional vehicle trips beyond those needed for maintenance of existing facilities would occur following construction of the project. Therefore, operational noise associated with the project would not result in a substantial permanent increase in ambient noise.

Construction activities associated with the project would result in temporary and intermittent noise increases at nearby sensitive receptors. The project area contains sensitive receptors (residences) within 30 feet of where construction would occur. In addition, the alignment of the proposed pipeline replacements would pass within approximately 30 feet of Ojai Library and Libbey Park and within 240 feet of other sensitive receptors identified in the City of Ojai General Plan Noise Element, as described in Table 7. Construction of the project would involve the use of heavy equipment, creating occasional noise levels exceeding applicable regulations if construction activities were to occur outside of exempt hours, as described in the Regulatory Setting. Construction noise primarily arises from the use of equipment, such as excavators, compactors, trucks, and other machinery. Noise would also be introduced in the form of trucks transporting excavated material from the construction site to staging areas and/or disposal sites. Approximately 200 to 300 LF of roadway would be disturbed per day for construction activities, including excavation, laying pipe, and backfilling as construction continues along the alignment path. Noise-generating construction activities would occur adjacent to a given sensitive receptor for only a few days, after which time the active construction area would be located more than 600 feet away and construction noise would be substantially diminished.

The potential for temporary construction noise impacts are determined by the proximity of sensitive receptors to construction activities, estimated noise levels associated with construction activities, the potential for construction noise to interfere with daytime and nighttime activities, and whether construction noise at nearby receptors would exceed local noise ordinance standards. Construction noise associated with pipeline, well, and tank construction was estimated using the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM). RCNM estimates noise levels from multiple pieces of construction equipment operating concurrently based on ambient noise levels in the project vicinity, equipment use rates, standard noise attenuation for point sources, and distance to receptors (FHWA 2006). Equipment for pipeline, well, and tank construction phases was based on the equipment list generated by CalEEMod for each project component. Improvements to booster pump stations are not anticipated to require heavy construction equipment and, therefore, would result in minimal construction-related noise. RCNM worksheets are included as Appendix E.

Table 9 provides the estimated noise levels for each phase of construction associated with pipeline replacement. As described previously, the rate of attenuation (i.e., reduction) from point sources of noise is approximately 6 dBA for every doubling of distance. The nearest sensitive receptors to proposed pipeline replacements are residences along North Montgomery Street, Libbey Park and Ojai Library along East Ojai Avenue, and Matilija Junior High School/Ojai Valley School along El Paseo Road. Construction noise at other sensitive receptors in the project area would be similar to or lower than the noise levels described in Table 9.

Table 9 Estimated Noise Levels Generated during Pipeline Replacement

Construction Phase	Equipment	Combined Hourly Leq (dBA)
Single Family Residences and Libbey Park/Ojai Library (30 feet from closest construction)		
Site Preparation	Grader, Backhoe	86.2
Trenching	Excavator, Backhoe	82.9
Pipeline Installation	Crane, Forklift/Man Lift (2), Compactor, Backhoe (2), Dozer	86.9
Paving	Cement/Concrete Mixer (4), Paver, Roller, Backhoe	87.2
Architectural Coating	Air Compressor	78.1
Matilija Junior High School/Ojai Valley School (50 feet from closest construction)		
Site Preparation	Grader, Backhoe	81.7
Trenching	Excavator, Backhoe	78.4
Pipeline Installation	Crane, Forklift/Man Lift (2), Compactor, Backhoe (2), Dozer	82.5
Paving	Cement/Concrete Mixer (4), Paver, Roller, Backhoe	82.8
Architectural Coating	Air Compressor	73.7
Source: FHWA 2006. See Appendix E for RCNM worksheets		

The project would also involve potential well replacement or construction of a new well at either the Mutual Wellfield, San Antonio well site, or an undeveloped parcel. Both the Mutual Wellfield and San Antonio well site are located along Grand Avenue east of the city of Ojai. The nearest sensitive receptors are a residence south of Grand Avenue, approximately 490 feet west of the Mutual Wellfield, and a residence north of Grand Avenue, approximately 250 feet north of the San Antonio well sites. Table 10 shows anticipated temporary noise levels associated with new well construction at each of these receptors.

Table 10 Estimated Noise Levels Generated during Well Construction/Replacement

Construction Phase	Equipment	Combined Hourly Leq (dBA)
Residence (north of Grand Avenue, 250 feet from San Antonio well site)		
Site Preparation	Grader, Backhoe	67.8
Well Drilling	Generator, Truck-Mounted Drill Rig, Flat Bed Truck (2), Backhoe	66.8
Electrical/Pump Installation	Crane, Forklift/Man Lift (2), Backhoe (2)	64.8
Residence (south of Grand Avenue, 490 feet from Mutual Wellfield)		
Site Preparation	Grader, Backhoe	61.9
Well Drilling	Generator, Truck-Mounted Drill Rig, Flat Bed Truck (2), Backhoe	60.9
Electrical/Pump Installation	Crane, Forklift/Man Lift (2), Backhoe (2)	59.0

Source: FHWA 2006. See Appendix E for RCNM worksheets

Finally, the project would involve tank demolition and construction. The location of new tank construction is not known at this time, but tank demolition may occur at the Running Ridge or Signal tank sites, and tank construction may occur at the Arbolada site or at a presently undeveloped parcel to be acquired by CMWD. Existing tank facilities owned and operated by CMWD are generally located on the north side of the Ojai system service area, and all existing tank facilities are at least 100 feet from the nearest noise-sensitive receptors. While the exact location of new tank construction is not presently known, Table 11 shows anticipated noise levels generated during new tank construction at 25 feet, 100 feet, and 200 feet from the proposed construction activities.

Table 11 Estimated Noise Levels Generated During New Tank Construction

Construction Phase	Equipment	Combined Hourly Leq at 25 Feet (dBA)	Combined Hourly Leq at 100 Feet (dBA)	Combined Hourly Leq at 200 Feet (dBA)
Demolition	Concrete Saw, Dozer, Backhoe	90.2	78.2	72.2
Site Preparation	Grader, Backhoe	87.8	75.7	69.7
Grading	Excavator, Dozer, Backhoe, Concrete Saw	90.9	78.9	72.9
Building Construction	Compactor, Crane, Forklift/Man Lift (2), Backhoe	85.8	73.7	67.7
Paving	Cement/Concrete Mixer (4), Paver, Roller, Backhoe	88.8	76.8	70.8
Architectural Coating	Air Compressor	79.7	67.7	61.6

Source: FHWA 2006. See Appendix E for RCNM worksheets

The project would be located within 30 feet of residential properties and other sensitive receptors in the city of Ojai and unincorporated Ventura County. Pipeline replacement would create the greatest construction-related noise at sensitive receptors, temporarily increasing noise exposure to approximately 87 dBA Leq in residential areas. While well and tank construction would generate lower noise levels, all project construction activities would result in an exceedance of the 55 dBA

Leq exterior daytime noise standard for residential zones and 65 dBA Leq exterior daytime noise standard for commercial/industrial zones in the city of Ojai. Noise generated by construction activities in unincorporated Ventura County could constitute loud or raucous noise under Article 11 of the Ventura County Code. Per Section 5-11.05 of the City of Ojai Municipal Code, construction activities authorized by a valid City permit may exceed the noise level limits established in the noise ordinance on a temporary and short-term basis during authorized construction hours. Authorized construction hours are between 7:00 a.m. and 5:00 p.m. on weekdays. As discussed in Section 2.6, *Construction Activities, Staging, and Timing*, construction would generally take place during normal CMWD working hours between 8:00 a.m. and 4:30 p.m. In addition, Section 6299-2(a) of the Ventura County Code exempts any government entity or public utility from the provisions of the County's noise ordinance; therefore, the County's noise ordinance would not apply to the proposed project. Pipeline installation would progress at the rate of approximately 200 to 300 LF per day, reducing the length of exposure of any particular sensitive receptors to a few days at most.

Due to the range of equipment noise levels and the proximity to sensitive receptors, construction activities would subject sensitive receptors to a substantial temporary increase in noise during daytime hours. Construction noise would be exempt in Ventura County and construction noise on weekdays between the hours of 7:00 a.m. and 5:00 p.m. would be exempt in the city of Ojai pursuant to Section 5-11.05 of the Ojai Municipal Code. Emergency work outside of those hours would also be exempt in the city, and limited nighttime work to satisfy construction engineering constraints (such as well drilling) may be authorized by the Community Development Director. Project construction would comply with any working hour limitations specified in encroachment permits issued by the City, County, or Caltrans. Additionally, any increase in ambient noise levels from construction activities for a given sensitive receptor would be limited to a few days. Therefore, due to the temporary and generally exempt noise increases associated with construction of the proposed project, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

The FTA provides guidelines for when vibration impacts may be significant, depending on the frequency and sensitive receptor type. Construction-related vibration impacts would be less than significant for residential receptors if vibration levels are below the threshold of potential damage to buildings (100 VdB) and if vibration events over 85 VdB would be infrequent with respect to the number of events per day (FTA 2018).

Operation of the pipeline replacement, tanks, wells, or pumping stations would not perceptibly increase groundborne vibration in the project area above existing conditions. Construction of the project could potentially increase groundborne vibration in the project area, but any effects would be temporary. The project area includes sensitive receptors within 30 feet of where construction would occur. Table 12 shows typical vibration levels associated with standard construction equipment potentially used for the project.

Table 12 Typical Vibration Levels Generated by Construction Equipment

Equipment¹	Approximate VdB 30 Feet from the Source	Approximate VdB 50 Feet from the Source
Vibratory Roller	92	85
Hoe Ram	85	78
Large Bulldozer	85	78
Loaded Trucks	83	77
Jack Hammer	76	70

VdB: vibration decibels

¹List not comprehensive of all equipment potentially used for the proposed project

Source: FTA 2018

Based on the information presented in Table 12, residences at 30 feet from construction activities could be exposed to maximum vibration levels of approximately 92 VdB during construction. As noted in Section 2.3, *Tank Construction*, tank rehabilitation may require pile driving in order to secure seismic anchors. While pile driving activities would be infrequent, impact pile drivers can generate groundborne vibration levels of up to 112 VdB at a reference distance of 25 feet. Given all existing tank facilities are located at least 100 feet from the nearest noise-sensitive receptors, pile driving associated with tank rehabilitation efforts may result in groundborne vibration levels of up to 94 VdB at such receptors.

As discussed above, 100 VdB is the general threshold where minor damage can occur in buildings. Because vibration levels would not reach 100 VdB, structural damage would not be expected to occur as a result of construction activities. Vibration levels during construction would exceed the FTA Guidelines’ groundborne velocity level of 85 VdB, which is considered tolerable only for an infrequent number of events. Construction activities would occur for only short durations as they move along the pipeline alignment and sensitive receptors near construction activities would experience only temporary increases in vibration levels. Activities associated with more substantial groundborne vibration impacts, such as pile driving, would occur infrequently, only while securing seismic anchors during tank rehabilitation. As described in Section 2.6, *Construction Activities, Staging, and Timing*, construction activities would generally be limited to between the hours of 8 a.m. and 4:30 p.m., which are outside of normal sleep hours. Activities with potential to occur during the overnight hours, such as night work along SR 150 and well drilling, would be located further from residences and, therefore, would not cause vibration impacts in buildings where people normally sleep. As a result, this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- 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?*

The project site is located approximately 12 miles west of the Santa Paula Airport and is not located in an airport land use plan area (Ventura County Airport Land Use Commission 2000). There are no public airports, public use airports, or private airstrips in or near the project area. Construction of the proposed project would not expose people residing or working in the project area to excessive noise levels. No impact would occur.

NO IMPACT

3.14 Population and Housing

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

- a. *Would the project 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)?*

The proposed project would involve replacement of existing potable water pipelines, as well as rehabilitations and upgrades to existing wells, booster pump stations, and tanks. The project does not propose construction of new homes or businesses and would therefore not directly induce population growth in the service area.

Although the proposed project would expand the conveyance capacity of existing water infrastructure by increasing the diameter of the pipelines currently serving existing customers, the purpose of this expanded capacity is to improve fire flow. The project would also involve rehabilitation or replacement of existing production wells and may involve installation of a new well in the service area. Any well rehabilitation, replacement, or new well installation would serve to regain pumping capacity lost over time due to aging infrastructure. The project would update existing infrastructure to meet existing and projected demand, but would not result in acquisition of additional water supplies and would not expand service beyond areas presently served by the existing infrastructure. Furthermore, the pipelines, wells, pump stations, and tanks would be maintained by existing CMWD employees and would not indirectly induce population growth as a result of new employment opportunities. Therefore, the project would not indirectly support population growth. No impact related to population growth would occur.

NO IMPACT

- b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

The proposed project would primarily be constructed within existing roadways and existing CMWD-owned properties and does not include any features with potential to displace any existing housing or people. No impact would occur.

NO IMPACT

3.15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:				
1 Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2 Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3 Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4 Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5 Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a.1-5 Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered p facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, and/or other public facilities?

The proposed project does not include any features or facilities requiring additional or unusual fire or police protection resources. It is expected construction workers would be local to the city of Ojai and the surrounding area, and construction would not generate new population growth. The existing CMWD workforce would operate the proposed project. In addition, the proposed project would not change existing demand for public services because population growth would not result from construction of the proposed project (see Section 3.14, *Population and Housing*). No impact would occur.

NO IMPACT

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3.16 Recreation

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

- 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?*

As discussed in Section 3.14, *Population and Housing*, the proposed project would not directly or indirectly support population growth. Therefore, it would not increase the use of existing neighborhood and regional parks or other recreational facilities so as to cause or accelerate a substantial physical deterioration of the facility. No impact would occur.

NO IMPACT

- 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?*

The proposed project does not propose recreational facilities and would not require the construction or expansion of any recreational facilities. As such, no impact would occur.

NO IMPACT

This page intentionally left blank.

3.17 Transportation

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

a. *Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

The Ventura County Transportation Commission (VCTC) is the designated Congestion Management Agency responsible for the development and implementation of the Congestion Management Program (CMP) in the project area. According to the current (2009) CMP, all regional roadways within the project area are operating at acceptable levels of service (VCTC 2009).

The proposed project involves construction and operation of potable water infrastructure which would not conflict with adopted policies, plans, or programs addressing the circulation system, including public transit, bicycle, or pedestrian facilities. The proposed pipeline alignments would be placed along existing roadways and in public rights-of-way; project facilities would be located primarily underground, or on sites with existing water system infrastructure. Construction staging would occur primarily on the wellfield sites and tank sites at various locations throughout the city of Ojai and unincorporated Ventura County.

Pipeline construction activities would install approximately 200 to 300 LF of pipeline per day before moving to the next segment of pipeline. Full street closures during this work would not be necessary, as the trench should be on one side of the street, in the public right-of-way. Traffic control would be set up to allow one travel lane with flagmen to maintain vehicle, transit, bicycle, and pedestrian access to the greatest extent practicable during construction while maintaining worker and public safety. Anticipated construction-related vehicle trips include construction workers traveling to and from the project work areas, haul trucks (including for import and export of excavated materials, as needed), and other trucks associated with equipment and material deliveries. During peak construction months, construction-related vehicle trips would number approximately 10 roundtrips per day for pipeline, tank, and well construction. Any potential local

traffic impacts from this increase in vehicle traffic would be temporary, as construction activities would move along the alignment.

Because construction is a short-term activity, and impacts would move as work progresses along the pipeline corridor, construction-related traffic impacts would not be substantial. Roadways would be restored to match the surrounding road type once construction is complete. To ensure appropriate traffic controls are implemented and potential traffic impacts would be less than significant, the proposed project would be required to implement several transportation mitigation measures, as detailed below.

The following mitigation measures would reduce the impact to a less than significant level.

TRA-1 Traffic Control Plan

To mitigate temporary traffic disruption and ensure public safety, the construction contractor shall prepare a traffic control plan for construction areas located in or near roadways whose traffic volumes exceed Ventura County Levels of Service or City of Ojai criteria. The construction contractors will be required to submit their traffic control plans to the City of Ojai, County of Ventura, and/or Caltrans, as necessary, prior to receiving an encroachment permit.

TRA-2 Emergency Service Providers

The Project Manager shall notify emergency service providers (fire and police departments within a 0.5-mile radius of the alignment) with construction contact names, locations, schedules, and traffic plans, if applicable, prior to the start of construction.

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

CEQA Guidelines Section 15064.3(b) identifies criteria for evaluating transportation impacts. Specifically, the guidelines state vehicle miles traveled (VMT) exceeding an applicable threshold of significance may indicate a significant impact. According to Section 15064.3(b)(3) of the CEQA Guidelines, a lead agency may include a qualitative analysis of operational and construction traffic.

Project operation would not generate long-term VMT because the project would not require additional maintenance trips beyond those necessary to maintain existing facilities, and the project would not directly or indirectly induce population growth. Project construction would generate worker trips to the project area, including up to 10 roundtrips per day for pipeline, tank, and well construction. Mitigation measure TRA-1 would require implementation of a construction traffic control plan to minimize potential impacts associated with this nominal and temporary increase in VMT during project construction. As a result, the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), and this impact would be less than significant with mitigation incorporated.

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- c. *Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?*

Project facilities consist of potable water facilities and infrastructure, which would have no impact on street design. The proposed project would therefore not create or substantially increase a traffic hazard due to a design feature. No impact would occur.

NO IMPACT

- d. *Would the project result in inadequate emergency access?*

Lane closures and other potential traffic impacts caused by construction activities would have the potential to impede emergency response to those areas, or to areas accessed via those routes. To ensure project construction will not interfere with emergency response times or other performance public service performance objectives, the proposed project will implement mitigation requiring preparation of a traffic control plan and notification of emergency service providers regarding construction plans prior to commencement of construction activities (see TRA-1 and TRA-2 above). With mitigation, impacts would remain less than significant.

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3.18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<p>Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a 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:</p>				
<p>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</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>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 2024.1. 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.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, “tribal cultural resources.” AB 52 states, “A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment” (PRC Section 21084.2). It further states the lead agency shall establish measures to avoid impacts altering the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and is:

1. Listed or eligible for listing in the CRHR or in a local register of historical resources as defined in PRC section 5020.1(k), or
2. 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 PRC Section 5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified or adopted. Under AB 52, lead agencies are required to “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” Native American tribes to be included in the process are those having requested notice of projects proposed in the jurisdiction of the lead agency.

On November 8, 2018, CMWD distributed AB 52 consultation letters for the proposed project, including project information, map, and contact information to three Native American tribes and the Ventura County Resource Management Agency – Planning Division. A copy of the letter can be found in Appendix F. The tribal governments provided with an AB 52 consultation letter (via certified mail) include the following list of recipients:

- Barbareño/Ventureño Band of Mission Indians
- San Gabriel Band of Mission Indians
- Torres Martinez Desert Cahuilla Indians

Under AB 52, Native American tribes have 30 days to respond and request further project information and request formal consultation. CMWD did not receive any requests for consultation.

- a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*
- b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is 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 2024.1?*

As part of the process of identifying cultural resources issues for this project, Rincon Consultants contacted the Native American Heritage Commission on October 18, 2018 to request a Sacred Lands File (SLF) search of the project area. The Native American Heritage Commission responded on November 9, 2018 stating the results of the search were positive and suggested contacting the Barbareño/Ventureño Band of Mission Indians for more information. The SLF search with the NAHC produced positive results for the Township and Range within which the project site lies. The results were intended to be discussed with the tribes during the AB 52 consultation effort, but no tribes responded requesting consultation with CMWD. Given the project's location primarily within existing roadways and previously disturbed areas, it is unlikely any sacred sites exist directly within the project alignment. No cultural resources of Native American origin were identified within the project site as a result of the SCCIC records search and survey (see Section 3.5, *Cultural Resources*). Based on the above, no known TCRs are present within the project site. Therefore, no impacts would occur to TCRs. See Section 3.5, *Cultural Resources*, for mitigation measures related to the unanticipated discovery of archaeological resources.

NO IMPACT

3.19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a. *Would the project 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?*

Water

The proposed project involves the replacement of water pipelines and associated infrastructure or water infrastructure approaching the end of service utility, the environmental effects of which are analyzed in this IS-MND. The project would not increase pipeline capacity to serve additional customers. Over the course of project implementation, more water pipelines may be identified as

having multiple leaks or breaks, or for which replacement makes sense because they are close to other planned replacements. This work will be performed at the discretion of CMWD. The details of additional pipeline improvements are unknown; thus, pipeline or other water system improvements not described in this document will require separate environmental review under CEQA. As concluded by this IS-MND, the water facilities included in the proposed project would not cause unmitigable significant environmental effects. Consequently, no additional impact related to water facilities would occur.

Wastewater Treatment

The Ojai Valley Sanitary District collects and processes wastewater from the city of Ojai, the unincorporated Ojai Valley, and the north Ventura Avenue area. Approximately 120 miles of trunk and main sewer lines form a network transporting the untreated wastewater downstream to the Ojai Valley Treatment Plant, which has a capacity of 3.0 million gallons per day (mgd). Wastewater treated at the Ojai Valley Treatment Plant is discharged to the Ventura River through a permit with the RWQCB.

The proposed project would not generate sanitary wastewater or otherwise contribute to an increase in wastewater treatment requirements. The amount or characteristics of wastewater treated at the Ojai Valley Treatment Plant would not change compared to existing conditions with implementation of the proposed project. Wastewater discharges from the treatment plant would continue to comply with applicable RWQCB wastewater treatment requirements. Thus, no impact related to wastewater treatment would occur.

Stormwater Drainage

As discussed in Section 3.10, *Hydrology and Water Quality*, the proposed project would primarily be constructed underground in developed areas and would not increase the rate or amount of surface runoff so as to exceed the capacity of existing or planned drainage systems or provide additional sources of polluted runoff. The proposed project would not result in significant new impervious surfaces. Although construction activities would disturb paved roadways in the project area due to trenching and other pipeline installation methods, this disturbance would be temporary. Tank, pump station, and well improvements would generally occur on sites with existing infrastructure and would not substantially change the drainage characteristics of these sites. After construction, the project area would be restored to its original condition and any drainage pattern would be the same as it was prior to project construction activities. Therefore, no impact related to stormwater drainage would occur.

Electric Power

As discussed in Section 3.6, *Energy*, the proposed project would not increase energy demands associated with existing tanks, wells, and booster pump stations because the rehabilitation of existing tank, well, and pump station infrastructure would not involve an expansion of design capacity. Additionally, any rehabilitation or replacement of well sites would increase the efficiency of these wells, which would reduce energy use. Pump station improvements would incrementally increase daily electricity use, but this energy demand would be supplied by the regional electricity grid that is increasingly powered by renewable energy, would restore lost efficiency in the water distribution system, would not be used to increase the retail water supply or serve additional customers, and would primarily serve to improve fire flow. Therefore, no new or relocated energy

facilities would be required as a result of the proposed project. No impact related to electric power would occur.

Natural Gas

The project would not involve any components requiring natural gas service and is not anticipated to involve the relocation of existing natural gas facilities. Therefore, no impact related to natural gas facilities would occur.

Telecommunications

The project would not involve any components requiring telecommunications infrastructure and is not anticipated to involve the relocation of existing telecommunications facilities. Therefore, no impact related to telecommunications facilities would occur.

NO IMPACT

- b. *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?*

The proposed project consists of the construction and operation of potable water facilities. Given the proposed project is designed to serve existing demands with currently available water supply and the proposed project itself includes improvements to fire flow and replacement of aging infrastructure to meet those demands, there would be adequate capacity to serve the demands of the project area. Project construction water requirements would be met via CMWD's existing supplies and facilities. Operation of the proposed project would not increase production of groundwater supplies through withdrawals from the Ojai Valley Groundwater Basin, nor would it increase pipeline capacity to serve additional customers. Moreover, the proposed project would have a beneficial effect on potable water demands by providing improved facilities for water transportation and storage throughout the Ojai system. Therefore, no impact related to sufficiency of water supplies would occur.

NO IMPACT

- c. *Would the project 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?*

As discussed in Item a, the project would not generate sanitary wastewater or otherwise contribute to an increase in wastewater treatment requirements. No impact would occur.

NO IMPACT

- d. *Would the project 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. *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

E.J. Harrison and Sons provides waste and recycling services in the city of Ojai and the surrounding unincorporated areas of Ventura County. Solid waste is directed by E.J. Harrison and Sons to the Gold Coast Recycling and Transfer Station, a privately-operated diversion and recycling station. The

remaining waste is then transferred to the Toland Road Landfill, a Class III landfill operated by the Ventura Regional Sanitation District. The Toland Road Landfill is located in Santa Paula, approximately 13 miles southeast of the project site. According to the California Department of Resources Recycling and Recovery, the Toland Road Landfill has a permitted capacity of 30 million cubic yards and a maximum disposal capacity of 1,500 tons per day. As of January 2016, the remaining capacity at the landfill was approximately 10.5 million cubic yards. The landfill solid waste permit lists an estimated closure date of 2027. Toland Road Landfill accepts a variety of materials, including construction and demolition materials, agricultural waste, industrial waste, sludge (biosolids), and mixed municipal waste. (CalRecycle 2018b)

Waste Management, Inc. operates the Simi Valley Landfill and Recycling Center, located in the city of Simi Valley, approximately 28 miles southeast of the project site. The Simi Valley Landfill and Recycling Center has a permitted capacity of 119,600,000 cubic yards and a maximum disposal capacity of 9,250 tons per day. As of February 2017, the remaining capacity was approximately 88.3 million cubic yards. The landfill solid waste permit lists an estimated closure date of 2052. The landfill accepts a variety of materials including construction and demolition materials, industrial waste, sludge (biosolids), and mixed municipal waste. (CalRecycle 2018a)

Construction activities may temporarily generate solid waste, which would be disposed of in accordance with all applicable federal, State, and local statutes and regulations. As described above, local solid waste infrastructure has the capacity to accept solid waste generated by project construction activities. Once constructed, project operation would not generate solid waste. The project would not impair the attainment of solid waste reduction goals. Potential impacts would therefore be less than significant.

LESS THAN SIGNIFICANT IMPACT

3.20 Wildfire

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

The northern portion of the project site, including the locations of the Heidelberger, Arbolada, Running Ridge, Valley View, and Signal facilities, is a designated Very High Fire Hazard Severity Zone in the State and Local Responsibility Areas (CAL FIRE 2007 and 2010). In addition, although the urbanized areas of the City of Ojai are not located in a Very High Fire Hazard Severity Zone, the City is within 1.5 miles of large open space areas with very high fire severity risks. The project area has been subject to several recent fires, including the 282-acre Chorro Fire in August 2015, the 2,304-acre Pine Fire, and the 281,893-acre Thomas Fire in 2017 (CAL FIRE 2015, 2016, and 2019). Although the recent Thomas Fire did not affect the majority of the project site, it did burn the location of the Heidelberger facility.

- a. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*

As discussed in Section 3.9, *Hazards and Hazardous Materials*, construction activities associated with the proposed project may require temporary lane or road closures which could impede

emergency response. However, the Traffic Control Plan required in Mitigation Measure TRA-1 (see Section 3.17, *Transportation*) would implement safe and effective traffic control measures at all construction sites and would address any potential interference with emergency response and/or evacuation plans. With the Traffic Control Plan in place, the impact would be less than significant with mitigation incorporated.

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- b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

Heavy duty equipment used during project construction equipment may produce sparks with the potential to ignite vegetation. However, California Public Resources Code (PRC) Section 4442 mandates the use of spark arrestors, which prevent the emission of flammable debris from exhaust, on earth-moving and portable construction equipment with internal combustion engines operating on any forest-covered, brush-covered, or grass-covered land. Furthermore, PRC Sections 4427 and 4431 specify standards for conducting construction activities on days when a burning permit is required, and PRC Section 4428 requires construction contractors to maintain fire suppression equipment during the highest fire danger period (April 1 to December 1) when operating on or near any forest-covered, brush-covered, or grass-covered land. Therefore, with compliance with applicable PRC provisions, project construction would not exacerbate wildfire risk.

The project would replace existing pipelines as well as tank, well, and booster pump station infrastructure. The project would not include housing or new permanent structures and would not accommodate occupants. Therefore, the project would not exacerbate wildfire risk and would not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. Furthermore, none of the proposed equipment would exacerbate fire risk because the majority of project components would be replacements of existing infrastructure. The project would not require associated infrastructure such as fuel breaks or emergency water sources resulting in temporary or ongoing impacts to the environment. In addition, the project itself would improve fire flow throughout the pipeline network and enhance firefighting capacity in the area by improving pumping capacity. Therefore, there would be no impacts.

NO IMPACT

3.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Does the project:

a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

The majority of the project would involve infrastructure replacement and upgrades within previously developed urban area. The project consists primarily of the replacement of underground pipelines and upgrades to existing pumps, wells, and tanks. As a result, the project would not have the potential to substantially reduce the habitat of fish and wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. The project would involve construction activities in and around the Soule Park Site, which represents the location of the

prehistoric/ethnohistoric Chumash village of Awha'y, and may contain cultural resources exemplifying major periods of California history or prehistory. As discussed in Section 3.5, *Cultural Resources*, mitigation measures CUL-1 through CUL-3 would reduce such impacts to less than significant levels with mitigation incorporated.

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- 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)?*

As described in the discussion of environmental checklist Sections 3.1 through 3.20, with respect to all environmental issues, the proposed project would have no impact, a less than significant impact, or a less than significant impact with mitigation incorporated. Construction activities associated with pipeline replacement would install approximately 200 to 300 LF of pipeline per day before moving to the next segment of pipeline. The potential effects would be temporary and phased as construction progresses along the pipeline alignment. Replacement of other infrastructure, including demolition and construction of tanks, wells, and pumps, would also be temporary in nature and would not result in long-term operational impacts. If other unforeseen projects happen to occur at the same time as the proposed project within the project area, adjacent sensitive receptors may be exposed to greater levels of impact from construction activities (e.g., noise). If other construction projects are occurring at the same time in the immediate area, though, any cumulative effects would also be short-term and temporary. Therefore, the proposed project would not result in a considerable contribution to any cumulative impact significant or otherwise. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

As detailed in the preceding sections, the proposed project would not result, either directly or indirectly, in substantial adverse effects. Where potential environmental impacts would occur, mitigation measures would be implemented to reduce or avoid an impact. With adherence to the mitigation program, the proposed project would not result in substantial adverse effects on either the environment or human beings. This impact would be less than significant with mitigation incorporated.

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Chapter 4: References

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4.2 List of Preparers

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Appendix A

CalEEMod Results

OWSI Pipeline Replacement - Ventura County, Annual

**OWSI Pipeline Replacement
Ventura County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.90	1000sqft	0.02	900.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

OWSI Pipeline Replacement - Ventura County, Annual

Project Characteristics -

Land Use -

Construction Phase - Per client design.

Grading - calculated with construction design

Trips and VMT - client details were used for vender and worker trips, hauling trips are based on defaults

Construction Off-road Equipment Mitigation - Per VCAPCD Rule 55

Off-road Equipment - Per client information

Off-road Equipment - Per client information

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

OWSI Pipeline Replacement - Ventura County, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	1.00
tblConstructionPhase	NumDays	100.00	1.00
tblConstructionPhase	NumDays	5.00	1.00
tblConstructionPhase	PhaseEndDate	6/19/2020	1/15/2020
tblConstructionPhase	PhaseEndDate	6/5/2020	1/15/2020
tblConstructionPhase	PhaseEndDate	1/17/2020	1/15/2020
tblConstructionPhase	PhaseEndDate	6/12/2020	1/15/2020
tblConstructionPhase	PhaseStartDate	6/13/2020	1/15/2020
tblConstructionPhase	PhaseStartDate	1/18/2020	1/15/2020
tblConstructionPhase	PhaseStartDate	1/16/2020	1/15/2020
tblConstructionPhase	PhaseStartDate	6/6/2020	1/15/2020
tblGrading	MaterialExported	0.00	70.00
tblGrading	MaterialImported	0.00	33.00
tblOffRoadEquipment	HorsePower	158.00	81.00
tblOffRoadEquipment	HorsePower	8.00	89.00
tblOffRoadEquipment	HorsePower	247.00	97.00
tblOffRoadEquipment	LoadFactor	0.38	0.73
tblOffRoadEquipment	LoadFactor	0.43	0.20
tblOffRoadEquipment	LoadFactor	0.40	0.37
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Rubber Tired Dozers
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	10.00

OWSI Pipeline Replacement - Ventura County, Annual

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	1.9200e-003	0.0170	0.0134	3.0000e-005	4.2000e-004	8.3000e-004	1.2500e-003	7.0000e-005	7.7000e-004	8.4000e-004	0.0000	2.2985	2.2985	5.9000e-004	0.0000	2.3133
Maximum	1.9200e-003	0.0170	0.0134	3.0000e-005	4.2000e-004	8.3000e-004	1.2500e-003	7.0000e-005	7.7000e-004	8.4000e-004	0.0000	2.2985	2.2985	5.9000e-004	0.0000	2.3133

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	1.9200e-003	0.0170	0.0134	3.0000e-005	2.7000e-004	8.3000e-004	1.1100e-003	5.0000e-005	7.7000e-004	8.3000e-004	0.0000	2.2985	2.2985	5.9000e-004	0.0000	2.3133
Maximum	1.9200e-003	0.0170	0.0134	3.0000e-005	2.7000e-004	8.3000e-004	1.1100e-003	5.0000e-005	7.7000e-004	8.3000e-004	0.0000	2.2985	2.2985	5.9000e-004	0.0000	2.3133

OWSI Pipeline Replacement - Ventura 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	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	35.71	0.00	11.20	28.57	0.00	1.19	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2020	3-31-2020	0.0135	0.0135
		Highest	0.0135	0.0135

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	9.0000e-005	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

OWSI Pipeline Replacement - Ventura County, Annual

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	9.0000e-005	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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

3.0 Construction Detail

Construction Phase

OWSI Pipeline Replacement - Ventura County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Trenching	Trenching	1/15/2020	1/15/2020	5	1	
2	Pipeline Installation	Building Construction	1/15/2020	1/15/2020	5	1	
3	Paving	Paving	1/15/2020	1/15/2020	5	1	
4	Architectural Coating	Architectural Coating	1/15/2020	1/15/2020	5	1	
5	Site Preparation	Site Preparation	1/15/2020	1/15/2020	5	1	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.02

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 54 (Architectural Coating – sqft)

OffRoad Equipment

OWSI Pipeline Replacement - Ventura County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Pipeline Installation	Cranes	1	4.00	231	0.29
Trenching	Excavators	1	8.00	81	0.73
Pipeline Installation	Forklifts	2	6.00	89	0.20
Pipeline Installation	Plate Compactors	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Pipeline Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Pipeline Installation	Rubber Tired Dozers	1	8.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	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
Site Preparation	2	10.00	0.00	10.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Installation	7	0.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

OWSI Pipeline Replacement - Ventura County, Annual

3.2 Trenching - 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	2.3000e-004	2.4000e-003	2.6800e-003	0.0000		1.5000e-004	1.5000e-004		1.3000e-004	1.3000e-004	0.0000	0.3237	0.3237	1.0000e-004	0.0000	0.3264
Total	2.3000e-004	2.4000e-003	2.6800e-003	0.0000		1.5000e-004	1.5000e-004		1.3000e-004	1.3000e-004	0.0000	0.3237	0.3237	1.0000e-004	0.0000	0.3264

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	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0173	0.0173	0.0000	0.0000	0.0173
Total	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0173	0.0173	0.0000	0.0000	0.0173

OWSI Pipeline Replacement - Ventura County, Annual

3.2 Trenching - 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	2.3000e-004	2.4000e-003	2.6800e-003	0.0000		1.5000e-004	1.5000e-004		1.3000e-004	1.3000e-004	0.0000	0.3237	0.3237	1.0000e-004	0.0000	0.3264
Total	2.3000e-004	2.4000e-003	2.6800e-003	0.0000		1.5000e-004	1.5000e-004		1.3000e-004	1.3000e-004	0.0000	0.3237	0.3237	1.0000e-004	0.0000	0.3264

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	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0173	0.0173	0.0000	0.0000	0.0173
Total	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0173	0.0173	0.0000	0.0000	0.0173

OWSI Pipeline Replacement - Ventura County, Annual

3.3 Pipeline Installation - 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	4.3000e-004	4.4300e-003	3.6900e-003	1.0000e-005		2.6000e-004	2.6000e-004		2.4000e-004	2.4000e-004	0.0000	0.5003	0.5003	1.6000e-004	0.0000	0.5044
Total	4.3000e-004	4.4300e-003	3.6900e-003	1.0000e-005		2.6000e-004	2.6000e-004		2.4000e-004	2.4000e-004	0.0000	0.5003	0.5003	1.6000e-004	0.0000	0.5044

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	1.1000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0249	0.0249	0.0000	0.0000	0.0250
Worker	0.0000	0.0000	0.0000	0.0000	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	1.1000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0249	0.0249	0.0000	0.0000	0.0250

OWSI Pipeline Replacement - Ventura County, Annual

3.3 Pipeline Installation - 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	4.3000e-004	4.4300e-003	3.6900e-003	1.0000e-005		2.6000e-004	2.6000e-004		2.4000e-004	2.4000e-004	0.0000	0.5003	0.5003	1.6000e-004	0.0000	0.5044
Total	4.3000e-004	4.4300e-003	3.6900e-003	1.0000e-005		2.6000e-004	2.6000e-004		2.4000e-004	2.4000e-004	0.0000	0.5003	0.5003	1.6000e-004	0.0000	0.5044

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	1.1000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0249	0.0249	0.0000	0.0000	0.0250
Worker	0.0000	0.0000	0.0000	0.0000	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	1.1000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0249	0.0249	0.0000	0.0000	0.0250

OWSI Pipeline Replacement - Ventura County, Annual

3.6 Site Preparation - 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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4000e-004	4.2200e-003	2.0500e-003	0.0000		1.7000e-004	1.7000e-004		1.5000e-004	1.5000e-004	0.0000	0.4280	0.4280	1.4000e-004	0.0000	0.4314
Total	3.4000e-004	4.2200e-003	2.0500e-003	0.0000	2.7000e-004	1.7000e-004	4.4000e-004	3.0000e-005	1.5000e-004	1.8000e-004	0.0000	0.4280	0.4280	1.4000e-004	0.0000	0.4314

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	4.0000e-005	1.3800e-003	3.0000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3725	0.3725	4.0000e-005	0.0000	0.3734
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0345	0.0345	0.0000	0.0000	0.0346
Total	6.0000e-005	1.3900e-003	4.3000e-004	0.0000	1.3000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4070	0.4070	4.0000e-005	0.0000	0.4080

OWSI Pipeline Replacement - Ventura County, Annual

3.6 Site Preparation - 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					1.2000e-004	0.0000	1.2000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4000e-004	4.2200e-003	2.0500e-003	0.0000		1.7000e-004	1.7000e-004		1.5000e-004	1.5000e-004	0.0000	0.4280	0.4280	1.4000e-004	0.0000	0.4314
Total	3.4000e-004	4.2200e-003	2.0500e-003	0.0000	1.2000e-004	1.7000e-004	2.9000e-004	1.0000e-005	1.5000e-004	1.6000e-004	0.0000	0.4280	0.4280	1.4000e-004	0.0000	0.4314

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	4.0000e-005	1.3800e-003	3.0000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3725	0.3725	4.0000e-005	0.0000	0.3734
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0345	0.0345	0.0000	0.0000	0.0346
Total	6.0000e-005	1.3900e-003	4.3000e-004	0.0000	1.3000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4070	0.4070	4.0000e-005	0.0000	0.4080

4.0 Operational Detail - Mobile

OWSI Pipeline Replacement - Ventura County, Annual

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

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	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
Other Asphalt Surfaces	0.583307	0.042169	0.188993	0.113757	0.020157	0.006497	0.019402	0.017654	0.001149	0.000992	0.003948	0.000375	0.001600

OWSI Pipeline Replacement - Ventura County, Annual

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

OWSI Pipeline Replacement - Ventura 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	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	9.0000e-005	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	9.0000e-005	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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	3.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	9.0000e-005	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

OWSI Pipeline Replacement - Ventura County, Annual

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	9.0000e-005	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

OWSI Pipeline Replacement - Ventura County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

OWSI Pipeline Replacement - Ventura County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

OWSI Pipeline Replacement - Ventura County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

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

OWSI Pipeline Replacement - Ventura County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

OWSI Pipeline Replacement - Ventura County, Summer

**OWSI Pipeline Replacement
Ventura County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.90	1000sqft	0.02	900.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

OWSI Pipeline Replacement - Ventura County, Summer

Project Characteristics -

Land Use -

Construction Phase - Per client design.

Grading - calculated with construction design

Trips and VMT - client details were used for venter and worker trips, hauling trips are based on defaults

Construction Off-road Equipment Mitigation - Per VCAPCD Rule 55

Off-road Equipment - Per client information

Off-road Equipment - Per client information

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

OWSI Pipeline Replacement - Ventura County, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	1.00
tblConstructionPhase	NumDays	100.00	1.00
tblConstructionPhase	NumDays	5.00	1.00
tblConstructionPhase	PhaseEndDate	6/19/2020	1/15/2020
tblConstructionPhase	PhaseEndDate	6/5/2020	1/15/2020
tblConstructionPhase	PhaseEndDate	1/17/2020	1/15/2020
tblConstructionPhase	PhaseEndDate	6/12/2020	1/15/2020
tblConstructionPhase	PhaseStartDate	6/13/2020	1/15/2020
tblConstructionPhase	PhaseStartDate	1/18/2020	1/15/2020
tblConstructionPhase	PhaseStartDate	1/16/2020	1/15/2020
tblConstructionPhase	PhaseStartDate	6/6/2020	1/15/2020
tblGrading	MaterialExported	0.00	70.00
tblGrading	MaterialImported	0.00	33.00
tblOffRoadEquipment	HorsePower	158.00	81.00
tblOffRoadEquipment	HorsePower	8.00	89.00
tblOffRoadEquipment	HorsePower	247.00	97.00
tblOffRoadEquipment	LoadFactor	0.38	0.73
tblOffRoadEquipment	LoadFactor	0.43	0.20
tblOffRoadEquipment	LoadFactor	0.40	0.37
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Rubber Tired Dozers
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	10.00

OWSI Pipeline Replacement - Ventura County, Summer

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	3.8415	33.9345	26.8413	0.0520	0.8412	1.6696	2.5108	0.1415	1.5488	1.6903	0.0000	5,078.265 1	5,078.265 1	1.3011	0.0000	5,110.792 7
Maximum	3.8415	33.9345	26.8413	0.0520	0.8412	1.6696	2.5108	0.1415	1.5488	1.6903	0.0000	5,078.265 1	5,078.265 1	1.3011	0.0000	5,110.792 7

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	3.8415	33.9345	26.8413	0.0520	0.5495	1.6696	2.2192	0.1100	1.5488	1.6588	0.0000	5,078.265 1	5,078.265 1	1.3011	0.0000	5,110.792 7
Maximum	3.8415	33.9345	26.8413	0.0520	0.5495	1.6696	2.2192	0.1100	1.5488	1.6588	0.0000	5,078.265 1	5,078.265 1	1.3011	0.0000	5,110.792 7

OWSI Pipeline Replacement - Ventura County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	34.67	0.00	11.62	22.25	0.00	1.86	0.00	0.00	0.00	0.00	0.00	0.00

OWSI Pipeline Replacement - Ventura County, Summer

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	5.0000e-004	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000		2.1000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Total	5.0000e-004	0.0000	9.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000	0.0000	2.1000e-004

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	5.0000e-004	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000		2.1000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Total	5.0000e-004	0.0000	9.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000	0.0000	2.1000e-004

OWSI Pipeline Replacement - Ventura County, Summer

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

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Trenching	Trenching	1/15/2020	1/15/2020	5	1	
2	Pipeline Installation	Building Construction	1/15/2020	1/15/2020	5	1	
3	Paving	Paving	1/15/2020	1/15/2020	5	1	
4	Architectural Coating	Architectural Coating	1/15/2020	1/15/2020	5	1	
5	Site Preparation	Site Preparation	1/15/2020	1/15/2020	5	1	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.02

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 54 (Architectural Coating – sqft)

OffRoad Equipment

OWSI Pipeline Replacement - Ventura County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Pipeline Installation	Cranes	1	4.00	231	0.29
Trenching	Excavators	1	8.00	81	0.73
Pipeline Installation	Forklifts	2	6.00	89	0.20
Pipeline Installation	Plate Compactors	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Pipeline Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Pipeline Installation	Rubber Tired Dozers	1	8.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	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
Site Preparation	2	10.00	0.00	10.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Installation	7	0.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

OWSI Pipeline Replacement - Ventura County, Summer

3.2 Trenching - 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	0.4692	4.8010	5.3650	7.3700e-003		0.2926	0.2926		0.2692	0.2692		713.6987	713.6987	0.2308		719.4693
Total	0.4692	4.8010	5.3650	7.3700e-003		0.2926	0.2926		0.2692	0.2692		713.6987	713.6987	0.2308		719.4693

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	0.0183	0.0110	0.1382	4.0000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		39.6908	39.6908	1.0600e-003		39.7173
Total	0.0183	0.0110	0.1382	4.0000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		39.6908	39.6908	1.0600e-003		39.7173

OWSI Pipeline Replacement - Ventura County, Summer

3.2 Trenching - 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	0.4692	4.8010	5.3650	7.3700e-003		0.2926	0.2926		0.2692	0.2692	0.0000	713.6987	713.6987	0.2308		719.4693
Total	0.4692	4.8010	5.3650	7.3700e-003		0.2926	0.2926		0.2692	0.2692	0.0000	713.6987	713.6987	0.2308		719.4693

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	0.0183	0.0110	0.1382	4.0000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		39.6908	39.6908	1.0600e-003		39.7173
Total	0.0183	0.0110	0.1382	4.0000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		39.6908	39.6908	1.0600e-003		39.7173

OWSI Pipeline Replacement - Ventura County, Summer

3.3 Pipeline Installation - 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	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806		1,102.978 1	1,102.978 1	0.3567		1,111.896 2
Total	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806		1,102.978 1	1,102.978 1	0.3567		1,111.896 2

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	6.7000e-003	0.2143	0.0548	5.2000e-004	0.0135	1.2800e-003	0.0148	3.8900e-003	1.2300e-003	5.1200e-003		55.4797	55.4797	4.4000e-003		55.5896
Worker	0.0000	0.0000	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	6.7000e-003	0.2143	0.0548	5.2000e-004	0.0135	1.2800e-003	0.0148	3.8900e-003	1.2300e-003	5.1200e-003		55.4797	55.4797	4.4000e-003		55.5896

OWSI Pipeline Replacement - Ventura County, Summer

3.3 Pipeline Installation - 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	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806	0.0000	1,102.978 1	1,102.978 1	0.3567		1,111.896 2
Total	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806	0.0000	1,102.978 1	1,102.978 1	0.3567		1,111.896 2

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	6.7000e-003	0.2143	0.0548	5.2000e-004	0.0135	1.2800e-003	0.0148	3.8900e-003	1.2300e-003	5.1200e-003		55.4797	55.4797	4.4000e-003		55.5896
Worker	0.0000	0.0000	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	6.7000e-003	0.2143	0.0548	5.2000e-004	0.0135	1.2800e-003	0.0148	3.8900e-003	1.2300e-003	5.1200e-003		55.4797	55.4797	4.4000e-003		55.5896

OWSI Pipeline Replacement - Ventura County, Summer

3.4 Paving - 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	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669		1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.0524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8240	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669		1,035.3926	1,035.3926	0.3016		1,042.9323

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	0.0000	0.0000	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

OWSI Pipeline Replacement - Ventura County, Summer

3.4 Paving - 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	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669	0.0000	1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.0524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8240	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669	0.0000	1,035.3926	1,035.3926	0.3016		1,042.9323

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	0.0000	0.0000	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

OWSI Pipeline Replacement - Ventura County, Summer

3.5 Architectural Coating - 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					
Archit. Coating	0.6257					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	0.8679	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

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	0.0000	0.0000	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

OWSI Pipeline Replacement - Ventura County, Summer

3.5 Architectural Coating - 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					
Archit. Coating	0.6257					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	0.8679	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928

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	0.0000	0.0000	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

OWSI Pipeline Replacement - Ventura County, Summer

3.6 Site Preparation - 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					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.6853	8.4307	4.0942	9.7400e-003		0.3353	0.3353		0.3085	0.3085		943.4872	943.4872	0.3051		951.1158
Total	0.6853	8.4307	4.0942	9.7400e-003	0.5303	0.3353	0.8656	0.0573	0.3085	0.3658		943.4872	943.4872	0.3051		951.1158

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	0.0719	2.6929	0.5812	7.5600e-003	0.1742	0.0112	0.1854	0.0477	0.0107	0.0584		826.7085	826.7085	0.0775		828.6449
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	0.0365	0.0220	0.2764	8.0000e-004	0.0822	5.8000e-004	0.0827	0.0218	5.3000e-004	0.0223		79.3816	79.3816	2.1200e-003		79.4346
Total	0.1084	2.7149	0.8575	8.3600e-003	0.2563	0.0118	0.2681	0.0695	0.0112	0.0807		906.0901	906.0901	0.0796		908.0795

OWSI Pipeline Replacement - Ventura County, Summer

3.6 Site Preparation - 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					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.6853	8.4307	4.0942	9.7400e-003		0.3353	0.3353		0.3085	0.3085	0.0000	943.4872	943.4872	0.3051		951.1158
Total	0.6853	8.4307	4.0942	9.7400e-003	0.2386	0.3353	0.5740	0.0258	0.3085	0.3343	0.0000	943.4872	943.4872	0.3051		951.1158

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	0.0719	2.6929	0.5812	7.5600e-003	0.1742	0.0112	0.1854	0.0477	0.0107	0.0584		826.7085	826.7085	0.0775		828.6449
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	0.0365	0.0220	0.2764	8.0000e-004	0.0822	5.8000e-004	0.0827	0.0218	5.3000e-004	0.0223		79.3816	79.3816	2.1200e-003		79.4346
Total	0.1084	2.7149	0.8575	8.3600e-003	0.2563	0.0118	0.2681	0.0695	0.0112	0.0807		906.0901	906.0901	0.0796		908.0795

4.0 Operational Detail - Mobile

OWSI Pipeline Replacement - Ventura County, Summer

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

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	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
Other Asphalt Surfaces	0.583307	0.042169	0.188993	0.113757	0.020157	0.006497	0.019402	0.017654	0.001149	0.000992	0.003948	0.000375	0.001600

OWSI Pipeline Replacement - Ventura County, Summer

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

OWSI Pipeline Replacement - Ventura County, Summer

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					
Other Asphalt Surfaces	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		0.0000	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

	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					
Other Asphalt Surfaces	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		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

OWSI Pipeline Replacement - Ventura County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.0000e-004	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000		2.1000e-004
Unmitigated	5.0000e-004	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000		2.1000e-004

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	1.7000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000		2.1000e-004
Total	5.0000e-004	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000		2.1000e-004

OWSI Pipeline Replacement - Ventura County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.7000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000		2.1000e-004
Total	5.0000e-004	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000		2.1000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

OWSI Pipeline Replacement - Ventura County, Summer

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

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

Equipment Type	Number
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11.0 Vegetation

OWSI Pipeline Replacement - Ventura County, Winter

**OWSI Pipeline Replacement
Ventura County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.90	1000sqft	0.02	900.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

OWSI Pipeline Replacement - Ventura County, Winter

Project Characteristics -

Land Use -

Construction Phase - Per client design.

Grading - calculated with construction design

Trips and VMT - client details were used for venter and worker trips, hauling trips are based on defaults

Construction Off-road Equipment Mitigation - Per VCAPCD Rule 55

Off-road Equipment - Per client information

Off-road Equipment - Per client information

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

OWSI Pipeline Replacement - Ventura County, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	1.00
tblConstructionPhase	NumDays	100.00	1.00
tblConstructionPhase	NumDays	5.00	1.00
tblConstructionPhase	PhaseEndDate	6/19/2020	1/15/2020
tblConstructionPhase	PhaseEndDate	6/5/2020	1/15/2020
tblConstructionPhase	PhaseEndDate	1/17/2020	1/15/2020
tblConstructionPhase	PhaseEndDate	6/12/2020	1/15/2020
tblConstructionPhase	PhaseStartDate	6/13/2020	1/15/2020
tblConstructionPhase	PhaseStartDate	1/18/2020	1/15/2020
tblConstructionPhase	PhaseStartDate	1/16/2020	1/15/2020
tblConstructionPhase	PhaseStartDate	6/6/2020	1/15/2020
tblGrading	MaterialExported	0.00	70.00
tblGrading	MaterialImported	0.00	33.00
tblOffRoadEquipment	HorsePower	158.00	81.00
tblOffRoadEquipment	HorsePower	8.00	89.00
tblOffRoadEquipment	HorsePower	247.00	97.00
tblOffRoadEquipment	LoadFactor	0.38	0.73
tblOffRoadEquipment	LoadFactor	0.43	0.20
tblOffRoadEquipment	LoadFactor	0.40	0.37
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Rubber Tired Dozers
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	10.00

OWSI Pipeline Replacement - Ventura County, Winter

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	3.8514	33.9722	26.8810	0.0518	0.8412	1.6700	2.5112	0.1415	1.5492	1.6907	0.0000	5,058.0466	5,058.0466	1.3040	0.0000	5,090.6459
Maximum	3.8514	33.9722	26.8810	0.0518	0.8412	1.6700	2.5112	0.1415	1.5492	1.6907	0.0000	5,058.0466	5,058.0466	1.3040	0.0000	5,090.6459

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	3.8514	33.9722	26.8810	0.0518	0.5495	1.6700	2.2195	0.1100	1.5492	1.6592	0.0000	5,058.0466	5,058.0466	1.3040	0.0000	5,090.6459
Maximum	3.8514	33.9722	26.8810	0.0518	0.5495	1.6700	2.2195	0.1100	1.5492	1.6592	0.0000	5,058.0466	5,058.0466	1.3040	0.0000	5,090.6459

OWSI Pipeline Replacement - Ventura County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	34.67	0.00	11.61	22.25	0.00	1.86	0.00	0.00	0.00	0.00	0.00	0.00

OWSI Pipeline Replacement - Ventura County, Winter

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	5.0000e-004	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000		2.1000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Total	5.0000e-004	0.0000	9.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000	0.0000	2.1000e-004

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	5.0000e-004	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000		2.1000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Total	5.0000e-004	0.0000	9.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000	0.0000	2.1000e-004

OWSI Pipeline Replacement - Ventura County, Winter

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

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Trenching	Trenching	1/15/2020	1/15/2020	5	1	
2	Pipeline Installation	Building Construction	1/15/2020	1/15/2020	5	1	
3	Paving	Paving	1/15/2020	1/15/2020	5	1	
4	Architectural Coating	Architectural Coating	1/15/2020	1/15/2020	5	1	
5	Site Preparation	Site Preparation	1/15/2020	1/15/2020	5	1	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.02

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 54 (Architectural Coating – sqft)

OffRoad Equipment

OWSI Pipeline Replacement - Ventura County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Pipeline Installation	Cranes	1	4.00	231	0.29
Trenching	Excavators	1	8.00	81	0.73
Pipeline Installation	Forklifts	2	6.00	89	0.20
Pipeline Installation	Plate Compactors	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Pipeline Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Pipeline Installation	Rubber Tired Dozers	1	8.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	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
Site Preparation	2	10.00	0.00	10.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Installation	7	0.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

OWSI Pipeline Replacement - Ventura County, Winter

3.2 Trenching - 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	0.4692	4.8010	5.3650	7.3700e-003		0.2926	0.2926		0.2692	0.2692		713.6987	713.6987	0.2308		719.4693
Total	0.4692	4.8010	5.3650	7.3700e-003		0.2926	0.2926		0.2692	0.2692		713.6987	713.6987	0.2308		719.4693

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	0.0207	0.0129	0.1349	3.8000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		37.7688	37.7688	1.0200e-003		37.7944
Total	0.0207	0.0129	0.1349	3.8000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		37.7688	37.7688	1.0200e-003		37.7944

OWSI Pipeline Replacement - Ventura County, Winter

3.2 Trenching - 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	0.4692	4.8010	5.3650	7.3700e-003		0.2926	0.2926		0.2692	0.2692	0.0000	713.6987	713.6987	0.2308		719.4693
Total	0.4692	4.8010	5.3650	7.3700e-003		0.2926	0.2926		0.2692	0.2692	0.0000	713.6987	713.6987	0.2308		719.4693

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	0.0207	0.0129	0.1349	3.8000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		37.7688	37.7688	1.0200e-003		37.7944
Total	0.0207	0.0129	0.1349	3.8000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		37.7688	37.7688	1.0200e-003		37.7944

OWSI Pipeline Replacement - Ventura County, Winter

3.3 Pipeline Installation - 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	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806		1,102.978 1	1,102.978 1	0.3567		1,111.896 2
Total	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806		1,102.978 1	1,102.978 1	0.3567		1,111.896 2

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	7.0800e-003	0.2145	0.0618	5.0000e-004	0.0135	1.3200e-003	0.0148	3.8900e-003	1.2600e-003	5.1500e-003		54.1229	54.1229	4.6800e-003		54.2400
Worker	0.0000	0.0000	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	7.0800e-003	0.2145	0.0618	5.0000e-004	0.0135	1.3200e-003	0.0148	3.8900e-003	1.2600e-003	5.1500e-003		54.1229	54.1229	4.6800e-003		54.2400

OWSI Pipeline Replacement - Ventura County, Winter

3.3 Pipeline Installation - 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	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806	0.0000	1,102.978 1	1,102.978 1	0.3567		1,111.896 2
Total	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806	0.0000	1,102.978 1	1,102.978 1	0.3567		1,111.896 2

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	7.0800e-003	0.2145	0.0618	5.0000e-004	0.0135	1.3200e-003	0.0148	3.8900e-003	1.2600e-003	5.1500e-003		54.1229	54.1229	4.6800e-003		54.2400
Worker	0.0000	0.0000	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	7.0800e-003	0.2145	0.0618	5.0000e-004	0.0135	1.3200e-003	0.0148	3.8900e-003	1.2600e-003	5.1500e-003		54.1229	54.1229	4.6800e-003		54.2400

OWSI Pipeline Replacement - Ventura County, Winter

3.4 Paving - 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	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669		1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.0524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8240	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669		1,035.3926	1,035.3926	0.3016		1,042.9323

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	0.0000	0.0000	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

OWSI Pipeline Replacement - Ventura County, Winter

3.4 Paving - 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	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669	0.0000	1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.0524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8240	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669	0.0000	1,035.3926	1,035.3926	0.3016		1,042.9323

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	0.0000	0.0000	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

OWSI Pipeline Replacement - Ventura County, Winter

3.5 Architectural Coating - 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					
Archit. Coating	0.6257					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	0.8679	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

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	0.0000	0.0000	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

OWSI Pipeline Replacement - Ventura County, Winter

3.5 Architectural Coating - 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					
Archit. Coating	0.6257					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	0.8679	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928

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	0.0000	0.0000	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

OWSI Pipeline Replacement - Ventura County, Winter

3.6 Site Preparation - 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					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.6853	8.4307	4.0942	9.7400e-003		0.3353	0.3353		0.3085	0.3085		943.4872	943.4872	0.3051		951.1158
Total	0.6853	8.4307	4.0942	9.7400e-003	0.5303	0.3353	0.8656	0.0573	0.3085	0.3658		943.4872	943.4872	0.3051		951.1158

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	0.0741	2.7247	0.6236	7.4400e-003	0.1742	0.0115	0.1857	0.0477	0.0110	0.0587		813.6127	813.6127	0.0802		815.6164
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	0.0414	0.0257	0.2698	7.6000e-004	0.0822	5.8000e-004	0.0827	0.0218	5.3000e-004	0.0223		75.5376	75.5376	2.0500e-003		75.5888
Total	0.1155	2.7505	0.8935	8.2000e-003	0.2563	0.0121	0.2684	0.0695	0.0115	0.0810		889.1503	889.1503	0.0822		891.2052

OWSI Pipeline Replacement - Ventura County, Winter

3.6 Site Preparation - 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					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.6853	8.4307	4.0942	9.7400e-003		0.3353	0.3353		0.3085	0.3085	0.0000	943.4872	943.4872	0.3051		951.1158
Total	0.6853	8.4307	4.0942	9.7400e-003	0.2386	0.3353	0.5740	0.0258	0.3085	0.3343	0.0000	943.4872	943.4872	0.3051		951.1158

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	0.0741	2.7247	0.6236	7.4400e-003	0.1742	0.0115	0.1857	0.0477	0.0110	0.0587		813.6127	813.6127	0.0802		815.6164
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	0.0414	0.0257	0.2698	7.6000e-004	0.0822	5.8000e-004	0.0827	0.0218	5.3000e-004	0.0223		75.5376	75.5376	2.0500e-003		75.5888
Total	0.1155	2.7505	0.8935	8.2000e-003	0.2563	0.0121	0.2684	0.0695	0.0115	0.0810		889.1503	889.1503	0.0822		891.2052

4.0 Operational Detail - Mobile

OWSI Pipeline Replacement - Ventura County, Winter

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

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	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
Other Asphalt Surfaces	0.583307	0.042169	0.188993	0.113757	0.020157	0.006497	0.019402	0.017654	0.001149	0.000992	0.003948	0.000375	0.001600

OWSI Pipeline Replacement - Ventura County, Winter

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

OWSI Pipeline Replacement - Ventura County, Winter

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	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		0.0000	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

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	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		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

OWSI Pipeline Replacement - Ventura County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.0000e-004	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000		2.1000e-004
Unmitigated	5.0000e-004	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000		2.1000e-004

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	1.7000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000		2.1000e-004
Total	5.0000e-004	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000		2.1000e-004

OWSI Pipeline Replacement - Ventura County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.7000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000		2.1000e-004
Total	5.0000e-004	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		2.0000e-004	2.0000e-004	0.0000		2.1000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

OWSI Pipeline Replacement - Ventura County, Winter

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

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

Equipment Type	Number
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11.0 Vegetation

OWSI Project Tank Run - Ventura County, Annual

**OWSI Project Tank Run
Ventura County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	11.76	1000sqft	0.27	11,761.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2020
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

OWSI Project Tank Run - Ventura County, Annual

Project Characteristics -

Land Use - Per client details, used Running Ridge tank size and a 50 foot buffer surrounding the tank site to get total disturbance area.

Construction Phase - Phasing is per clients most conservative construction timeline for construction of an undeveloped parcel into a tank facility.

Off-road Equipment -

Off-road Equipment - Per client details

Off-road Equipment - Per client info

Off-road Equipment -

Demolition -

Grading - Per client details; tank modeled is 385 square feet, times a depth of excavation maximum of 5 feet

Construction Off-road Equipment Mitigation - Per VCACPD Rule 55

Off-road Equipment - Per client information

Off-road Equipment -

OWSI Project Tank Run - Ventura County, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	NumDays	2.00	40.00
tblConstructionPhase	NumDays	100.00	40.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	PhaseEndDate	4/15/2019	4/26/2019
tblConstructionPhase	PhaseEndDate	4/17/2019	6/21/2019
tblConstructionPhase	PhaseEndDate	9/4/2019	8/16/2019
tblConstructionPhase	PhaseEndDate	9/18/2019	8/15/2019
tblConstructionPhase	PhaseEndDate	9/11/2019	9/13/2019
tblConstructionPhase	PhaseStartDate	4/16/2019	4/29/2019
tblConstructionPhase	PhaseStartDate	4/18/2019	6/24/2019
tblConstructionPhase	PhaseStartDate	9/12/2019	7/19/2019
tblConstructionPhase	PhaseStartDate	9/5/2019	8/19/2019
tblGrading	AcresOfGrading	5.00	0.27
tblGrading	MaterialExported	0.00	1,925.00
tblGrading	MaterialImported	0.00	1,925.00
tblOffRoadEquipment	HorsePower	158.00	81.00
tblOffRoadEquipment	LoadFactor	0.38	0.73
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	WorkerTripNumber	8.00	5.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00

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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					
2019	0.1957	0.6114	0.4691	9.3000e-004	0.0239	0.0319	0.0558	0.0106	0.0299	0.0406	0.0000	84.1560	84.1560	0.0172	0.0000	84.5866
Maximum	0.1957	0.6114	0.4691	9.3000e-004	0.0239	0.0319	0.0558	0.0106	0.0299	0.0406	0.0000	84.1560	84.1560	0.0172	0.0000	84.5866

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					
2019	0.1957	0.6114	0.4691	9.3000e-004	0.0154	0.0319	0.0473	6.0300e-003	0.0299	0.0360	0.0000	84.1559	84.1559	0.0172	0.0000	84.5866
Maximum	0.1957	0.6114	0.4691	9.3000e-004	0.0154	0.0319	0.0473	6.0300e-003	0.0299	0.0360	0.0000	84.1559	84.1559	0.0172	0.0000	84.5866

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	35.62	0.00	15.26	43.17	0.00	11.32	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	4-1-2019	6-30-2019	0.3950	0.3950
2	7-1-2019	9-30-2019	0.3814	0.3814
		Highest	0.3950	0.3950

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	0.0596	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004
Energy	1.3300e-003	0.0121	0.0101	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	44.7818	44.7818	1.5600e-003	5.1000e-004	44.9731
Mobile	5.2200e-003	0.0227	0.0681	2.2000e-004	0.0195	2.3000e-004	0.0197	5.2100e-003	2.2000e-004	5.4300e-003	0.0000	20.1343	20.1343	8.6000e-004	0.0000	20.1558
Waste						0.0000	0.0000		0.0000	0.0000	2.9596	0.0000	2.9596	0.1749	0.0000	7.3323
Water						0.0000	0.0000		0.0000	0.0000	0.8628	11.2826	12.1454	0.0891	2.1900e-003	15.0246
Total	0.0661	0.0348	0.0783	2.9000e-004	0.0195	1.1500e-003	0.0206	5.2100e-003	1.1400e-003	6.3500e-003	3.8224	76.1989	80.0213	0.2664	2.7000e-003	87.4860

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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	0.0596	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004
Energy	1.3300e-003	0.0121	0.0101	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	44.7818	44.7818	1.5600e-003	5.1000e-004	44.9731
Mobile	5.2200e-003	0.0227	0.0681	2.2000e-004	0.0195	2.3000e-004	0.0197	5.2100e-003	2.2000e-004	5.4300e-003	0.0000	20.1343	20.1343	8.6000e-004	0.0000	20.1558
Waste						0.0000	0.0000		0.0000	0.0000	2.9596	0.0000	2.9596	0.1749	0.0000	7.3323
Water						0.0000	0.0000		0.0000	0.0000	0.8628	11.2826	12.1454	0.0891	2.1900e-003	15.0246
Total	0.0661	0.0348	0.0783	2.9000e-004	0.0195	1.1500e-003	0.0206	5.2100e-003	1.1400e-003	6.3500e-003	3.8224	76.1989	80.0213	0.2664	2.7000e-003	87.4860

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

3.0 Construction Detail

Construction Phase

OWSI Project Tank Run - Ventura County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/1/2019	4/12/2019	5	10	
2	Site Preparation	Site Preparation	4/13/2019	4/26/2019	5	10	
3	Grading	Grading	4/29/2019	6/21/2019	5	40	
4	Building Construction	Building Construction	6/24/2019	8/16/2019	5	40	
5	Paving	Paving	8/19/2019	9/13/2019	5	20	
6	Architectural Coating	Architectural Coating	7/19/2019	8/15/2019	5	20	

Acres of Grading (Site Preparation Phase): 0.27

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 17,642; Non-Residential Outdoor: 5,881; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

OWSI Project Tank Run - Ventura County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	81	0.73
Building Construction	Plate Compactors	1		8	0.43
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	3	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	8.00	0.00	481.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	5.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8900e-003	0.0343	0.0298	5.0000e-005		2.1000e-003	2.1000e-003		2.0200e-003	2.0200e-003	0.0000	4.2139	4.2139	6.7000e-004	0.0000	4.2307
Total	3.8900e-003	0.0343	0.0298	5.0000e-005	0.0000	2.1000e-003	2.1000e-003	0.0000	2.0200e-003	2.0200e-003	0.0000	4.2139	4.2139	6.7000e-004	0.0000	4.2307

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3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	1.0000e-004	7.0000e-005	7.3000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1783	0.1783	1.0000e-005	0.0000	0.1785
Total	1.0000e-004	7.0000e-005	7.3000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1783	0.1783	1.0000e-005	0.0000	0.1785

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8900e-003	0.0343	0.0298	5.0000e-005		2.1000e-003	2.1000e-003		2.0200e-003	2.0200e-003	0.0000	4.2139	4.2139	6.7000e-004	0.0000	4.2307
Total	3.8900e-003	0.0343	0.0298	5.0000e-005	0.0000	2.1000e-003	2.1000e-003	0.0000	2.0200e-003	2.0200e-003	0.0000	4.2139	4.2139	6.7000e-004	0.0000	4.2307

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3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	1.0000e-004	7.0000e-005	7.3000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1783	0.1783	1.0000e-005	0.0000	0.1785
Total	1.0000e-004	7.0000e-005	7.3000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1783	0.1783	1.0000e-005	0.0000	0.1785

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	3.6000e-003	0.0446	0.0207	5.0000e-005		1.8400e-003	1.8400e-003		1.6900e-003	1.6900e-003	0.0000	4.3779	4.3779	1.3900e-003	0.0000	4.4126
Total	3.6000e-003	0.0446	0.0207	5.0000e-005	1.4000e-004	1.8400e-003	1.9800e-003	2.0000e-005	1.6900e-003	1.7100e-003	0.0000	4.3779	4.3779	1.3900e-003	0.0000	4.4126

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3.3 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	1.0000e-004	7.0000e-005	7.3000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1783	0.1783	1.0000e-005	0.0000	0.1785
Total	1.0000e-004	7.0000e-005	7.3000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1783	0.1783	1.0000e-005	0.0000	0.1785

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	3.6000e-003	0.0446	0.0207	5.0000e-005		1.8400e-003	1.8400e-003		1.6900e-003	1.6900e-003	0.0000	4.3779	4.3779	1.3900e-003	0.0000	4.4126
Total	3.6000e-003	0.0446	0.0207	5.0000e-005	6.0000e-005	1.8400e-003	1.9000e-003	1.0000e-005	1.6900e-003	1.7000e-003	0.0000	4.3779	4.3779	1.3900e-003	0.0000	4.4126

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3.3 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	1.0000e-004	7.0000e-005	7.3000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1783	0.1783	1.0000e-005	0.0000	0.1785
Total	1.0000e-004	7.0000e-005	7.3000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1783	0.1783	1.0000e-005	0.0000	0.1785

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0153	0.0000	0.0153	8.3200e-003	0.0000	8.3200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0223	0.2073	0.1928	2.9000e-004		0.0128	0.0128		0.0121	0.0121	0.0000	25.9047	25.9047	5.5500e-003	0.0000	26.0434
Total	0.0223	0.2073	0.1928	2.9000e-004	0.0153	0.0128	0.0281	8.3200e-003	0.0121	0.0205	0.0000	25.9047	25.9047	5.5500e-003	0.0000	26.0434

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3.4 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-003	0.0725	0.0151	1.8000e-004	4.1200e-003	3.7000e-004	4.5000e-003	1.1300e-003	3.6000e-004	1.4900e-003	0.0000	18.0862	18.0862	1.7700e-003	0.0000	18.1304
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	6.4000e-004	4.5000e-004	4.7000e-003	1.0000e-005	1.2900e-003	1.0000e-005	1.3000e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1414	1.1414	3.0000e-005	0.0000	1.1422
Total	2.6400e-003	0.0730	0.0198	1.9000e-004	5.4100e-003	3.8000e-004	5.8000e-003	1.4700e-003	3.7000e-004	1.8400e-003	0.0000	19.2276	19.2276	1.8000e-003	0.0000	19.2726

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					6.9000e-003	0.0000	6.9000e-003	3.7400e-003	0.0000	3.7400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0223	0.2073	0.1928	2.9000e-004		0.0128	0.0128		0.0121	0.0121	0.0000	25.9046	25.9046	5.5500e-003	0.0000	26.0434
Total	0.0223	0.2073	0.1928	2.9000e-004	6.9000e-003	0.0128	0.0197	3.7400e-003	0.0121	0.0159	0.0000	25.9046	25.9046	5.5500e-003	0.0000	26.0434

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3.4 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-003	0.0725	0.0151	1.8000e-004	4.1200e-003	3.7000e-004	4.5000e-003	1.1300e-003	3.6000e-004	1.4900e-003	0.0000	18.0862	18.0862	1.7700e-003	0.0000	18.1304
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	6.4000e-004	4.5000e-004	4.7000e-003	1.0000e-005	1.2900e-003	1.0000e-005	1.3000e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1414	1.1414	3.0000e-005	0.0000	1.1422
Total	2.6400e-003	0.0730	0.0198	1.9000e-004	5.4100e-003	3.8000e-004	5.8000e-003	1.4700e-003	3.7000e-004	1.8400e-003	0.0000	19.2276	19.2276	1.8000e-003	0.0000	19.2726

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0145	0.1497	0.1048	1.7000e-004		8.9900e-003	8.9900e-003		8.2700e-003	8.2700e-003	0.0000	14.8802	14.8802	4.7100e-003	0.0000	14.9979
Total	0.0145	0.1497	0.1048	1.7000e-004		8.9900e-003	8.9900e-003		8.2700e-003	8.2700e-003	0.0000	14.8802	14.8802	4.7100e-003	0.0000	14.9979

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3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	1.7000e-004	4.8300e-003	1.3000e-003	1.0000e-005	2.7000e-004	4.0000e-005	3.1000e-004	8.0000e-005	4.0000e-005	1.1000e-004	0.0000	1.0007	1.0007	9.0000e-005	0.0000	1.0029
Worker	4.0000e-004	2.8000e-004	2.9300e-003	1.0000e-005	8.1000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.7134	0.7134	2.0000e-005	0.0000	0.7139
Total	5.7000e-004	5.1100e-003	4.2300e-003	2.0000e-005	1.0800e-003	5.0000e-005	1.1200e-003	2.9000e-004	5.0000e-005	3.3000e-004	0.0000	1.7140	1.7140	1.1000e-004	0.0000	1.7168

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	0.0145	0.1497	0.1048	1.7000e-004		8.9900e-003	8.9900e-003		8.2700e-003	8.2700e-003	0.0000	14.8801	14.8801	4.7100e-003	0.0000	14.9978
Total	0.0145	0.1497	0.1048	1.7000e-004		8.9900e-003	8.9900e-003		8.2700e-003	8.2700e-003	0.0000	14.8801	14.8801	4.7100e-003	0.0000	14.9978

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3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	1.7000e-004	4.8300e-003	1.3000e-003	1.0000e-005	2.7000e-004	4.0000e-005	3.1000e-004	8.0000e-005	4.0000e-005	1.1000e-004	0.0000	1.0007	1.0007	9.0000e-005	0.0000	1.0029
Worker	4.0000e-004	2.8000e-004	2.9300e-003	1.0000e-005	8.1000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.7134	0.7134	2.0000e-005	0.0000	0.7139
Total	5.7000e-004	5.1100e-003	4.2300e-003	2.0000e-005	1.0800e-003	5.0000e-005	1.1200e-003	2.9000e-004	5.0000e-005	3.3000e-004	0.0000	1.7140	1.7140	1.1000e-004	0.0000	1.7168

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.3000e-003	0.0785	0.0715	1.1000e-004		4.4300e-003	4.4300e-003		4.1100e-003	4.1100e-003	0.0000	9.5725	9.5725	2.7400e-003	0.0000	9.6409
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.3000e-003	0.0785	0.0715	1.1000e-004		4.4300e-003	4.4300e-003		4.1100e-003	4.1100e-003	0.0000	9.5725	9.5725	2.7400e-003	0.0000	9.6409

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3.6 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	5.0000e-004	5.2800e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.2840	1.2840	4.0000e-005	0.0000	1.2850
Total	7.1000e-004	5.0000e-004	5.2800e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.2840	1.2840	4.0000e-005	0.0000	1.2850

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	8.3000e-003	0.0785	0.0715	1.1000e-004		4.4300e-003	4.4300e-003		4.1100e-003	4.1100e-003	0.0000	9.5724	9.5724	2.7400e-003	0.0000	9.6409
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.3000e-003	0.0785	0.0715	1.1000e-004		4.4300e-003	4.4300e-003		4.1100e-003	4.1100e-003	0.0000	9.5724	9.5724	2.7400e-003	0.0000	9.6409

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3.6 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	5.0000e-004	5.2800e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.2840	1.2840	4.0000e-005	0.0000	1.2850
Total	7.1000e-004	5.0000e-004	5.2800e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.2840	1.2840	4.0000e-005	0.0000	1.2850

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1363					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6600e-003	0.0184	0.0184	3.0000e-005		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	2.5533	2.5533	2.2000e-004	0.0000	2.5587
Total	0.1390	0.0184	0.0184	3.0000e-005		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	2.5533	2.5533	2.2000e-004	0.0000	2.5587

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3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	4.0000e-005	3.0000e-005	2.9000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0713	0.0713	0.0000	0.0000	0.0714
Total	4.0000e-005	3.0000e-005	2.9000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0713	0.0713	0.0000	0.0000	0.0714

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1363					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6600e-003	0.0184	0.0184	3.0000e-005		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	2.5533	2.5533	2.2000e-004	0.0000	2.5586
Total	0.1390	0.0184	0.0184	3.0000e-005		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	2.5533	2.5533	2.2000e-004	0.0000	2.5586

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3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	4.0000e-005	3.0000e-005	2.9000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0713	0.0713	0.0000	0.0000	0.0714
Total	4.0000e-005	3.0000e-005	2.9000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0713	0.0713	0.0000	0.0000	0.0714

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive 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	5.2200e-003	0.0227	0.0681	2.2000e-004	0.0195	2.3000e-004	0.0197	5.2100e-003	2.2000e-004	5.4300e-003	0.0000	20.1343	20.1343	8.6000e-004	0.0000	20.1558
Unmitigated	5.2200e-003	0.0227	0.0681	2.2000e-004	0.0195	2.3000e-004	0.0197	5.2100e-003	2.2000e-004	5.4300e-003	0.0000	20.1343	20.1343	8.6000e-004	0.0000	20.1558

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	17.64	17.64	17.64	51,505	51,505
Total	17.64	17.64	17.64	51,505	51,505

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.577012	0.042942	0.189872	0.117495	0.021422	0.006664	0.019052	0.017336	0.001134	0.000976	0.004002	0.000371	0.001721

5.0 Energy Detail

Historical Energy Use: N

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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	31.6647	31.6647	1.3100e-003	2.7000e-004	31.7780
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	31.6647	31.6647	1.3100e-003	2.7000e-004	31.7780
NaturalGas Mitigated	1.3300e-003	0.0121	0.0101	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	13.1171	13.1171	2.5000e-004	2.4000e-004	13.1950
NaturalGas Unmitigated	1.3300e-003	0.0121	0.0101	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	13.1171	13.1171	2.5000e-004	2.4000e-004	13.1950

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 Heavy Industry	245805	1.3300e-003	0.0121	0.0101	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	13.1171	13.1171	2.5000e-004	2.4000e-004	13.1950
Total		1.3300e-003	0.0121	0.0101	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	13.1171	13.1171	2.5000e-004	2.4000e-004	13.1950

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	245805	1.3300e-003	0.0121	0.0101	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	13.1171	13.1171	2.5000e-004	2.4000e-004	13.1950
Total		1.3300e-003	0.0121	0.0101	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	13.1171	13.1171	2.5000e-004	2.4000e-004	13.1950

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	99380.4	31.6647	1.3100e-003	2.7000e-004	31.7780
Total		31.6647	1.3100e-003	2.7000e-004	31.7780

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	99380.4	31.6647	1.3100e-003	2.7000e-004	31.7780
Total		31.6647	1.3100e-003	2.7000e-004	31.7780

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	0.0596	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004
Unmitigated	0.0596	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0136					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0459					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004
Total	0.0596	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0136					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0459					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004
Total	0.0596	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004

7.0 Water Detail

OWSI Project Tank Run - Ventura County, Annual

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	12.1454	0.0891	2.1900e-003	15.0246
Unmitigated	12.1454	0.0891	2.1900e-003	15.0246

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	2.7195 / 0	12.1454	0.0891	2.1900e-003	15.0246
Total		12.1454	0.0891	2.1900e-003	15.0246

OWSI Project Tank Run - Ventura County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	2.7195 / 0	12.1454	0.0891	2.1900e-003	15.0246
Total		12.1454	0.0891	2.1900e-003	15.0246

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.9596	0.1749	0.0000	7.3323
Unmitigated	2.9596	0.1749	0.0000	7.3323

OWSI Project Tank Run - Ventura County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	14.58	2.9596	0.1749	0.0000	7.3323
Total		2.9596	0.1749	0.0000	7.3323

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	14.58	2.9596	0.1749	0.0000	7.3323
Total		2.9596	0.1749	0.0000	7.3323

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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OWSI Project Tank Run - Ventura County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

OWSI Project Tank Run - Ventura County, Summer

**OWSI Project Tank Run
Ventura County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	0.39	1000sqft	0.01	385.00	0
Other Asphalt Surfaces	11.40	1000sqft	0.26	11,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

OWSI Project Tank Run - Ventura County, Summer

Project Characteristics -

Land Use - Per client details, used Running Ridge tank size and a 50 foot buffer surrounding the tank site to get total disturbance area.

Construction Phase - Phasing is per clients most conservative construction timeline for construction of an undeveloped parcel into a tank facility. Building construction includes pipeline construction, tank erection, and electrical and instrumentation work.

Off-road Equipment -

Off-road Equipment - Per client details

Off-road Equipment - Per client information

Off-road Equipment - Per client info, excavator added to default

Off-road Equipment - Per client information

Off-road Equipment -

Demolition - Tank size is 385 based on the Running Ridge steel tank

Grading - Per client details; tank modeled is 385 square feet, times a depth of excavation maximum of 5 feet

Construction Off-road Equipment Mitigation - Per VCACPD Rule 55

Trips and VMT - 1 vender trips added to each phase to account for water truck, 10 vendor trips during building and paving for materials deliveries, 10 worker trips daily throughout, per client details

Architectural Coating - Per VCACPD Rule 74.2

Area Coating - Per VCACPD Rule 74.2

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	2.00	40.00
tblConstructionPhase	NumDays	5.00	20.00

OWSI Project Tank Run - Ventura County, Summer

tblConstructionPhase	NumDays	1.00	20.00
tblConstructionPhase	PhaseEndDate	9/18/2019	10/31/2019
tblConstructionPhase	PhaseEndDate	9/4/2019	11/22/2019
tblConstructionPhase	PhaseEndDate	4/17/2019	7/5/2019
tblConstructionPhase	PhaseEndDate	9/11/2019	12/20/2019
tblConstructionPhase	PhaseEndDate	4/15/2019	5/10/2019
tblConstructionPhase	PhaseStartDate	9/12/2019	10/18/2019
tblConstructionPhase	PhaseStartDate	4/18/2019	7/8/2019
tblConstructionPhase	PhaseStartDate	4/16/2019	5/13/2019
tblConstructionPhase	PhaseStartDate	9/5/2019	11/25/2019
tblGrading	AcresOfGrading	10.00	0.50
tblGrading	MaterialExported	0.00	71.00
tblGrading	MaterialImported	0.00	71.00
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	2.00	11.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	11.00
tblTripsAndVMT	WorkerTripNumber	5.00	10.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	5.00	10.00
tblTripsAndVMT	WorkerTripNumber	1.00	10.00
tblTripsAndVMT	WorkerTripNumber	18.00	10.00

OWSI Project Tank Run - Ventura County, Summer

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					
2019	2.3631	13.1312	10.3581	0.0191	0.8500	0.7469	1.3893	0.4397	0.6978	0.9543	0.0000	1,907.323 7	1,907.323 7	0.4134	0.0000	1,917.658 7
Maximum	2.3631	13.1312	10.3581	0.0191	0.8500	0.7469	1.3893	0.4397	0.6978	0.9543	0.0000	1,907.323 7	1,907.323 7	0.4134	0.0000	1,917.658 7

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					
2019	2.3631	13.1312	10.3581	0.0191	0.4357	0.7469	0.9923	0.2121	0.6978	0.7647	0.0000	1,907.323 7	1,907.323 7	0.4134	0.0000	1,917.658 7
Maximum	2.3631	13.1312	10.3581	0.0191	0.4357	0.7469	0.9923	0.2121	0.6978	0.7647	0.0000	1,907.323 7	1,907.323 7	0.4134	0.0000	1,917.658 7

OWSI Project Tank Run - Ventura County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	48.74	0.00	28.58	51.76	0.00	19.87	0.00	0.00	0.00	0.00	0.00	0.00

OWSI Project Tank Run - Ventura County, Summer

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	0.0152	1.0000e-005	1.2100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5800e-003	2.5800e-003	1.0000e-005		2.7500e-003
Energy	2.4000e-004	2.1600e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		2.5936	2.5936	5.0000e-005	5.0000e-005	2.6090
Mobile	1.0000e-003	3.9100e-003	0.0124	4.0000e-005	3.5700e-003	4.0000e-005	3.6100e-003	9.5000e-004	4.0000e-005	9.9000e-004		4.1354	4.1354	1.7000e-004		4.1396
Total	0.0164	6.0800e-003	0.0154	5.0000e-005	3.5700e-003	2.0000e-004	3.7700e-003	9.5000e-004	2.0000e-004	1.1500e-003		6.7315	6.7315	2.3000e-004	5.0000e-005	6.7514

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	0.0152	1.0000e-005	1.2100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5800e-003	2.5800e-003	1.0000e-005		2.7500e-003
Energy	2.4000e-004	2.1600e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		2.5936	2.5936	5.0000e-005	5.0000e-005	2.6090
Mobile	1.0000e-003	3.9100e-003	0.0124	4.0000e-005	3.5700e-003	4.0000e-005	3.6100e-003	9.5000e-004	4.0000e-005	9.9000e-004		4.1354	4.1354	1.7000e-004		4.1396
Total	0.0164	6.0800e-003	0.0154	5.0000e-005	3.5700e-003	2.0000e-004	3.7700e-003	9.5000e-004	2.0000e-004	1.1500e-003		6.7315	6.7315	2.3000e-004	5.0000e-005	6.7514

OWSI Project Tank Run - Ventura County, Summer

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

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/1/2019	4/12/2019	5	10	
2	Site Preparation	Site Preparation	4/13/2019	5/10/2019	5	20	
3	Grading	Grading	5/13/2019	7/5/2019	5	40	
4	Building Construction	Building Construction	7/8/2019	11/22/2019	5	100	
5	Paving	Paving	11/25/2019	12/20/2019	5	20	
6	Architectural Coating	Architectural Coating	10/18/2019	10/31/2019	5	10	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.26

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 578; Non-Residential Outdoor: 193; Striped Parking Area: 684 (Architectural Coating – sqft)

OffRoad Equipment

OWSI Project Tank Run - Ventura County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	1		158	0.38
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Plate Compactors	1		8	0.43

Trips and VMT

OWSI Project Tank Run - Ventura County, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	1.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	10.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	10.00	1.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	10.00	11.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	10.00	11.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0384	0.0000	0.0384	5.8100e-003	0.0000	5.8100e-003			0.0000			0.0000
Off-Road	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125		1,159.6570	1,159.6570	0.2211		1,165.1847
Total	0.9530	8.6039	7.6917	0.0120	0.0384	0.5371	0.5755	5.8100e-003	0.5125	0.5183		1,159.6570	1,159.6570	0.2211		1,165.1847

OWSI Project Tank Run - Ventura County, Summer

3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6400e-003	0.0589	0.0121	1.5000e-004	3.4800e-003	3.1000e-004	3.7900e-003	9.5000e-004	2.9000e-004	1.2500e-003		16.6870	16.6870	1.5900e-003		16.7268
Vendor	4.0700e-003	0.1188	0.0306	2.6000e-004	6.7600e-003	9.6000e-004	7.7200e-003	1.9400e-003	9.2000e-004	2.8600e-003		27.8555	27.8555	2.3400e-003		27.9141
Worker	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291
Total	0.0450	0.2023	0.3459	1.2300e-003	0.0924	1.8600e-003	0.0943	0.0247	1.7600e-003	0.0264		126.5123	126.5123	6.3000e-003		126.6700

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					0.0173	0.0000	0.0173	2.6100e-003	0.0000	2.6100e-003			0.0000			0.0000
Off-Road	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125	0.0000	1,159.6570	1,159.6570	0.2211		1,165.1847
Total	0.9530	8.6039	7.6917	0.0120	0.0173	0.5371	0.5544	2.6100e-003	0.5125	0.5151	0.0000	1,159.6570	1,159.6570	0.2211		1,165.1847

OWSI Project Tank Run - Ventura County, Summer

3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6400e-003	0.0589	0.0121	1.5000e-004	3.4800e-003	3.1000e-004	3.7900e-003	9.5000e-004	2.9000e-004	1.2500e-003		16.6870	16.6870	1.5900e-003		16.7268
Vendor	4.0700e-003	0.1188	0.0306	2.6000e-004	6.7600e-003	9.6000e-004	7.7200e-003	1.9400e-003	9.2000e-004	2.8600e-003		27.8555	27.8555	2.3400e-003		27.9141
Worker	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291
Total	0.0450	0.2023	0.3459	1.2300e-003	0.0924	1.8600e-003	0.0943	0.0247	1.7600e-003	0.0264		126.5123	126.5123	6.3000e-003		126.6700

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0265	0.0000	0.0265	2.8600e-003	0.0000	2.8600e-003			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e-003		0.3672	0.3672		0.3378	0.3378		965.1690	965.1690	0.3054		972.8032
Total	0.7195	8.9170	4.1407	9.7500e-003	0.0265	0.3672	0.3937	2.8600e-003	0.3378	0.3407		965.1690	965.1690	0.3054		972.8032

OWSI Project Tank Run - Ventura County, Summer

3.3 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/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	4.0700e-003	0.1188	0.0306	2.6000e-004	6.7600e-003	9.6000e-004	7.7200e-003	1.9400e-003	9.2000e-004	2.8600e-003		27.8555	27.8555	2.3400e-003		27.9141
Worker	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291
Total	0.0434	0.1434	0.3338	1.0800e-003	0.0889	1.5500e-003	0.0905	0.0237	1.4700e-003	0.0252		109.8253	109.8253	4.7100e-003		109.9432

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					0.0119	0.0000	0.0119	1.2900e-003	0.0000	1.2900e-003			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e-003		0.3672	0.3672		0.3378	0.3378	0.0000	965.1690	965.1690	0.3054		972.8032
Total	0.7195	8.9170	4.1407	9.7500e-003	0.0119	0.3672	0.3791	1.2900e-003	0.3378	0.3391	0.0000	965.1690	965.1690	0.3054		972.8032

OWSI Project Tank Run - Ventura County, Summer

3.3 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/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	4.0700e-003	0.1188	0.0306	2.6000e-004	6.7600e-003	9.6000e-004	7.7200e-003	1.9400e-003	9.2000e-004	2.8600e-003		27.8555	27.8555	2.3400e-003		27.9141
Worker	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291
Total	0.0434	0.1434	0.3338	1.0800e-003	0.0889	1.5500e-003	0.0905	0.0237	1.4700e-003	0.0252		109.8253	109.8253	4.7100e-003		109.9432

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7533	0.0000	0.7533	0.4139	0.0000	0.4139			0.0000			0.0000
Off-Road	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125		1,159.6570	1,159.6570	0.2211		1,165.1847
Total	0.9530	8.6039	7.6917	0.0120	0.7533	0.5371	1.2903	0.4139	0.5125	0.9263		1,159.6570	1,159.6570	0.2211		1,165.1847

OWSI Project Tank Run - Ventura County, Summer

3.4 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.6900e-003	0.1325	0.0272	3.4000e-004	7.8400e-003	6.9000e-004	8.5300e-003	2.1500e-003	6.6000e-004	2.8100e-003		37.5456	37.5456	3.5900e-003		37.6353
Vendor	4.0700e-003	0.1188	0.0306	2.6000e-004	6.7600e-003	9.6000e-004	7.7200e-003	1.9400e-003	9.2000e-004	2.8600e-003		27.8555	27.8555	2.3400e-003		27.9141
Worker	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291
Total	0.0471	0.2759	0.3610	1.4200e-003	0.0968	2.2400e-003	0.0990	0.0259	2.1300e-003	0.0280		147.3710	147.3710	8.3000e-003		147.5785

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					0.3390	0.0000	0.3390	0.1862	0.0000	0.1862			0.0000			0.0000
Off-Road	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125	0.0000	1,159.6570	1,159.6570	0.2211		1,165.1847
Total	0.9530	8.6039	7.6917	0.0120	0.3390	0.5371	0.8761	0.1862	0.5125	0.6987	0.0000	1,159.6570	1,159.6570	0.2211		1,165.1847

OWSI Project Tank Run - Ventura County, Summer

3.4 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.6900e-003	0.1325	0.0272	3.4000e-004	7.8400e-003	6.9000e-004	8.5300e-003	2.1500e-003	6.6000e-004	2.8100e-003		37.5456	37.5456	3.5900e-003		37.6353
Vendor	4.0700e-003	0.1188	0.0306	2.6000e-004	6.7600e-003	9.6000e-004	7.7200e-003	1.9400e-003	9.2000e-004	2.8600e-003		27.8555	27.8555	2.3400e-003		27.9141
Worker	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291
Total	0.0471	0.2759	0.3610	1.4200e-003	0.0968	2.2400e-003	0.0990	0.0259	2.1300e-003	0.0280		147.3710	147.3710	8.3000e-003		147.5785

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569		1,127.6696	1,127.6696	0.3568		1,136.5892
Total	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569		1,127.6696	1,127.6696	0.3568		1,136.5892

OWSI Project Tank Run - Ventura County, Summer

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/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	0.0448	1.3072	0.3366	2.8600e-003	0.0744	0.0106	0.0849	0.0214	0.0101	0.0315		306.4109	306.4109	0.0258		307.0548
Worker	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291
Total	0.0841	1.3317	0.6398	3.6800e-003	0.1565	0.0112	0.1677	0.0432	0.0107	0.0538		388.3807	388.3807	0.0281		389.0840

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	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569	0.0000	1,127.6696	1,127.6696	0.3568		1,136.5892
Total	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569	0.0000	1,127.6696	1,127.6696	0.3568		1,136.5892

OWSI Project Tank Run - Ventura County, Summer

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/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	0.0448	1.3072	0.3366	2.8600e-003	0.0744	0.0106	0.0849	0.0214	0.0101	0.0315		306.4109	306.4109	0.0258		307.0548
Worker	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291
Total	0.0841	1.3317	0.6398	3.6800e-003	0.1565	0.0112	0.1677	0.0432	0.0107	0.0538		388.3807	388.3807	0.0281		389.0840

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8300	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106		1,055.1823	1,055.1823	0.3016		1,062.7231
Paving	0.0341					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8640	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106		1,055.1823	1,055.1823	0.3016		1,062.7231

OWSI Project Tank Run - Ventura County, Summer

3.6 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/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	0.0448	1.3072	0.3366	2.8600e-003	0.0744	0.0106	0.0849	0.0214	0.0101	0.0315		306.4109	306.4109	0.0258		307.0548
Worker	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291
Total	0.0841	1.3317	0.6398	3.6800e-003	0.1565	0.0112	0.1677	0.0432	0.0107	0.0538		388.3807	388.3807	0.0281		389.0840

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	0.8300	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106	0.0000	1,055.1823	1,055.1823	0.3016		1,062.7231
Paving	0.0341					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8640	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106	0.0000	1,055.1823	1,055.1823	0.3016		1,062.7231

OWSI Project Tank Run - Ventura County, Summer

3.6 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/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	0.0448	1.3072	0.3366	2.8600e-003	0.0744	0.0106	0.0849	0.0214	0.0101	0.0315		306.4109	306.4109	0.0258		307.0548
Worker	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291
Total	0.0841	1.3317	0.6398	3.6800e-003	0.1565	0.0112	0.1677	0.0432	0.0107	0.0538		388.3807	388.3807	0.0281		389.0840

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.0116					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	1.2780	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

OWSI Project Tank Run - Ventura County, Summer

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/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	4.0700e-003	0.1188	0.0306	2.6000e-004	6.7600e-003	9.6000e-004	7.7200e-003	1.9400e-003	9.2000e-004	2.8600e-003		27.8555	27.8555	2.3400e-003		27.9141
Worker	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291
Total	0.0434	0.1434	0.3338	1.0800e-003	0.0889	1.5500e-003	0.0905	0.0237	1.4700e-003	0.0252		109.8253	109.8253	4.7100e-003		109.9432

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.0116					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	1.2780	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423

OWSI Project Tank Run - Ventura County, Summer

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/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	4.0700e-003	0.1188	0.0306	2.6000e-004	6.7600e-003	9.6000e-004	7.7200e-003	1.9400e-003	9.2000e-004	2.8600e-003		27.8555	27.8555	2.3400e-003		27.9141
Worker	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291
Total	0.0434	0.1434	0.3338	1.0800e-003	0.0889	1.5500e-003	0.0905	0.0237	1.4700e-003	0.0252		109.8253	109.8253	4.7100e-003		109.9432

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

OWSI Project Tank Run - Ventura County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-003	3.9100e-003	0.0124	4.0000e-005	3.5700e-003	4.0000e-005	3.6100e-003	9.5000e-004	4.0000e-005	9.9000e-004		4.1354	4.1354	1.7000e-004		4.1396
Unmitigated	1.0000e-003	3.9100e-003	0.0124	4.0000e-005	3.5700e-003	4.0000e-005	3.6100e-003	9.5000e-004	4.0000e-005	9.9000e-004		4.1354	4.1354	1.7000e-004		4.1396

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.58	0.58	0.58	1,686	1,686
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.58	0.58	0.58	1,686	1,686

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	9.50	7.30	7.30	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 Heavy Industry	0.577012	0.042942	0.189872	0.117495	0.021422	0.006664	0.019052	0.017336	0.001134	0.000976	0.004002	0.000371	0.001721
Other Asphalt Surfaces	0.577012	0.042942	0.189872	0.117495	0.021422	0.006664	0.019052	0.017336	0.001134	0.000976	0.004002	0.000371	0.001721

OWSI Project Tank Run - Ventura County, Summer

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	2.4000e-004	2.1600e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		2.5936	2.5936	5.0000e-005	5.0000e-005	2.6090
NaturalGas Unmitigated	2.4000e-004	2.1600e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		2.5936	2.5936	5.0000e-005	5.0000e-005	2.6090

OWSI Project Tank Run - Ventura County, Summer

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	22.0452	2.4000e-004	2.1600e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		2.5936	2.5936	5.0000e-005	5.0000e-005	2.6090
Other Asphalt Surfaces	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		2.4000e-004	2.1600e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		2.5936	2.5936	5.0000e-005	5.0000e-005	2.6090

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0.0220452	2.4000e-004	2.1600e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		2.5936	2.5936	5.0000e-005	5.0000e-005	2.6090
Other Asphalt Surfaces	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		2.4000e-004	2.1600e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		2.5936	2.5936	5.0000e-005	5.0000e-005	2.6090

6.0 Area Detail

6.1 Mitigation Measures Area

OWSI Project Tank Run - Ventura County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0152	1.0000e-005	1.2100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5800e-003	2.5800e-003	1.0000e-005		2.7500e-003
Unmitigated	0.0152	1.0000e-005	1.2100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5800e-003	2.5800e-003	1.0000e-005		2.7500e-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	2.7700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0123					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1000e-004	1.0000e-005	1.2100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5800e-003	2.5800e-003	1.0000e-005		2.7500e-003
Total	0.0152	1.0000e-005	1.2100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5800e-003	2.5800e-003	1.0000e-005		2.7500e-003

OWSI Project Tank Run - Ventura County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.7700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0123					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1000e-004	1.0000e-005	1.2100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5800e-003	2.5800e-003	1.0000e-005		2.7500e-003
Total	0.0152	1.0000e-005	1.2100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5800e-003	2.5800e-003	1.0000e-005		2.7500e-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
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

OWSI Project Tank Run - Ventura County, Summer

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

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

Equipment Type	Number
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11.0 Vegetation

OWSI Project Tank Run - Ventura County, Winter

OWSI Project Tank Run
Ventura County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	0.39	1000sqft	0.01	385.00	0
Other Asphalt Surfaces	11.40	1000sqft	0.26	11,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

OWSI Project Tank Run - Ventura County, Winter

Project Characteristics -

Land Use - Per client details, used Running Ridge tank size and a 50 foot buffer surrounding the tank site to get total disturbance area.

Construction Phase - Phasing is per clients most conservative construction timeline for construction of an undeveloped parcel into a tank facility. Building construction includes pipeline construction, tank erection, and electrical and instrumentation work.

Off-road Equipment -

Off-road Equipment - Per client details

Off-road Equipment - Per client information

Off-road Equipment - Per client info, excavator added to default

Off-road Equipment - Per client information

Off-road Equipment -

Demolition - Tank size is 385 based on the Running Ridge steel tank

Grading - Per client details; tank modeled is 385 square feet, times a depth of excavation maximum of 5 feet

Construction Off-road Equipment Mitigation - Per VCACPD Rule 55

Trips and VMT - 1 vender trips added to each phase to account for water truck, 10 vendor trips during building and paving for materials deliveries, 10 worker trips daily throughout, per client details

Architectural Coating - Per VCACPD Rule 74.2

Area Coating - Per VCACPD Rule 74.2

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	2.00	40.00
tblConstructionPhase	NumDays	5.00	20.00

OWSI Project Tank Run - Ventura County, Winter

tblConstructionPhase	NumDays	1.00	20.00
tblConstructionPhase	PhaseEndDate	9/18/2019	10/31/2019
tblConstructionPhase	PhaseEndDate	9/4/2019	11/22/2019
tblConstructionPhase	PhaseEndDate	4/17/2019	7/5/2019
tblConstructionPhase	PhaseEndDate	9/11/2019	12/20/2019
tblConstructionPhase	PhaseEndDate	4/15/2019	5/10/2019
tblConstructionPhase	PhaseStartDate	9/12/2019	10/18/2019
tblConstructionPhase	PhaseStartDate	4/18/2019	7/8/2019
tblConstructionPhase	PhaseStartDate	4/16/2019	5/13/2019
tblConstructionPhase	PhaseStartDate	9/5/2019	11/25/2019
tblGrading	AcresOfGrading	10.00	0.50
tblGrading	MaterialExported	0.00	71.00
tblGrading	MaterialImported	0.00	71.00
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	2.00	11.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	11.00
tblTripsAndVMT	WorkerTripNumber	5.00	10.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	5.00	10.00
tblTripsAndVMT	WorkerTripNumber	1.00	10.00
tblTripsAndVMT	WorkerTripNumber	18.00	10.00

OWSI Project Tank Run - Ventura County, Winter

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					
2019	2.3762	13.1441	10.3924	0.0190	0.8500	0.7471	1.3894	0.4397	0.6981	0.9544	0.0000	1,891.415 1	1,891.415 1	0.4152	0.0000	1,901.794 0
Maximum	2.3762	13.1441	10.3924	0.0190	0.8500	0.7471	1.3894	0.4397	0.6981	0.9544	0.0000	1,891.415 1	1,891.415 1	0.4152	0.0000	1,901.794 0

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					
2019	2.3762	13.1441	10.3924	0.0190	0.4357	0.7471	0.9925	0.2121	0.6981	0.7650	0.0000	1,891.415 1	1,891.415 1	0.4152	0.0000	1,901.794 0
Maximum	2.3762	13.1441	10.3924	0.0190	0.4357	0.7471	0.9925	0.2121	0.6981	0.7650	0.0000	1,891.415 1	1,891.415 1	0.4152	0.0000	1,901.794 0

OWSI Project Tank Run - Ventura County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	48.74	0.00	28.56	51.76	0.00	19.84	0.00	0.00	0.00	0.00	0.00	0.00

OWSI Project Tank Run - Ventura County, Winter

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	0.0152	1.0000e-005	1.2100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5800e-003	2.5800e-003	1.0000e-005		2.7500e-003
Energy	2.4000e-004	2.1600e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		2.5936	2.5936	5.0000e-005	5.0000e-005	2.6090
Mobile	9.5000e-004	4.1000e-003	0.0125	4.0000e-005	3.5700e-003	4.0000e-005	3.6100e-003	9.5000e-004	4.0000e-005	9.9000e-004		3.9636	3.9636	1.7000e-004		3.9679
Total	0.0164	6.2700e-003	0.0155	5.0000e-005	3.5700e-003	2.0000e-004	3.7700e-003	9.5000e-004	2.0000e-004	1.1500e-003		6.5597	6.5597	2.3000e-004	5.0000e-005	6.5796

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	0.0152	1.0000e-005	1.2100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5800e-003	2.5800e-003	1.0000e-005		2.7500e-003
Energy	2.4000e-004	2.1600e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		2.5936	2.5936	5.0000e-005	5.0000e-005	2.6090
Mobile	9.5000e-004	4.1000e-003	0.0125	4.0000e-005	3.5700e-003	4.0000e-005	3.6100e-003	9.5000e-004	4.0000e-005	9.9000e-004		3.9636	3.9636	1.7000e-004		3.9679
Total	0.0164	6.2700e-003	0.0155	5.0000e-005	3.5700e-003	2.0000e-004	3.7700e-003	9.5000e-004	2.0000e-004	1.1500e-003		6.5597	6.5597	2.3000e-004	5.0000e-005	6.5796

OWSI Project Tank Run - Ventura County, Winter

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

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/1/2019	4/12/2019	5	10	
2	Site Preparation	Site Preparation	4/13/2019	5/10/2019	5	20	
3	Grading	Grading	5/13/2019	7/5/2019	5	40	
4	Building Construction	Building Construction	7/8/2019	11/22/2019	5	100	
5	Paving	Paving	11/25/2019	12/20/2019	5	20	
6	Architectural Coating	Architectural Coating	10/18/2019	10/31/2019	5	10	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.26

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 578; Non-Residential Outdoor: 193; Striped Parking Area: 684 (Architectural Coating – sqft)

OffRoad Equipment

OWSI Project Tank Run - Ventura County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	1		158	0.38
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Plate Compactors	1		8	0.43

Trips and VMT

OWSI Project Tank Run - Ventura County, Winter

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	4	10.00	1.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	10.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	10.00	1.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	10.00	11.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	10.00	11.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0384	0.0000	0.0384	5.8100e-003	0.0000	5.8100e-003			0.0000			0.0000
Off-Road	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125		1,159.6570	1,159.6570	0.2211		1,165.1847
Total	0.9530	8.6039	7.6917	0.0120	0.0384	0.5371	0.5755	5.8100e-003	0.5125	0.5183		1,159.6570	1,159.6570	0.2211		1,165.1847

OWSI Project Tank Run - Ventura County, Winter

3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6900e-003	0.0596	0.0131	1.5000e-004	3.4800e-003	3.2000e-004	3.8000e-003	9.5000e-004	3.0000e-004	1.2600e-003		16.4306	16.4306	1.6500e-003		16.4720
Vendor	4.2900e-003	0.1192	0.0345	2.5000e-004	6.7600e-003	9.9000e-004	7.7400e-003	1.9400e-003	9.4000e-004	2.8900e-003		27.1912	27.1912	2.5000e-003		27.2537
Worker	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593
Total	0.0505	0.2077	0.3444	1.1800e-003	0.0924	1.9000e-003	0.0943	0.0247	1.7900e-003	0.0265		121.6236	121.6236	6.4500e-003		121.7849

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					0.0173	0.0000	0.0173	2.6100e-003	0.0000	2.6100e-003			0.0000			0.0000
Off-Road	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125	0.0000	1,159.6570	1,159.6570	0.2211		1,165.1847
Total	0.9530	8.6039	7.6917	0.0120	0.0173	0.5371	0.5544	2.6100e-003	0.5125	0.5151	0.0000	1,159.6570	1,159.6570	0.2211		1,165.1847

OWSI Project Tank Run - Ventura County, Winter

3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6900e-003	0.0596	0.0131	1.5000e-004	3.4800e-003	3.2000e-004	3.8000e-003	9.5000e-004	3.0000e-004	1.2600e-003		16.4306	16.4306	1.6500e-003		16.4720
Vendor	4.2900e-003	0.1192	0.0345	2.5000e-004	6.7600e-003	9.9000e-004	7.7400e-003	1.9400e-003	9.4000e-004	2.8900e-003		27.1912	27.1912	2.5000e-003		27.2537
Worker	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593
Total	0.0505	0.2077	0.3444	1.1800e-003	0.0924	1.9000e-003	0.0943	0.0247	1.7900e-003	0.0265		121.6236	121.6236	6.4500e-003		121.7849

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0265	0.0000	0.0265	2.8600e-003	0.0000	2.8600e-003			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e-003		0.3672	0.3672		0.3378	0.3378		965.1690	965.1690	0.3054		972.8032
Total	0.7195	8.9170	4.1407	9.7500e-003	0.0265	0.3672	0.3937	2.8600e-003	0.3378	0.3407		965.1690	965.1690	0.3054		972.8032

OWSI Project Tank Run - Ventura County, Winter

3.3 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/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	4.2900e-003	0.1192	0.0345	2.5000e-004	6.7600e-003	9.9000e-004	7.7400e-003	1.9400e-003	9.4000e-004	2.8900e-003		27.1912	27.1912	2.5000e-003		27.2537
Worker	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593
Total	0.0488	0.1480	0.3313	1.0300e-003	0.0889	1.5800e-003	0.0905	0.0237	1.4900e-003	0.0252		105.1929	105.1929	4.8000e-003		105.3129

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					0.0119	0.0000	0.0119	1.2900e-003	0.0000	1.2900e-003			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e-003		0.3672	0.3672		0.3378	0.3378	0.0000	965.1690	965.1690	0.3054		972.8032
Total	0.7195	8.9170	4.1407	9.7500e-003	0.0119	0.3672	0.3791	1.2900e-003	0.3378	0.3391	0.0000	965.1690	965.1690	0.3054		972.8032

OWSI Project Tank Run - Ventura County, Winter

3.3 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/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	4.2900e-003	0.1192	0.0345	2.5000e-004	6.7600e-003	9.9000e-004	7.7400e-003	1.9400e-003	9.4000e-004	2.8900e-003		27.1912	27.1912	2.5000e-003		27.2537
Worker	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593
Total	0.0488	0.1480	0.3313	1.0300e-003	0.0889	1.5800e-003	0.0905	0.0237	1.4900e-003	0.0252		105.1929	105.1929	4.8000e-003		105.3129

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7533	0.0000	0.7533	0.4139	0.0000	0.4139			0.0000			0.0000
Off-Road	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125		1,159.6570	1,159.6570	0.2211		1,165.1847
Total	0.9530	8.6039	7.6917	0.0120	0.7533	0.5371	1.2903	0.4139	0.5125	0.9263		1,159.6570	1,159.6570	0.2211		1,165.1847

OWSI Project Tank Run - Ventura County, Winter

3.4 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.8100e-003	0.1342	0.0294	3.4000e-004	7.8400e-003	7.1000e-004	8.5500e-003	2.1500e-003	6.8000e-004	2.8300e-003		36.9689	36.9689	3.7200e-003		37.0619
Vendor	4.2900e-003	0.1192	0.0345	2.5000e-004	6.7600e-003	9.9000e-004	7.7400e-003	1.9400e-003	9.4000e-004	2.8900e-003		27.1912	27.1912	2.5000e-003		27.2537
Worker	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593
Total	0.0526	0.2822	0.3608	1.3700e-003	0.0968	2.2900e-003	0.0990	0.0259	2.1700e-003	0.0281		142.1618	142.1618	8.5200e-003		142.3749

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					0.3390	0.0000	0.3390	0.1862	0.0000	0.1862			0.0000			0.0000
Off-Road	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125	0.0000	1,159.6570	1,159.6570	0.2211		1,165.1847
Total	0.9530	8.6039	7.6917	0.0120	0.3390	0.5371	0.8761	0.1862	0.5125	0.6987	0.0000	1,159.6570	1,159.6570	0.2211		1,165.1847

OWSI Project Tank Run - Ventura County, Winter

3.4 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.8100e-003	0.1342	0.0294	3.4000e-004	7.8400e-003	7.1000e-004	8.5500e-003	2.1500e-003	6.8000e-004	2.8300e-003		36.9689	36.9689	3.7200e-003		37.0619
Vendor	4.2900e-003	0.1192	0.0345	2.5000e-004	6.7600e-003	9.9000e-004	7.7400e-003	1.9400e-003	9.4000e-004	2.8900e-003		27.1912	27.1912	2.5000e-003		27.2537
Worker	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593
Total	0.0526	0.2822	0.3608	1.3700e-003	0.0968	2.2900e-003	0.0990	0.0259	2.1700e-003	0.0281		142.1618	142.1618	8.5200e-003		142.3749

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569		1,127.6696	1,127.6696	0.3568		1,136.5892
Total	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569		1,127.6696	1,127.6696	0.3568		1,136.5892

OWSI Project Tank Run - Ventura County, Winter

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/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	0.0472	1.3111	0.3798	2.7900e-003	0.0744	0.0108	0.0852	0.0214	0.0104	0.0318		299.1027	299.1027	0.0275		299.7902
Worker	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593
Total	0.0918	1.3400	0.6766	3.5700e-003	0.1565	0.0114	0.1679	0.0432	0.0109	0.0541		377.1045	377.1045	0.0298		377.8495

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	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569	0.0000	1,127.6696	1,127.6696	0.3568		1,136.5892
Total	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569	0.0000	1,127.6696	1,127.6696	0.3568		1,136.5892

OWSI Project Tank Run - Ventura County, Winter

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/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	0.0472	1.3111	0.3798	2.7900e-003	0.0744	0.0108	0.0852	0.0214	0.0104	0.0318		299.1027	299.1027	0.0275		299.7902
Worker	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593
Total	0.0918	1.3400	0.6766	3.5700e-003	0.1565	0.0114	0.1679	0.0432	0.0109	0.0541		377.1045	377.1045	0.0298		377.8495

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8300	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106		1,055.1823	1,055.1823	0.3016		1,062.7231
Paving	0.0341					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8640	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106		1,055.1823	1,055.1823	0.3016		1,062.7231

OWSI Project Tank Run - Ventura County, Winter

3.6 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/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	0.0472	1.3111	0.3798	2.7900e-003	0.0744	0.0108	0.0852	0.0214	0.0104	0.0318		299.1027	299.1027	0.0275		299.7902
Worker	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593
Total	0.0918	1.3400	0.6766	3.5700e-003	0.1565	0.0114	0.1679	0.0432	0.0109	0.0541		377.1045	377.1045	0.0298		377.8495

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	0.8300	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106	0.0000	1,055.1823	1,055.1823	0.3016		1,062.7231
Paving	0.0341					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8640	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106	0.0000	1,055.1823	1,055.1823	0.3016		1,062.7231

OWSI Project Tank Run - Ventura County, Winter

3.6 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/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	0.0472	1.3111	0.3798	2.7900e-003	0.0744	0.0108	0.0852	0.0214	0.0104	0.0318		299.1027	299.1027	0.0275		299.7902
Worker	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593
Total	0.0918	1.3400	0.6766	3.5700e-003	0.1565	0.0114	0.1679	0.0432	0.0109	0.0541		377.1045	377.1045	0.0298		377.8495

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.0116					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	1.2780	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

OWSI Project Tank Run - Ventura County, Winter

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/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	4.2900e-003	0.1192	0.0345	2.5000e-004	6.7600e-003	9.9000e-004	7.7400e-003	1.9400e-003	9.4000e-004	2.8900e-003		27.1912	27.1912	2.5000e-003		27.2537
Worker	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593
Total	0.0488	0.1480	0.3313	1.0300e-003	0.0889	1.5800e-003	0.0905	0.0237	1.4900e-003	0.0252		105.1929	105.1929	4.8000e-003		105.3129

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.0116					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	1.2780	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423

OWSI Project Tank Run - Ventura County, Winter

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/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	4.2900e-003	0.1192	0.0345	2.5000e-004	6.7600e-003	9.9000e-004	7.7400e-003	1.9400e-003	9.4000e-004	2.8900e-003		27.1912	27.1912	2.5000e-003		27.2537
Worker	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593
Total	0.0488	0.1480	0.3313	1.0300e-003	0.0889	1.5800e-003	0.0905	0.0237	1.4900e-003	0.0252		105.1929	105.1929	4.8000e-003		105.3129

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

OWSI Project Tank Run - Ventura County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.5000e-004	4.1000e-003	0.0125	4.0000e-005	3.5700e-003	4.0000e-005	3.6100e-003	9.5000e-004	4.0000e-005	9.9000e-004		3.9636	3.9636	1.7000e-004		3.9679
Unmitigated	9.5000e-004	4.1000e-003	0.0125	4.0000e-005	3.5700e-003	4.0000e-005	3.6100e-003	9.5000e-004	4.0000e-005	9.9000e-004		3.9636	3.9636	1.7000e-004		3.9679

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.58	0.58	0.58	1,686	1,686
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.58	0.58	0.58	1,686	1,686

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	9.50	7.30	7.30	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 Heavy Industry	0.577012	0.042942	0.189872	0.117495	0.021422	0.006664	0.019052	0.017336	0.001134	0.000976	0.004002	0.000371	0.001721
Other Asphalt Surfaces	0.577012	0.042942	0.189872	0.117495	0.021422	0.006664	0.019052	0.017336	0.001134	0.000976	0.004002	0.000371	0.001721

OWSI Project Tank Run - Ventura County, Winter

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	2.4000e-004	2.1600e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		2.5936	2.5936	5.0000e-005	5.0000e-005	2.6090
NaturalGas Unmitigated	2.4000e-004	2.1600e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		2.5936	2.5936	5.0000e-005	5.0000e-005	2.6090

OWSI Project Tank Run - Ventura County, Winter

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 Heavy Industry	22.0452	2.4000e-004	2.1600e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		2.5936	2.5936	5.0000e-005	5.0000e-005	2.6090
Other Asphalt Surfaces	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		2.4000e-004	2.1600e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		2.5936	2.5936	5.0000e-005	5.0000e-005	2.6090

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 Heavy Industry	0.0220452	2.4000e-004	2.1600e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		2.5936	2.5936	5.0000e-005	5.0000e-005	2.6090
Other Asphalt Surfaces	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		2.4000e-004	2.1600e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		2.5936	2.5936	5.0000e-005	5.0000e-005	2.6090

6.0 Area Detail

6.1 Mitigation Measures Area

OWSI Project Tank Run - Ventura County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0152	1.0000e-005	1.2100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5800e-003	2.5800e-003	1.0000e-005		2.7500e-003
Unmitigated	0.0152	1.0000e-005	1.2100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5800e-003	2.5800e-003	1.0000e-005		2.7500e-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	2.7700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0123					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1000e-004	1.0000e-005	1.2100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5800e-003	2.5800e-003	1.0000e-005		2.7500e-003
Total	0.0152	1.0000e-005	1.2100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5800e-003	2.5800e-003	1.0000e-005		2.7500e-003

OWSI Project Tank Run - Ventura County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.7700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0123					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1000e-004	1.0000e-005	1.2100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5800e-003	2.5800e-003	1.0000e-005		2.7500e-003
Total	0.0152	1.0000e-005	1.2100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5800e-003	2.5800e-003	1.0000e-005		2.7500e-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
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

OWSI Project Tank Run - Ventura County, Winter

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

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

Equipment Type	Number
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11.0 Vegetation

OWSI Well Construction Run - Ventura County, Annual

**OWSI Well Construction Run
Ventura County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.01	1000sqft	0.00	9.00	0
Other Asphalt Surfaces	7.90	1000sqft	0.18	7,900.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

OWSI Well Construction Run - Ventura County, Annual

Project Characteristics -

Land Use - Well is set in a 3x3 ft concrete slab (general light industrial), with a 50 foot buffer surrounding it for disturbance area (other asphalt surfaces)

Construction Phase - Site preparation accounts for clearing and mobilization; Trenching was used to account for the well drilling, which would occur 7 days a week for up to 3 consecutive weeks or until well depth is reached; Building construction phase was used to account for electrical and pump installation for a new well which would take up to 2 weeks.

Off-road Equipment -

Off-road Equipment - Per client information

Off-road Equipment -

Trips and VMT - Per client information

Construction Off-road Equipment Mitigation - Per VCACPD Rule 55

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1.00	20.00
tblConstructionPhase	NumDays	100.00	10.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	PhaseEndDate	4/17/2019	5/19/2019
tblConstructionPhase	PhaseEndDate	4/15/2019	4/26/2019
tblConstructionPhase	PhaseStartDate	4/16/2019	4/29/2019
tblConstructionPhase	PhaseStartDate	4/13/2019	4/1/2019
tblOffRoadEquipment	HorsePower	221.00	247.00
tblOffRoadEquipment	LoadFactor	0.50	0.40
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripNumber	5.00	10.00
tblTripsAndVMT	WorkerTripNumber	13.00	10.00

2.0 Emissions Summary

OWSI Well Construction Run - Ventura County, Annual

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0176	0.1989	0.1250	3.0000e-004	7.4600e-003	8.9800e-003	0.0164	1.1500e-003	8.2600e-003	9.4200e-003	0.0000	26.9732	26.9732	7.7500e-003	0.0000	27.1671
Maximum	0.0176	0.1989	0.1250	3.0000e-004	7.4600e-003	8.9800e-003	0.0164	1.1500e-003	8.2600e-003	9.4200e-003	0.0000	26.9732	26.9732	7.7500e-003	0.0000	27.1671

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					
2019	0.0176	0.1989	0.1250	3.0000e-004	4.5400e-003	8.9800e-003	0.0135	8.4000e-004	8.2600e-003	9.1000e-003	0.0000	26.9732	26.9732	7.7500e-003	0.0000	27.1670
Maximum	0.0176	0.1989	0.1250	3.0000e-004	4.5400e-003	8.9800e-003	0.0135	8.4000e-004	8.2600e-003	9.1000e-003	0.0000	26.9732	26.9732	7.7500e-003	0.0000	27.1670

OWSI Well Construction Run - Ventura 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	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	39.14	0.00	17.76	26.96	0.00	3.40	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	4-1-2019	6-30-2019	0.2015	0.2015
		Highest	0.2015	0.2015

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	8.4000e-004	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Energy	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0343	0.0343	0.0000	0.0000	0.0344
Mobile	1.0000e-005	6.0000e-005	1.8000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0541	0.0541	0.0000	0.0000	0.0541
Waste						0.0000	0.0000		0.0000	0.0000	2.0300e-003	0.0000	2.0300e-003	1.2000e-004	0.0000	5.0300e-003
Water						0.0000	0.0000		0.0000	0.0000	7.3000e-004	9.5900e-003	0.0103	8.0000e-005	0.0000	0.0128
Total	8.5000e-004	7.0000e-005	2.6000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	2.7600e-003	0.0981	0.1008	2.0000e-004	0.0000	0.1065

OWSI Well Construction Run - Ventura County, Annual

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	8.4000e-004	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Energy	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0343	0.0343	0.0000	0.0000	0.0344
Mobile	1.0000e-005	6.0000e-005	1.8000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0541	0.0541	0.0000	0.0000	0.0541
Waste						0.0000	0.0000		0.0000	0.0000	2.0300e-003	0.0000	2.0300e-003	1.2000e-004	0.0000	5.0300e-003
Water						0.0000	0.0000		0.0000	0.0000	7.3000e-004	9.5900e-003	0.0103	8.0000e-005	0.0000	0.0128
Total	8.5000e-004	7.0000e-005	2.6000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	2.7600e-003	0.0981	0.1008	2.0000e-004	0.0000	0.1065

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/1/2019	4/26/2019	5	20	
2	Well Drilling	Trenching	4/29/2019	5/19/2019	7	21	
3	Electrical/Pump Installation	Building Construction	5/20/2019	5/31/2019	5	10	

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Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.18

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
Electrical/Pump Installation	Cranes	1	4.00	231	0.29
Electrical/Pump Installation	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Electrical/Pump Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Well Drilling	Generator Sets	1		84	0.74
Well Drilling	Off-Highway Trucks	2		402	0.38
Well Drilling	Bore/Drill Rigs	1	8.00	247	0.40
Well Drilling	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	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
Electrical/Pump Installation	5	3.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Well Drilling	5	10.00	5.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

OWSI Well Construction Run - Ventura County, Annual

Water Exposed Area

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.2000e-003	0.0892	0.0414	1.0000e-004		3.6700e-003	3.6700e-003		3.3800e-003	3.3800e-003	0.0000	8.7559	8.7559	2.7700e-003	0.0000	8.8251
Total	7.2000e-003	0.0892	0.0414	1.0000e-004	5.3000e-003	3.6700e-003	8.9700e-003	5.7000e-004	3.3800e-003	3.9500e-003	0.0000	8.7559	8.7559	2.7700e-003	0.0000	8.8251

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	4.0000e-004	2.8000e-004	2.9300e-003	1.0000e-005	8.1000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.7134	0.7134	2.0000e-005	0.0000	0.7139
Total	4.0000e-004	2.8000e-004	2.9300e-003	1.0000e-005	8.1000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.7134	0.7134	2.0000e-005	0.0000	0.7139

OWSI Well Construction Run - Ventura County, Annual

3.2 Site Preparation - 2019

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					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.2000e-003	0.0892	0.0414	1.0000e-004		3.6700e-003	3.6700e-003		3.3800e-003	3.3800e-003	0.0000	8.7559	8.7559	2.7700e-003	0.0000	8.8251
Total	7.2000e-003	0.0892	0.0414	1.0000e-004	2.3900e-003	3.6700e-003	6.0600e-003	2.6000e-004	3.3800e-003	3.6400e-003	0.0000	8.7559	8.7559	2.7700e-003	0.0000	8.8251

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	4.0000e-004	2.8000e-004	2.9300e-003	1.0000e-005	8.1000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.7134	0.7134	2.0000e-005	0.0000	0.7139
Total	4.0000e-004	2.8000e-004	2.9300e-003	1.0000e-005	8.1000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.7134	0.7134	2.0000e-005	0.0000	0.7139

OWSI Well Construction Run - Ventura County, Annual

3.3 Well Drilling - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.4600e-003	0.0531	0.0375	1.1000e-004		2.2100e-003	2.2100e-003		2.0300e-003	2.0300e-003	0.0000	10.0945	10.0945	3.1900e-003	0.0000	10.1743
Total	4.4600e-003	0.0531	0.0375	1.1000e-004		2.2100e-003	2.2100e-003		2.0300e-003	2.0300e-003	0.0000	10.0945	10.0945	3.1900e-003	0.0000	10.1743

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	2.2000e-004	6.3400e-003	1.7000e-003	1.0000e-005	3.5000e-004	5.0000e-005	4.0000e-004	1.0000e-004	5.0000e-005	1.5000e-004	0.0000	1.3134	1.3134	1.1000e-004	0.0000	1.3163
Worker	4.2000e-004	2.9000e-004	3.0800e-003	1.0000e-005	8.5000e-004	1.0000e-005	8.5000e-004	2.2000e-004	1.0000e-005	2.3000e-004	0.0000	0.7490	0.7490	2.0000e-005	0.0000	0.7496
Total	6.4000e-004	6.6300e-003	4.7800e-003	2.0000e-005	1.2000e-003	6.0000e-005	1.2500e-003	3.2000e-004	6.0000e-005	3.8000e-004	0.0000	2.0624	2.0624	1.3000e-004	0.0000	2.0658

OWSI Well Construction Run - Ventura County, Annual

3.3 Well Drilling - 2019

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	4.4600e-003	0.0531	0.0375	1.1000e-004		2.2100e-003	2.2100e-003		2.0300e-003	2.0300e-003	0.0000	10.0944	10.0944	3.1900e-003	0.0000	10.1743
Total	4.4600e-003	0.0531	0.0375	1.1000e-004		2.2100e-003	2.2100e-003		2.0300e-003	2.0300e-003	0.0000	10.0944	10.0944	3.1900e-003	0.0000	10.1743

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	2.2000e-004	6.3400e-003	1.7000e-003	1.0000e-005	3.5000e-004	5.0000e-005	4.0000e-004	1.0000e-004	5.0000e-005	1.5000e-004	0.0000	1.3134	1.3134	1.1000e-004	0.0000	1.3163
Worker	4.2000e-004	2.9000e-004	3.0800e-003	1.0000e-005	8.5000e-004	1.0000e-005	8.5000e-004	2.2000e-004	1.0000e-005	2.3000e-004	0.0000	0.7490	0.7490	2.0000e-005	0.0000	0.7496
Total	6.4000e-004	6.6300e-003	4.7800e-003	2.0000e-005	1.2000e-003	6.0000e-005	1.2500e-003	3.2000e-004	6.0000e-005	3.8000e-004	0.0000	2.0624	2.0624	1.3000e-004	0.0000	2.0658

OWSI Well Construction Run - Ventura County, Annual

3.4 Electrical/Pump Installation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7900e-003	0.0491	0.0377	6.0000e-005		3.0300e-003	3.0300e-003		2.7800e-003	2.7800e-003	0.0000	5.1150	5.1150	1.6200e-003	0.0000	5.1555
Total	4.7900e-003	0.0491	0.0377	6.0000e-005		3.0300e-003	3.0300e-003		2.7800e-003	2.7800e-003	0.0000	5.1150	5.1150	1.6200e-003	0.0000	5.1555

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	2.0000e-005	6.0000e-004	1.6000e-004	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1251	0.1251	1.0000e-005	0.0000	0.1254
Worker	6.0000e-005	4.0000e-005	4.4000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1070	0.1070	0.0000	0.0000	0.1071
Total	8.0000e-005	6.4000e-004	6.0000e-004	0.0000	1.5000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.2321	0.2321	1.0000e-005	0.0000	0.2324

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3.4 Electrical/Pump Installation - 2019

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	4.7900e-003	0.0491	0.0377	6.0000e-005		3.0300e-003	3.0300e-003		2.7800e-003	2.7800e-003	0.0000	5.1150	5.1150	1.6200e-003	0.0000	5.1555
Total	4.7900e-003	0.0491	0.0377	6.0000e-005		3.0300e-003	3.0300e-003		2.7800e-003	2.7800e-003	0.0000	5.1150	5.1150	1.6200e-003	0.0000	5.1555

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	2.0000e-005	6.0000e-004	1.6000e-004	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1251	0.1251	1.0000e-005	0.0000	0.1254
Worker	6.0000e-005	4.0000e-005	4.4000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1070	0.1070	0.0000	0.0000	0.1071
Total	8.0000e-005	6.4000e-004	6.0000e-004	0.0000	1.5000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.2321	0.2321	1.0000e-005	0.0000	0.2324

4.0 Operational Detail - Mobile

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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	1.0000e-005	6.0000e-005	1.8000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0541	0.0541	0.0000	0.0000	0.0541
Unmitigated	1.0000e-005	6.0000e-005	1.8000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0541	0.0541	0.0000	0.0000	0.0541

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.06	0.01	0.01	138	138
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.06	0.01	0.01	138	138

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

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Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.577012	0.042942	0.189872	0.117495	0.021422	0.006664	0.019052	0.017336	0.001134	0.000976	0.004002	0.000371	0.001721
Other Asphalt Surfaces	0.577012	0.042942	0.189872	0.117495	0.021422	0.006664	0.019052	0.017336	0.001134	0.000976	0.004002	0.000371	0.001721

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0242	0.0242	0.0000	0.0000	0.0243
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0242	0.0242	0.0000	0.0000	0.0243
NaturalGas Mitigated	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0100	0.0100	0.0000	0.0000	0.0101
NaturalGas Unmitigated	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0100	0.0100	0.0000	0.0000	0.0101

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5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	188.1	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0100	0.0100	0.0000	0.0000	0.0101
Other Asphalt Surfaces	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		0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0100	0.0100	0.0000	0.0000	0.0101

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	188.1	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0100	0.0100	0.0000	0.0000	0.0101
Other Asphalt Surfaces	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		0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0100	0.0100	0.0000	0.0000	0.0101

OWSI Well Construction Run - Ventura County, Annual

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	76.05	0.0242	0.0000	0.0000	0.0243
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0242	0.0000	0.0000	0.0243

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	76.05	0.0242	0.0000	0.0000	0.0243
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0242	0.0000	0.0000	0.0243

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive 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	8.4000e-004	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Unmitigated	8.4000e-004	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004

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	2.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Total	8.5000e-004	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004

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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	2.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Total	8.5000e-004	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

OWSI Well Construction Run - Ventura County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0103	8.0000e-005	0.0000	0.0128
Unmitigated	0.0103	8.0000e-005	0.0000	0.0128

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0.0023125 / 0	0.0103	8.0000e-005	0.0000	0.0128
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0103	8.0000e-005	0.0000	0.0128

OWSI Well Construction Run - Ventura County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0.0023125 / 0	0.0103	8.0000e-005	0.0000	0.0128
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0103	8.0000e-005	0.0000	0.0128

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.0300e-003	1.2000e-004	0.0000	5.0300e-003
Unmitigated	2.0300e-003	1.2000e-004	0.0000	5.0300e-003

OWSI Well Construction Run - Ventura County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0.01	2.0300e-003	1.2000e-004	0.0000	5.0300e-003
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		2.0300e-003	1.2000e-004	0.0000	5.0300e-003

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0.01	2.0300e-003	1.2000e-004	0.0000	5.0300e-003
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		2.0300e-003	1.2000e-004	0.0000	5.0300e-003

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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OWSI Well Construction Run - Ventura County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
----------------	--------

11.0 Vegetation

OWSI Well Construction Run - Ventura County, Summer

**OWSI Well Construction Run
Ventura County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.01	1000sqft	0.00	9.00	0
Other Asphalt Surfaces	7.90	1000sqft	0.18	7,900.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

OWSI Well Construction Run - Ventura County, Summer

Project Characteristics -

Land Use - Well is set in a 3x3 ft concrete slab (general light industrial), with a 50 foot buffer surrounding it for disturbance area (other asphalt surfaces)

Construction Phase - Site preparation accounts for clearing and mobilization; Trenching was used to account for the well drilling, which would occur 7 days a week for up to 3 consecutive weeks or until well depth is reached; Building construction phase was used to account for electrical and pump installation for a new well which would take up to 2 weeks.

Off-road Equipment -

Off-road Equipment - Per client information

Off-road Equipment -

Trips and VMT - Per client information

Construction Off-road Equipment Mitigation - Per VCACPD Rule 55

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1.00	20.00
tblConstructionPhase	NumDays	100.00	10.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	PhaseEndDate	4/17/2019	5/19/2019
tblConstructionPhase	PhaseEndDate	4/15/2019	4/26/2019
tblConstructionPhase	PhaseStartDate	4/16/2019	4/29/2019
tblConstructionPhase	PhaseStartDate	4/13/2019	4/1/2019
tblOffRoadEquipment	HorsePower	221.00	247.00
tblOffRoadEquipment	LoadFactor	0.50	0.40
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripNumber	5.00	10.00
tblTripsAndVMT	WorkerTripNumber	13.00	10.00

2.0 Emissions Summary

OWSI Well Construction Run - Ventura County, Summer

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.9734	9.9469	7.6647	0.0128	0.6124	0.6065	0.9802	0.0790	0.5580	0.5665	0.0000	1,280.9834	1,280.9834	0.3598	0.0000	1,289.7176
Maximum	0.9734	9.9469	7.6647	0.0128	0.6124	0.6065	0.9802	0.0790	0.5580	0.5665	0.0000	1,280.9834	1,280.9834	0.3598	0.0000	1,289.7176

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					
2019	0.9734	9.9469	7.6647	0.0128	0.3208	0.6065	0.6886	0.0476	0.5580	0.5665	0.0000	1,280.9834	1,280.9834	0.3598	0.0000	1,289.7176
Maximum	0.9734	9.9469	7.6647	0.0128	0.3208	0.6065	0.6886	0.0476	0.5580	0.5665	0.0000	1,280.9834	1,280.9834	0.3598	0.0000	1,289.7176

OWSI Well Construction Run - Ventura County, Summer

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	4.6300e-003	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.7300e-003	1.7300e-003	0.0000		1.8500e-003
Energy	1.0000e-005	5.0000e-005	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		0.0606	0.0606	0.0000	0.0000	0.0610
Mobile	1.1000e-004	4.2000e-004	1.3500e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004		0.4492	0.4492	2.0000e-005		0.4497
Total	4.7500e-003	4.8000e-004	2.2000e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004		0.5116	0.5116	2.0000e-005	0.0000	0.5125

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	4.6300e-003	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.7300e-003	1.7300e-003	0.0000		1.8500e-003
Energy	1.0000e-005	5.0000e-005	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		0.0606	0.0606	0.0000	0.0000	0.0610
Mobile	1.1000e-004	4.2000e-004	1.3500e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004		0.4492	0.4492	2.0000e-005		0.4497
Total	4.7500e-003	4.8000e-004	2.2000e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004		0.5116	0.5116	2.0000e-005	0.0000	0.5125

OWSI Well Construction Run - Ventura County, Summer

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

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/1/2019	4/26/2019	5	20	
2	Well Drilling	Trenching	4/29/2019	5/19/2019	7	21	
3	Electrical/Pump Installation	Building Construction	5/20/2019	5/31/2019	5	10	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.18

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

OffRoad Equipment

OWSI Well Construction Run - Ventura County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Electrical/Pump Installation	Cranes	1	4.00	231	0.29
Electrical/Pump Installation	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Electrical/Pump Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Well Drilling	Generator Sets	1		84	0.74
Well Drilling	Off-Highway Trucks	2		402	0.38
Well Drilling	Bore/Drill Rigs	1	8.00	247	0.40
Well Drilling	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	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
Electrical/Pump Installation	5	3.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Well Drilling	5	10.00	5.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

OWSI Well Construction Run - Ventura County, Summer

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e-003		0.3672	0.3672		0.3378	0.3378		965.1690	965.1690	0.3054		972.8032
Total	0.7195	8.9170	4.1407	9.7500e-003	0.5303	0.3672	0.8975	0.0573	0.3378	0.3951		965.1690	965.1690	0.3054		972.8032

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	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291
Total	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291

OWSI Well Construction Run - Ventura County, Summer

3.2 Site Preparation - 2019

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					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e-003		0.3672	0.3672		0.3378	0.3378	0.0000	965.1690	965.1690	0.3054		972.8032
Total	0.7195	8.9170	4.1407	9.7500e-003	0.2386	0.3672	0.6058	0.0258	0.3378	0.3636	0.0000	965.1690	965.1690	0.3054		972.8032

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	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291
Total	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291

OWSI Well Construction Run - Ventura County, Summer

3.3 Well Drilling - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4244	5.0539	3.5751	0.0107		0.2106	0.2106		0.1938	0.1938		1,059.7359	1,059.7359	0.3353		1,068.1181
Total	0.4244	5.0539	3.5751	0.0107		0.2106	0.2106		0.1938	0.1938		1,059.7359	1,059.7359	0.3353		1,068.1181

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	0.0204	0.5942	0.1530	1.3000e-003	0.0338	4.8000e-003	0.0386	9.7200e-003	4.6000e-003	0.0143		139.2777	139.2777	0.0117		139.5704
Worker	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291
Total	0.0597	0.6188	0.4562	2.1200e-003	0.1159	5.3900e-003	0.1213	0.0315	5.1500e-003	0.0367		221.2475	221.2475	0.0141		221.5995

OWSI Well Construction Run - Ventura County, Summer

3.3 Well Drilling - 2019

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	0.4244	5.0539	3.5751	0.0107		0.2106	0.2106		0.1938	0.1938	0.0000	1,059.7359	1,059.7359	0.3353		1,068.1181
Total	0.4244	5.0539	3.5751	0.0107		0.2106	0.2106		0.1938	0.1938	0.0000	1,059.7359	1,059.7359	0.3353		1,068.1181

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	0.0204	0.5942	0.1530	1.3000e-003	0.0338	4.8000e-003	0.0386	9.7200e-003	4.6000e-003	0.0143		139.2777	139.2777	0.0117		139.5704
Worker	0.0393	0.0246	0.3032	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		81.9698	81.9698	2.3700e-003		82.0291
Total	0.0597	0.6188	0.4562	2.1200e-003	0.1159	5.3900e-003	0.1213	0.0315	5.1500e-003	0.0367		221.2475	221.2475	0.0141		221.5995

OWSI Well Construction Run - Ventura County, Summer

3.4 Electrical/Pump Installation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569		1,127.6696	1,127.6696	0.3568		1,136.5892
Total	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569		1,127.6696	1,127.6696	0.3568		1,136.5892

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	4.0700e-003	0.1188	0.0306	2.6000e-004	6.7600e-003	9.6000e-004	7.7200e-003	1.9400e-003	9.2000e-004	2.8600e-003		27.8555	27.8555	2.3400e-003		27.9141
Worker	0.0118	7.3800e-003	0.0910	2.5000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		24.5909	24.5909	7.1000e-004		24.6087
Total	0.0159	0.1262	0.1216	5.1000e-004	0.0314	1.1400e-003	0.0325	8.4800e-003	1.0800e-003	9.5600e-003		52.4465	52.4465	3.0500e-003		52.5228

OWSI Well Construction Run - Ventura County, Summer

3.4 Electrical/Pump Installation - 2019

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	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569	0.0000	1,127.6696	1,127.6696	0.3568		1,136.5892
Total	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569	0.0000	1,127.6696	1,127.6696	0.3568		1,136.5892

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	4.0700e-003	0.1188	0.0306	2.6000e-004	6.7600e-003	9.6000e-004	7.7200e-003	1.9400e-003	9.2000e-004	2.8600e-003		27.8555	27.8555	2.3400e-003		27.9141
Worker	0.0118	7.3800e-003	0.0910	2.5000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		24.5909	24.5909	7.1000e-004		24.6087
Total	0.0159	0.1262	0.1216	5.1000e-004	0.0314	1.1400e-003	0.0325	8.4800e-003	1.0800e-003	9.5600e-003		52.4465	52.4465	3.0500e-003		52.5228

4.0 Operational Detail - Mobile

OWSI Well Construction Run - Ventura County, Summer

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.1000e-004	4.2000e-004	1.3500e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004		0.4492	0.4492	2.0000e-005		0.4497
Unmitigated	1.1000e-004	4.2000e-004	1.3500e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004		0.4492	0.4492	2.0000e-005		0.4497

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.06	0.01	0.01	138	138
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.06	0.01	0.01	138	138

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

OWSI Well Construction Run - Ventura County, Summer

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.577012	0.042942	0.189872	0.117495	0.021422	0.006664	0.019052	0.017336	0.001134	0.000976	0.004002	0.000371	0.001721
Other Asphalt Surfaces	0.577012	0.042942	0.189872	0.117495	0.021422	0.006664	0.019052	0.017336	0.001134	0.000976	0.004002	0.000371	0.001721

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	1.0000e-005	5.0000e-005	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		0.0606	0.0606	0.0000	0.0000	0.0610
NaturalGas Unmitigated	1.0000e-005	5.0000e-005	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		0.0606	0.0606	0.0000	0.0000	0.0610

OWSI Well Construction Run - Ventura County, Summer

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.515342	1.0000e-005	5.0000e-005	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		0.0606	0.0606	0.0000	0.0000	0.0610
Other Asphalt Surfaces	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		1.0000e-005	5.0000e-005	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		0.0606	0.0606	0.0000	0.0000	0.0610

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.000515342	1.0000e-005	5.0000e-005	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		0.0606	0.0606	0.0000	0.0000	0.0610
Other Asphalt Surfaces	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		1.0000e-005	5.0000e-005	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		0.0606	0.0606	0.0000	0.0000	0.0610

6.0 Area Detail

6.1 Mitigation Measures Area

OWSI Well Construction Run - Ventura County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.6300e-003	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.7300e-003	1.7300e-003	0.0000		1.8500e-003
Unmitigated	4.6300e-003	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.7300e-003	1.7300e-003	0.0000		1.8500e-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	1.5700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.9900e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.0000e-005	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.7300e-003	1.7300e-003	0.0000		1.8500e-003
Total	4.6400e-003	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.7300e-003	1.7300e-003	0.0000		1.8500e-003

OWSI Well Construction Run - Ventura County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.9900e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.0000e-005	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.7300e-003	1.7300e-003	0.0000		1.8500e-003
Total	4.6400e-003	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.7300e-003	1.7300e-003	0.0000		1.8500e-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

OWSI Well Construction Run - Ventura County, Summer

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

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

Equipment Type	Number
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11.0 Vegetation

OWSI Well Construction Run - Ventura County, Winter

**OWSI Well Construction Run
Ventura County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.01	1000sqft	0.00	9.00	0
Other Asphalt Surfaces	7.90	1000sqft	0.18	7,900.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

OWSI Well Construction Run - Ventura County, Winter

Project Characteristics -

Land Use - Well is set in a 3x3 ft concrete slab (general light industrial), with a 50 foot buffer surrounding it for disturbance area (other asphalt surfaces)

Construction Phase - Site preparation accounts for clearing and mobilization; Trenching was used to account for the well drilling, which would occur 7 days a week for up to 3 consecutive weeks or until well depth is reached; Building construction phase was used to account for electrical and pump installation for a new well which would take up to 2 weeks.

Off-road Equipment -

Off-road Equipment - Per client information

Off-road Equipment -

Trips and VMT - Per client information

Construction Off-road Equipment Mitigation - Per VCACPD Rule 55

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1.00	20.00
tblConstructionPhase	NumDays	100.00	10.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	PhaseEndDate	4/17/2019	5/19/2019
tblConstructionPhase	PhaseEndDate	4/15/2019	4/26/2019
tblConstructionPhase	PhaseStartDate	4/16/2019	4/29/2019
tblConstructionPhase	PhaseStartDate	4/13/2019	4/1/2019
tblOffRoadEquipment	HorsePower	221.00	247.00
tblOffRoadEquipment	LoadFactor	0.50	0.40
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripNumber	5.00	10.00
tblTripsAndVMT	WorkerTripNumber	13.00	10.00

2.0 Emissions Summary

OWSI Well Construction Run - Ventura County, Winter

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.9752	9.9485	7.6667	0.0128	0.6124	0.6065	0.9802	0.0790	0.5581	0.5665	0.0000	1,273.693 4	1,273.693 4	0.3600	0.0000	1,282.445 7
Maximum	0.9752	9.9485	7.6667	0.0128	0.6124	0.6065	0.9802	0.0790	0.5581	0.5665	0.0000	1,273.693 4	1,273.693 4	0.3600	0.0000	1,282.445 7

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					
2019	0.9752	9.9485	7.6667	0.0128	0.3208	0.6065	0.6886	0.0476	0.5581	0.5665	0.0000	1,273.693 4	1,273.693 4	0.3600	0.0000	1,282.445 7
Maximum	0.9752	9.9485	7.6667	0.0128	0.3208	0.6065	0.6886	0.0476	0.5581	0.5665	0.0000	1,273.693 4	1,273.693 4	0.3600	0.0000	1,282.445 7

OWSI Well Construction Run - Ventura County, Winter

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	4.6300e-003	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.7300e-003	1.7300e-003	0.0000		1.8500e-003
Energy	1.0000e-005	5.0000e-005	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		0.0606	0.0606	0.0000	0.0000	0.0610
Mobile	1.0000e-004	4.5000e-004	1.3600e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004		0.4305	0.4305	2.0000e-005		0.4310
Total	4.7400e-003	5.1000e-004	2.2100e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004		0.4929	0.4929	2.0000e-005	0.0000	0.4939

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	4.6300e-003	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.7300e-003	1.7300e-003	0.0000		1.8500e-003
Energy	1.0000e-005	5.0000e-005	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		0.0606	0.0606	0.0000	0.0000	0.0610
Mobile	1.0000e-004	4.5000e-004	1.3600e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004		0.4305	0.4305	2.0000e-005		0.4310
Total	4.7400e-003	5.1000e-004	2.2100e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004		0.4929	0.4929	2.0000e-005	0.0000	0.4939

OWSI Well Construction Run - Ventura County, Winter

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

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/1/2019	4/26/2019	5	20	
2	Well Drilling	Trenching	4/29/2019	5/19/2019	7	21	
3	Electrical/Pump Installation	Building Construction	5/20/2019	5/31/2019	5	10	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.18

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

OffRoad Equipment

OWSI Well Construction Run - Ventura County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Electrical/Pump Installation	Cranes	1	4.00	231	0.29
Electrical/Pump Installation	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Electrical/Pump Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Well Drilling	Generator Sets	1		84	0.74
Well Drilling	Off-Highway Trucks	2		402	0.38
Well Drilling	Bore/Drill Rigs	1	8.00	247	0.40
Well Drilling	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	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
Electrical/Pump Installation	5	3.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Well Drilling	5	10.00	5.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

OWSI Well Construction Run - Ventura County, Winter

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e-003		0.3672	0.3672		0.3378	0.3378		965.1690	965.1690	0.3054		972.8032
Total	0.7195	8.9170	4.1407	9.7500e-003	0.5303	0.3672	0.8975	0.0573	0.3378	0.3951		965.1690	965.1690	0.3054		972.8032

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	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593
Total	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593

OWSI Well Construction Run - Ventura County, Winter

3.2 Site Preparation - 2019

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					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e-003		0.3672	0.3672		0.3378	0.3378	0.0000	965.1690	965.1690	0.3054		972.8032
Total	0.7195	8.9170	4.1407	9.7500e-003	0.2386	0.3672	0.6058	0.0258	0.3378	0.3636	0.0000	965.1690	965.1690	0.3054		972.8032

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	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593
Total	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593

OWSI Well Construction Run - Ventura County, Winter

3.3 Well Drilling - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4244	5.0539	3.5751	0.0107		0.2106	0.2106		0.1938	0.1938		1,059.7359	1,059.7359	0.3353		1,068.1181
Total	0.4244	5.0539	3.5751	0.0107		0.2106	0.2106		0.1938	0.1938		1,059.7359	1,059.7359	0.3353		1,068.1181

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	0.0215	0.5960	0.1726	1.2700e-003	0.0338	4.9300e-003	0.0387	9.7200e-003	4.7100e-003	0.0144		135.9558	135.9558	0.0125		136.2683
Worker	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593
Total	0.0660	0.6248	0.4694	2.0500e-003	0.1159	5.5200e-003	0.1215	0.0315	5.2600e-003	0.0368		213.9576	213.9576	0.0148		214.3276

OWSI Well Construction Run - Ventura County, Winter

3.3 Well Drilling - 2019

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	0.4244	5.0539	3.5751	0.0107		0.2106	0.2106		0.1938	0.1938	0.0000	1,059.7359	1,059.7359	0.3353		1,068.1181
Total	0.4244	5.0539	3.5751	0.0107		0.2106	0.2106		0.1938	0.1938	0.0000	1,059.7359	1,059.7359	0.3353		1,068.1181

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	0.0215	0.5960	0.1726	1.2700e-003	0.0338	4.9300e-003	0.0387	9.7200e-003	4.7100e-003	0.0144		135.9558	135.9558	0.0125		136.2683
Worker	0.0445	0.0288	0.2968	7.8000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.5000e-004	0.0223		78.0018	78.0018	2.3000e-003		78.0593
Total	0.0660	0.6248	0.4694	2.0500e-003	0.1159	5.5200e-003	0.1215	0.0315	5.2600e-003	0.0368		213.9576	213.9576	0.0148		214.3276

OWSI Well Construction Run - Ventura County, Winter

3.4 Electrical/Pump Installation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569		1,127.6696	1,127.6696	0.3568		1,136.5892
Total	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569		1,127.6696	1,127.6696	0.3568		1,136.5892

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	4.2900e-003	0.1192	0.0345	2.5000e-004	6.7600e-003	9.9000e-004	7.7400e-003	1.9400e-003	9.4000e-004	2.8900e-003		27.1912	27.1912	2.5000e-003		27.2537
Worker	0.0134	8.6500e-003	0.0891	2.4000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		23.4005	23.4005	6.9000e-004		23.4178
Total	0.0177	0.1278	0.1236	4.9000e-004	0.0314	1.1700e-003	0.0326	8.4800e-003	1.1000e-003	9.5900e-003		50.5917	50.5917	3.1900e-003		50.6714

OWSI Well Construction Run - Ventura County, Winter

3.4 Electrical/Pump Installation - 2019

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	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569	0.0000	1,127.6696	1,127.6696	0.3568		1,136.5892
Total	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569	0.0000	1,127.6696	1,127.6696	0.3568		1,136.5892

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	4.2900e-003	0.1192	0.0345	2.5000e-004	6.7600e-003	9.9000e-004	7.7400e-003	1.9400e-003	9.4000e-004	2.8900e-003		27.1912	27.1912	2.5000e-003		27.2537
Worker	0.0134	8.6500e-003	0.0891	2.4000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		23.4005	23.4005	6.9000e-004		23.4178
Total	0.0177	0.1278	0.1236	4.9000e-004	0.0314	1.1700e-003	0.0326	8.4800e-003	1.1000e-003	9.5900e-003		50.5917	50.5917	3.1900e-003		50.6714

4.0 Operational Detail - Mobile

OWSI Well Construction Run - Ventura County, Winter

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-004	4.5000e-004	1.3600e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004		0.4305	0.4305	2.0000e-005		0.4310
Unmitigated	1.0000e-004	4.5000e-004	1.3600e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004		0.4305	0.4305	2.0000e-005		0.4310

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.06	0.01	0.01	138	138
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.06	0.01	0.01	138	138

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

OWSI Well Construction Run - Ventura County, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.577012	0.042942	0.189872	0.117495	0.021422	0.006664	0.019052	0.017336	0.001134	0.000976	0.004002	0.000371	0.001721
Other Asphalt Surfaces	0.577012	0.042942	0.189872	0.117495	0.021422	0.006664	0.019052	0.017336	0.001134	0.000976	0.004002	0.000371	0.001721

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
NaturalGas Mitigated	1.0000e-005	5.0000e-005	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		0.0606	0.0606	0.0000	0.0000	0.0610
NaturalGas Unmitigated	1.0000e-005	5.0000e-005	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		0.0606	0.0606	0.0000	0.0000	0.0610

OWSI Well Construction Run - Ventura County, Winter

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.515342	1.0000e-005	5.0000e-005	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		0.0606	0.0606	0.0000	0.0000	0.0610
Other Asphalt Surfaces	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		1.0000e-005	5.0000e-005	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		0.0606	0.0606	0.0000	0.0000	0.0610

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.000515342	1.0000e-005	5.0000e-005	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		0.0606	0.0606	0.0000	0.0000	0.0610
Other Asphalt Surfaces	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		1.0000e-005	5.0000e-005	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		0.0606	0.0606	0.0000	0.0000	0.0610

6.0 Area Detail

6.1 Mitigation Measures Area

OWSI Well Construction Run - Ventura County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.6300e-003	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.7300e-003	1.7300e-003	0.0000		1.8500e-003
Unmitigated	4.6300e-003	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.7300e-003	1.7300e-003	0.0000		1.8500e-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	1.5700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.9900e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.0000e-005	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.7300e-003	1.7300e-003	0.0000		1.8500e-003
Total	4.6400e-003	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.7300e-003	1.7300e-003	0.0000		1.8500e-003

OWSI Well Construction Run - Ventura County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.9900e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.0000e-005	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.7300e-003	1.7300e-003	0.0000		1.8500e-003
Total	4.6400e-003	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.7300e-003	1.7300e-003	0.0000		1.8500e-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
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

OWSI Well Construction Run - Ventura County, Winter

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

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

Equipment Type	Number
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11.0 Vegetation

Appendix B

Biological Resources Assessment



Rincon Consultants, Inc.

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January 28, 2019
Project No: 18-06232

Julia Aranda
Engineering Manager
Casitas Municipal Water District
1055 Ventura Ave
Oak View, CA 93022
Via email: jaranda@casitaswater.com

Subject: Casitas Municipal Water District Ojai Water System Improvements Project Biological Resources Assessment

Dear Ms. Aranda:

Rincon Consultants, Inc. (Rincon) prepared this Biological Resources Assessment (BRA) to provide the Casitas Municipal Water District (CMWD) with an assessment of the potential impacts to biological resources associated with implementation of the Ojai Water System Improvements Project (project). This report documents the existing conditions of the project site and evaluates the potential for impacts to species, sensitive communities, potential jurisdictional waters (including San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek), wildlife movement near the proposed project, and locally protected resources such as native trees. The biological evaluation provided here includes the results of a background literature review and site visit conducted by Rincon on November 13, 2018, to document current site conditions.

Project Location and Description

The proposed project includes the potable water distribution system service area for the City of Ojai (Ojai) in western Ventura County. This system serves an unincorporated area east of Ojai and a small portion of the unincorporated Meiners Oaks community west of Ojai. Ojai is located approximately 15 miles inland from the City of Ventura and is bounded generally by San Antonio Creek to the east and south, State Route (SR) 33 to the west, and the Topa Topa Mountains to the north.

The Ojai Water System Improvements Project (proposed project) primarily involves the replacement of pipeline segments which are undersized and approaching the end of their service life. The general purpose of the proposed project is to improve fire flow and replace aging mains, not to increase pipeline capacity to serve additional customers. The proposed project would replace approximately eight miles of pipeline segments throughout the Ojai system service area. Additionally, the proposed project includes plans to rehabilitate two tanks, demolish three existing tanks, and construct up to one new tank; rehabilitate one booster pump station, upgrade an additional pump station, demolish and construct two new pump stations, and abandon one pump station; and rehabilitate or replace six active wells in the Ojai system. The proposed project also includes potential construction of a new well in the Ojai system. Tank, pump stations, and well rehabilitation would involve replacing existing infrastructure in kind, or with similar capacity infrastructure. Booster pump station upgrades would occur at the



Heidelberger pump station and involve activities similar to pump rehabilitation, such as replacement of existing pumps, but also include installation of an additional pump.

The proposed project would replace approximately 42,000 linear feet (LF) of potable water pipeline within public rights-of-way in Ojai and surrounding unincorporated areas of Ventura County (Figures 1, 2, 3, and 4) The majority of the pipeline replacement would be in Ojai, with approximately 0.5 mile of pipeline repairs and replacement extending into unincorporated Ventura County. The new pipeline would only replace and rehabilitate existing infrastructure in kind to ensure effective use, and therefore is proposed within previously developed infrastructure.

Pipeline replacement will typically be constructed using open-cut trenching. In the event trenchless methods are required, construction may include pipe bursting, jack and bore, and horizontal directional drilling if preliminary design shows utility conflicts, significant traffic control requirements, or other issues with the potential to interfere with trenching activities. Pipelines would typically be eight to twelve inches in diameter and would require a three-foot wide trench in which to work and place the pipe. Trenches would generally be no more than five feet deep.

In addition to pipeline improvements, the proposed project would also involve demolition, replacement, or improvements to five existing water storage tanks, six existing wells, and four existing pump stations. The project would also involve abandonment of an additional pump station, and may involve construction of an additional well. The project footprint includes the pipeline segment, wells, pump stations, and tanks that are proposed for construction, rehabilitation, or demolition. This analysis assumes that the sites for the new tank and new booster pump station would be similar to the sites for other existing tanks and pump stations and would not contain sensitive biological resources. Depending on the characteristics of the chosen sites, additional CEQA documentation may be required.

Tank construction would require over-excavation to create a suitable pad for the tank and depends on the underlying soil conditions. No more than five feet of over-excavation is anticipated, but this would be confirmed with geotechnical investigation during the project design phase. The diameter of the excavation depends on the size of the tank. Tank piping would be installed underground, with trench depth expected to be less than five feet. Tank construction would require an excavator, wheeled loader, dump truck, crane, water truck, and vibrating compactor. Pipe, fittings and appurtenances, sand for tank bedding, steel tank plates, electrical equipment, concrete for the tank foundation and drainage improvements, and asphalt paving materials would be required for tank construction. Materials would be delivered in phases as needed for construction. An estimated ten material deliveries would occur per day during construction.

The duration of construction would depend on the size of the tank and the site conditions. Assuming an undeveloped parcel, site mobilization and clearing would take approximately four weeks. Excavation and grading would last approximately eight weeks. Underground pipeline construction would take approximately eight weeks. Tank erection, including coating, would require approximately eight weeks. Electrical and instrumentation would last approximately four weeks. Site improvements, such as paving and drainage, would take approximately four weeks, and final testing and acceptance would take an additional approximately four weeks. The total time required for tank construction and testing would be approximately 40 weeks.

Tank rehabilitation may include interior and exterior recoating of the tank, replacing ladders and fall protection equipment, installing cathodic protection, and installing seismic anchors. The tank will have to be empty to facilitate the work. Providing water to customers affected by the temporary loss of tank storage during rehabilitation includes installation of temporary storage tanks and piping. Construction



equipment would typically include work trucks, sand blasting equipment if the existing coating is to be removed, spray equipment for coating application, and pile driving equipment for seismic anchors. Depending on the size of the tank, rehabilitation may take two to three months per tank. Tank rehabilitation usually occurs during the winter when water demands are low.

Demolition of bolted steel tanks includes removal of the roof, then the bolts holding each wall panel in place, followed by removal of the panels from the top down. Scaffolding would be used to support workers and a crane would be used to remove each panel. The panels may be cut into smaller sections to facilitate removal from the site. Aboveground piping would be removed. The concrete foundation, if removed, would be broken up using a jackhammer. Below-grade piping would be severed and be abandoned in place. Depending on the size of the tank, demolition would occur over approximately one to two months.

Demolition of a pump station includes removal of pumps, motors, and electrical and other above-grade equipment. Above-grade piping would be removed to approximately three feet below grade and remaining below-grade piping would be abandoned in place. The site would then be graded to a uniform grade. Typical construction equipment would include: a crane to remove pumps, motors, and large electrical equipment, such as a backhoe to excavate pipe, a grader to restore the site, and typical work trucks for construction workers. Pump station demolition would take one to two months.

A new pump station includes site grading, underground and aboveground piping, concrete pads for pumps, piping, and electrical equipment, electrical service from Southern California Edison, installation of pumps, motors and electrical equipment, minor site improvements such as fencing and awnings over equipment, and start-up and testing. Typical construction equipment includes an excavator, grader, crane, and standard work trucks. Depending on the size, pump station construction may take two to three months per station.

Typical pump station rehabilitation includes replacement of pumps nearing the end of their useful life or which have lost efficiency, replacing electrical equipment, upgrading lighting fixtures, recoating aboveground piping, seismic anchoring, and minor site improvements such as fencing. Construction equipment includes work trucks and a crane to install pumps and/or electrical cabinets. Overall pump station rehabilitation would take approximately one to two months per site.

Methodology

Rincon conducted an analysis of the proposed project site to determine if any sensitive biological resources are present that could potentially be impacted by the proposed project. The analysis consisted of a review of relevant background literature, a query of resource agency databases, and a biological reconnaissance survey. The methods used in the literature review and field surveys are provided below.

Literature Review

The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPAC) system (USFWS 2018a) and Critical Habitat Portal (USFWS 2018b) as well as the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) (CDFW 2018) were queried to establish a list of special-status species potentially occurring on the project site. The online Inventory of Rare Endangered Vascular Plants of California, California Native Plant Society (CNPS 2018) was reviewed.



The results of these queries were used to determine whether any special-status-species, habitats, or jurisdictional waters are known to occur on or adjacent to the project site. Observations are reported within a five-mile radius surrounding the project. The USFWS National Wetlands Inventory (NWI) Wetlands Mapper (USFWS 2018c) was utilized to determine wetland resources in the project area, and the Natural Resources Conservation Service Web Soil Survey (United States Department of Agriculture [USDA], Natural Resources Conservation Service [NRCS], 2018) was queried to determine soil map units in the project area.

Field Reconnaissance Survey

A biological reconnaissance survey was conducted by Rincon biologists, Lindsay Griffin and Danielle Yaconelli, on November 13, 2018, between the hours of 0900-1200. The Biological Study Area (BSA) included the pipeline segments, wells, pump stations, and tanks associated with the project and a 50-foot buffer on both sides of the project footprint (Figures 5, 6, 7, and 8). The survey focused on special-status plant and wildlife species, including an assessment of the potential for special-status species and/or their habitat to occur. During the survey, Ms. Griffin and Ms. Yaconelli noted general site characteristics, documented vegetation, and took representative photographs of the project site.

Existing Conditions

Prior to the establishment of Ojai, the land was dominated by oak woodland habitat. Presently, land uses in and around the BSA are predominantly residential with some commercial, mixed use, and public facilities zoning. The project footprint occurs primarily in roadways and public rights-of-way.

For the purposes of this analysis, the project footprint and associated BSA were divided into four units. Unit A includes the eastern-most edge of the project footprint between San Antonio Creek west to Fox Canyon Barranca (Figure 5). Unit B refers to the middle-north section of the project footprint, generally west of Fox Canyon Barranca and north of Aliso Street (Figure 6). Unit C refers to the middle-south section of the project footprint, west of Stewart Canyon Creek and Fox Canyon Barranca, north of San Antonio Creek, and south of East Ojai Avenue (Figure 7). Unit D refers to the section of the project footprint that is north of Cuyama Road, east of SR 33 (Figure 8).

Unit A

The BSA within Unit A includes developed residential and agricultural land, with the majority of the project footprint occurring along the developed public right-of-way on East Ojai Avenue and Grand Avenue. The proposed project components including the wells, tank, and pump station sites are located east and west of San Antonio Creek and occur within existing CMWD maintained facilities that are fenced-off from the general public. The project components occur on gravel or bare dirt surfaces within the existing developed facility. Several tall eucalyptus (*Eucalyptus* sp.) and coast live oak (*Quercus agrifolia*) trees surround the existing tank structures and both sides of the fence line of the facility. It appears that all herbaceous vegetation within and immediately surrounding the facility is mowed annually for fire clearance.

San Antonio Creek is an ephemeral creek that channels mostly storm flows and nuisance run-off from northeast to southwest through Unit A under Grand Avenue Bridge. The existing pipeline runs underground along the east and west side of Grand Avenue and daylights on Grand Avenue Bridge. The pipeline is suspended below the Grand Avenue Bridge above San Antonio Creek. Riverine habitat was



observed at San Antonio Creek between the top of bank. The remainder of the project footprint within Unit A occurs on the public right-of-way of paved streets in residential developed areas.

Unit B

The BSA within Unit B includes mostly residential development within developed oak woodland. A portion of the pipeline footprint, tank, and two pump stations occur within disturbed oak woodland habitat south of Fairview Road. The differences between developed oak woodland and disturbed oak woodland are discussed in the 'Vegetation' section below. The pipeline runs north underground along the shoulder of El Camino Road within the residential community. The pipeline continues north along the paved public right-of-way of El Camino Road until the road dead ends into a stand of disturbed oak woodland. The pipeline continues northwest underground for approximately 1,000 linear feet through disturbed oak woodland habitat. The pipeline alignment makes a sharp turn at Del Norte Road and proceeds north along paved public right-of-way within developed oak woodland. The portion of the pipe that occurs below ground within disturbed oak woodland habitat is within a private community, and not accessible via a paved road.

The wells, pump stations, and tank sites within Unit B are fenced-off sites that occur on developed land within residential communities on CMWD property. Wire fencing surrounds most of the sites, and tanks, pumps, and wells are situated on gravel or concrete pads. It appears that all herbaceous vegetation within and immediately surrounding the facility is mowed annually for fire clearance. Emergent coast live oak trees and other non-native ornamental trees line the paved roads within the adjacent residential development.

Fox Canyon Barranca, an ephemeral flood control channel, is located on the eastern limit of Unit B and channels storm water and nuisance run-off from the northeast to the southwest. This Barranca is located completely underground and outside of the BSA within this Unit.

Stewart Canyon Creek, an ephemeral creek, channels water from north to south through the middle of Unit B. Most of the creek occurs outside of the BSA. The creek becomes subsurface on the east side of the project footprint and continues south under Aliso Street. The proposed pipeline footprint runs underground along the public right-of-way along the west side of paved roadway. Therefore, the proposed pipeline improvements will not impact Stewart Canyon Creek.

Unit C

The BSA within Unit C includes mostly residential development; with portions of the project footprint occurring in a developed oak woodland. Fox Canyon Barranca channels storm water and nuisance run-off from the northeastern portion of the Unit to the southwest to a confluence with Stewart Canyon Creek in the middle of the Unit. Within Unit C, Fox Canyon Barranca channels water from Unit B, under East Ojai Avenue, and the barranca daylights on the southern side of East Ojai Avenue. The barranca channels water above ground as it continues in the southwesterly direction to the confluence with Stewart Canyon Creek.

Stewart Canyon Creek traverses the middle of the Unit from the north to the south and converges with Fox Canyon Barranca. The creek continues south and terminates at a confluence with San Antonio Creek.

With the exception of the portion of Fox Canyon Barranca that flows underground under East Ojai Avenue, both waterways occur outside of the BSA and project footprint.

Unit D



The BSA within Unit D includes mostly residential development. The portion of the project footprint that occurs within Unit D is located along an approximate 400 foot stretch of public right-of-way north of Cuyama Road. No water features are located within this Unit.

Topography and Soils

The BSA occurs between 600 to 1,500 feet above mean sea level (USGS Topographic Quadrangle Maps, Google Earth 2018). The USDA, Natural Resources Conservation Service (NRCS) Web Soil Survey delineates thirteen soil map units within the BSA. According to the NRCS Web Soil Survey, the BSA is dominated by sandy loam soil types (Figure 9). Sandy loam is generally characterized as ‘excessively drained’ (USDA 2017). The BSA specifically contains Anacapa gravelly sandy loam ([AnC]; 2 to 9 percent slopes), azule loam ([AuB]; 0 to 5 percent slopes), Cortina stony sandy loam ([CrC]; 2 to 9 percent slopes), Garretson gravelly loam ([GbC]; 2 to 9 percent slopes), Kimball sandy loam ([KmC2]; 2 to 9 percent slopes), Lodo rocky loam ([LkF]; 30 to 50 percent slopes), Ojai stony fine sand loam ([OsE2]; 15 to 30 percent slopes, eroded), Ojai stony fine sand loam ([OsD2]; 2 to 15 percent slopes, eroded), Ojai very fine sandy loam ([OhC2]; 2 to 9 percent slopes, eroded), Riverwash (RW), Salinas clay loam ([SaA]; 0 to 2 percent slopes), Sespe clay loam ([SoF]; 30 to 50 percent slopes), and Sorrento clay loam ([SzD]; 9 to 15 percent slopes).

Three of these soil map units including, Anacapa gravelly sandy loam, Cortina stony sandy loam, and Riverwash are designated as hydric soils in the Ventura Area (USDA, NRCS 2018).

Vegetation

Historically, Ojai was developed primarily within oak woodland habitat. Presently, the BSA is dominated by residential development situated around remnant oak trees. The project footprint is primarily located within paved, developed or disturbed areas that are devoid of vegetation (i.e., public rights-of-way). Numerous ornamental species are present throughout the BSA, reflecting Ojai’s current and historic use as residential, commercial, mixed use, and public facilities zoning. Examples of ornamental species observed include pepper tree (*Schinus molle*), Russian olive (*Elaeagnus angustifolia*), agave (*Agave* sp.), Japanese maple (*Acer palmatum*), oleander (*Nerium oleander*), and French lavender (*Lavandula stoechas*). Emergent coast live oak, valley oak (*Quercus lobata*), California sycamore (*Platanus racemosa*), and California black walnut (*Juglans californica*) were observed throughout the BSA. The emergent species were observed to be overhanging the project footprint. The majority of the understory is mowed annually for fuel clearance.

Within a small location of the BSA adjacent to San Antonio Creek (Unit A) coast live oak trees are codominant in the tree layer with California sycamore, willow (*Salix* sp.), and eucalyptus present. The shrub layer is dominated by laurel sumac (*Malosma laurina*). The herbaceous layer adjacent to the creek is dominated by non-native, invasive species such as smilo grass (*Stipa miliacea*), red brome (*Bromus madritensis*), and wild oats (*Avena fatua*). Within this unit, no vegetation was observed within the project footprint. Riverine vegetation was observed within San Antonio Creek that includes willow and non-natives such as castor bean (*Ricinus communis*) and tree tobacco (*Nicotiana glauca*).

An approximate 0.25-mile stretch within the western section of Unit B contains disturbed oak woodland. As with the developed oak woodland, developed parcels surround the project footprint. The project footprint in this location does not occur along developed public rights-of-way but is located within private properties that contain vegetation including coast live oak and valley oaks. The project footprint within the disturbed oak woodland is proposed to replace previously developed infrastructure in kind.



The majority of the project footprint occurs within previously developed areas or disturbed bare ground. Remnant coast live oak, valley oak, and California sycamore trees are outside of the project footprint, but the canopy driplines of these species may overhang the project footprint in some locations.

All vegetation observed during the field reconnaissance survey is listed in Attachment B.

Sensitive Plant Communities

The CNDDDB lists three sensitive plant communities in the nine quadrangles that surround the BSA (Attachment C). One of these communities, southern California steelhead stream, is present in the BSA (i.e. San Antonio Creek in Unit A). The other two communities, southern coast live oak riparian forest and southern sycamore alder riparian woodland, were not observed within the BSA.

General Wildlife

The BSA provides suitable habitat for wildlife species that commonly occur in semi-rural, residential areas. The wildlife species detected on site are common, widely distributed, and adapted to living in proximity to human development. Common avian species detected on or adjacent to the site include Anna's hummingbird (*Calypte anna*), California scrub-jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), acorn woodpecker (*Melanerpes formicivorus*), California quail (*Callipepla californica*), and house finch (*Haemorhous mexicanus*). Other wildlife species observed include western fence lizard (*Sceloporus occidentalis*), western brush rabbit (*Sylvilagus bachmani*), and California ground squirrel (*Otospermophilus beecheyi*).

Special-Status Species

Local, state, and federal agencies regulate special-status species and require an assessment of their presence, or potential presence, to be conducted on site, prior to the approval of any proposed development on a property. Assessments for the potential occurrence of special-status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDDB, species occurrence records from other sites near the survey area, and previous reports for the project site. The potential for each special-status species to occur in the survey area was evaluated according to the following criteria:

No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

Low Potential. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.

Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.



High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Present. Species is observed on the site or has been recorded (e.g., CNDDDB, other reports) on the site recently (within the last 5 years).

Attachment C provides a discussion of the special-status species, their habitat requirements, and species' occurrence potential in the BSA. A total of 54 special-status plant species have been recorded from the project region. Fourteen special-status wildlife species were listed in the CNDDDB and are known from the project region.

Special-Status Plants

A total of 54 special-status plant species have been recorded from the project region. No special-status plant species were observed within the BSA. Areas of oak woodland and chaparral observed within the BSA could provide suitable habitat for some special-status species [e.g. Douglas' fiddleneck (*Amsinckia douglasiana*), Plummer's baccharis (*Baccharis plummerae* ssp. *Plummerae*), Brewer's calandrinia (*Calandrinia breweri*), Catalina mariposa-lily (*Calochortus catalinae*), and others [see Attachment C, Table 2 for full list]] require habitat observed in the BSA (i.e. oak woodland). While elements of oak woodland were observed within the BSA, the habitat does not occur within the project footprint. No special-status plant species were found to have potential to occur within the project footprint due to lack of suitable habitat.

Special-Status Wildlife

Special-status wildlife species typically have specific habitat requirements that include vegetation communities, elevations, topography, and availability of primary constituent elements (i.e., space for individual and population growth, breeding, foraging, and shelter).

Fourteen special-status wildlife species were listed in the CNDDDB and are known from the project region. No special-status wildlife species were observed within the BSA during the field reconnaissance survey. Four special-status wildlife species were determined to have a low potential to occur in the BSA:

- Steelhead – Southern California DPS (*Oncorhynchus mykiss irideus*) – Federally endangered; State Species of Special Concern
- San Bernardino ringneck snake (*Diadophis punctatus modestus*) – State Special Animal
- Coast patch-nosed snake (*Salvadora hexalepis virgulata*) - State Species of Special Concern
- Hoary bat (*Lasiurus cinereus*) – State Special Animal

Below is a discussion of each special-status animal species and their potential to occur within the BSA.

Federal and State Listed and Fully Protected Species

Steelhead – Southern California Distinct Population Segment (DPS) (*Oncorhynchus mykiss irideus*) – Federally endangered; State Species of Special Concern: The Ventura River watershed is listed as critical habitat and a high priority watershed for the recovery of steelhead trout (*Oncorhynchus mykiss*, [*O. Mykiss*]). In 2012, seven *O. mykiss* from 45 to 51 centimeters (cm) in length were observed in 20 pools in the lower Ventura River between Foster Park and San Antonio Creek (Normandeau 2012). Below Matilija



Dam, southern California steelhead have access to the entire 16 miles of mainstem Ventura River, except during the summer and fall months of most years when six miles of channel below Robles Diversion Dam goes dry. At the bottom of the dry reach immediately upstream of San Antonio Creek, upwelling groundwater produces a consistent source of cooler water that provides over summering rearing habitat in the mainstem Ventura River for fry, juvenile and adult (resident) individuals. The southern California steelhead has potential to occur in the BSA. Suitable habitat occurs within San Antonio Creek for the species (Unit A and Unit C).

Special-Status Terrestrial Species and Protected Nesting Birds

San Bernardino ringneck snake (*Diadophis punctatus modestus*) – State Special Animal. San Bernardino ringneck snake has a low potential to occur in the BSA. The species is most common in open, relatively rocky areas and occurs often in moist microhabitats near intermittent streams. Elements of open, rocky areas was observed within the BSA adjacent to Heidelberger Tank within Unit B. Elements of moist microhabitats near intermittent streams were not observed within the BSA because all water features were dry at the time of the survey. Moist areas near intermittent streams could occur within the BSA adjacent to San Antonio Creek in Unit A and adjacent to the daylighted portions of Fox Canyon Barranca and Stewart Canyon Creek within Unit C. The species was observed in 2015 along Stewart Canyon Creek on the east side of South Ventura Street in oak and sycamore duff within a residential area (CNDDDB 2018).

Coast patch-nosed snake (*Salvadora hexalepis virgulata*) - State Species of Special Concern. The coast patch-nosed snake has a low potential to occur in the BSA. The species is most common in brushy or shrubby vegetation and requires small mammal burrows for refuge and overwintering. Elements of brushy or shrubby vegetation were observed within the BSA adjacent to San Antonio Creek in Unit A, within the BSA in disturbed oak woodland habitat located in Unit B, and adjacent to Fox Canyon Barranca and Stewart Canyon Creek within Unit C. The species has been observed in 2016 at the north end of Matilija Lake on the side of the Forest Route Road, approximately 0.25 mile southwest of SR-33 (CNDDDB 2018). This sighting was approximately 3.7 miles northwest of the BSA.

Hoary bat (*Lasiurus cinereus*) – State Special Animal. The hoary bat has a low potential to occur in the BSA. The species is most common in habitats with access to trees for cover and open areas or habitat edges for feeding. The hoary bat roosts in dense foliage of medium to large trees, feeds primarily on moths, and requires water. Medium to large trees and open areas or habitat edges occur within the BSA adjacent to San Antonio Creek in Unit A, within the developed and disturbed woodland in the BSA in Unit B, and adjacent to the BSA near Fox Canyon Barranca and Stewart Canyon Creek in Unit C.

California Fish and Game Code and Migratory Bird Treaty Act. In addition to the special-status wildlife species discussed above, several bird species protected by California Fish and Game Code (CFGC) 3503 and the Migratory Bird Treaty Act (MBTA) may also nest in trees and shrubs within the BSA. Native vegetation and trees are present in and surround the project footprint, which could provide suitable habitat for nesting birds. Several species of birds common to the area, that typically nest in the habitats found within the BSA, such as Anna's hummingbird, California scrub-jay, American crow, acorn woodpecker, California quail, and house finch were detected during the reconnaissance survey. Although no raptor nests were detected during focused surveys, any of the larger trees within the BSA could be utilized by raptors for nesting.



Jurisdictional Waters and Wetlands

The BSA is located in the Ventura River watershed. As stated above, San Antonio Creek flows from northeast to southwest through Unit A and flows under Grand Avenue Bridge, within the BSA. The creek continues in the southwesterly direction, outside of the BSA. The creek was dry during the survey conducted on November 13, 2018, and naturally-lined with silt, sand, rocks, and boulders within the streambed. As mentioned previously, San Antonio Creek is an ephemeral creek that ultimately terminates at its confluence with Ventura River. San Antonio Creek is subject to the jurisdiction of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW. San Antonio Creek is a tributary to the Ventura River. The Ventura River is a relatively permanent water (RPW) because it contains flows for at least 3 months out of most years and connects to the Pacific Ocean, a traditional navigable water (TNW). San Antonio Creek is located outside of the project footprint because the pipeline will be suspended above the creek under the Grand Avenue Bridge. The project footprint is located outside the top of bank. No construction equipment is proposed within San Antonio Creek.

Fox Canyon Barranca is a flood control channel that transverses through Ojai from north to south. The barranca is subsurface west of the BSA in Unit B and continues underground until the barranca daylights approximately 30 feet south of the project footprint at Grand Avenue (Unit A, Figure 5). The exposed barranca is a concrete-lined flood control channel that is devoid of vegetation. The barranca continues south from Grand Avenue until it transitions underground at Ojai Avenue, approximately 60 feet north of the project footprint. The barranca daylights approximately 30 feet south of Ojai Avenue. From Ojai Avenue to approximately 0.25 mile south, the barranca is concrete-lined until it becomes a naturally lined creek-bed surrounded by native riparian vegetation. The barranca continues southwest until it converges with Stewart Canyon Creek, located outside of the BSA (Unit C, Figure 7). Stewart Canyon Creek terminates at its confluence with San Antonio Creek. Fox Canyon Barranca is jurisdictional because it has a direct hydrologic surface connection to Stewart Canyon Creek, which has a direct hydrologic surface connection to San Antonio Creek. As stated before, San Antonio Creek is a tributary to the Ventura River, a RPW. Fox Canyon Barranca is located within the BSA, and outside of the project footprint.

Stewart Canyon Creek transverses Ojai from north to south, from the mountains to San Antonio Creek (Unit A, Figure 5). The creek is mostly subsurface until it daylights approximately 250 feet south of East Ojai Avenue when it becomes a concrete-lined channel devoid of vegetation. From there, it flows in a southerly direction until it becomes a naturally-lined channel, approximately 900 feet south of Ojai Avenue. The segment of naturalized creek is surrounded by native vegetation, including coast live oak and California sycamore trees. Stewart Canyon Creek is jurisdictional because it converges with San Antonio Creek approximately 0.5 mile south of East Ojai Avenue. Stewart Canyon Creek has a direct hydrologic surface connection to San Antonio Creek, a tributary to the Ventura River, a RPW. Stewart Canyon Creek is located within the BSA, and outside of the project footprint.

San Antonio Creek, Stewart Canyon Creek, and Fox Canyon Barranca are subject to the jurisdiction of the USACE, RWQCB, and CDFW because each feature has a hydrologic surface connection to the Ventura River, a RPW.

Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations.



Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats in the link do not necessarily need to be the same as the habitats that are being linked. Rather, the link merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically, habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending upon the species using a corridor, specific physical resources (e.g., rock outcroppings, vernal pools, or oak trees) may need to be located in the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

Wildlife movement corridors can be both large- and small-scale. Regionally, the northern portion of the BSA occurs within an Essential Connectivity Area (ECA) as mapped in the report, *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California* (2010). ECAs represent principle connections between Natural Landscape Blocks. ECAs are regions in which land conservation and management actions should be prioritized to maintain and enhance ecological connectivity. ECAs are mapped based on coarse ecological condition indicators, rather than the needs of particular species and thus serve the majority of species in each region. Small scale habitat corridors are also present within the BSA and include drainages and other topographic features that facilitate movement such as San Antonio Creek, Stewart Canyon Creek, and Fox Canyon Barranca. The Ventura River also provides a means to facilitate regional connectivity for a number of species including, but not limited to the steelhead – Southern California DPS, California red-legged frogs and southern western pond turtle.

San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek intersect the BSA and could act as movement corridors for wildlife species. Fully developed properties are present adjacent to the BSA for Fox Canyon Barranca and Stewart Canyon Creek and common wildlife adapted to urban and suburban areas (e.g., raccoon [*Procyon lotor*] and striped skunk [*Mephitis mephitis*]) could use the concrete-lined ephemeral drainages for local movement. Wildlife species could also use the riverine habitat of San Antonio Creek for local movement. The proposed project would not modify any of these features, nor substantially increase the level of disturbance beyond that which is present under ambient conditions.

The northern-most tank (Heidelberger Tank) and the two tanks north-west of Fairview Road (Running Ridge Tanks) (Unit B, Figure 6) are located within the ECA at the boundary of the corridor and developed portions of Ojai. The ECA lies north of the city of Ojai. The ECA surrounds the entire northern section of Ojai and is approximately ten miles across to the north of the city. The tanks are located between developed city and the ECA; the developed tank is approximately 50 feet in diameter. The tanks are located on the boundary of the ECA and do not limit wildlife movement between wildlife habitat because there is approximately 10 miles of ECA around the tank for wildlife movement. The proposed project would not increase the level of disturbance beyond that which is present under ambient conditions at this location.

Local Policies and Ordinances

Ventura County



Protected trees are defined by the County Municipal Code (County 2018) as Historical, Heritage, Oak, Sycamore (collectively referred to as “Protected Trees”), denoted by their species or diameter at breast height (DBH; also known as “caliper”) as follows:

- “Heritage tree” is considered any species of tree with a single trunk of ninety (90) or more inches in girth or with multiple trunks, two of which collectively measure seventy-two (72) inches in girth or more. In addition, species with naturally thin trunks when full grown (such as Washington Palms), species with naturally large trunks at an early age (such as some date palms), or trees with unnaturally enlarged trunks due to injury or disease (e.g., burls and galls) must be at least sixty feet tall or 75 years old to be considered as a heritage tree.
- “Historical tree” is any tree or group of trees identified by the County or a city as a landmark or identified on the Federal or California Historic Resources Inventory to be of historical or cultural significance, or identified as contributing to a site or structure of historical or cultural significance.
- “Oak tree” shall mean any species of tree of the genus *Quercus* with minimum girth of 9.5 inches for a single-trunk tree and 6.25 inches for a multiple-trunk tree.
- “Sycamore tree” shall mean the species *Platanus racemose* with a minimum of 9.5-inch girth trunk.

Per the County Code, no person shall alter, fell, or remove a Protected Tree except in accordance with the provisions of Section 8107-25 et seq. If tree alteration, felling, or removal is part of a project requiring a discretionary permit, then the tree permit application and approval process should accompany the parent project discretionary permit. (Sec. 8107-25.3). This ordinance, which applies in the unincorporated areas of the County outside the coastal zone, regulates—through a tree permit program—the removal, trimming of branches or roots, or grading or excavating within the root zone of a “protected tree.” Individual trees are the focus of the ordinance, while oak woodlands are additionally protected as “locally important communities.” The ordinance allows removal of five protected trees (only three of which can be oaks or sycamores; none of which can be heritage or historical trees) through a ministerial permit process. Removal of more/other than this may trigger a discretionary tree permit.

Coast live oak trees, valley oak trees, sycamore trees, and potential heritage trees were observed within the BSA in Units A, B, C, and D.

Ventura County General Plan

The Ventura County General Plan contains policies which also strongly protect wetland habitats.

Biological Resources Policy 1.5.2-3 states:

- Discretionary development that is proposed to be located within 300 feet of a marsh, small wash, intermittent lake, intermittent stream, spring, or perennial stream (as identified on the latest USGS 7½ minute quad map), shall be evaluated by a County approved biologist for potential impacts on wetland habitats. Discretionary development that would have a significant impact on significant wetland habitats shall be prohibited, unless mitigation measures are adopted that would reduce the impact to a less than significant level; or for lands designated “Urban” or “Existing Community”, a statement of overriding considerations is adopted by the decision-making body.

Biological Resources Policy 1.5.2-4 states:

- Discretionary development shall be sited a minimum of 100 feet from significant wetland habitats to mitigate the potential impacts on said habitats. Buffer areas may be increased or decreased upon



evaluation and recommendation by a qualified biologist and approval by the decision-making body. Factors to be used in determining adjustment of the 100-foot buffer include soil type, slope stability, drainage patterns, presence or absence of endangered, threatened or rare plants or animals, and compatibility of the proposed development with the wildlife use of the wetland habitat area. The requirement of a buffer (setback) shall not preclude the use of replacement as a mitigation when there is no other feasible alternative to allowing a permitted use, and if the replacement results in no net loss of wetland habitat. Such replacement shall be "in kind" (i.e. same type and acreage) and provide wetland habitat of comparable biological value. On-site replacement shall be preferred wherever possible. The replacement plan shall be developed in consultation with California Department of Fish and Game.

San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek (jurisdictional water features described above) were located within the BSA in Units A, B, and C.

Wildlife Migration Regulations

The Ventura County General Plan (County 2016) specifically includes wildlife migration corridors as an element of the region's significant biological resources. In addition, protecting habitat connectivity is critical to the success of special-status species and other biological resource protections. Potential project impacts to wildlife migration are analyzed by biologists on a case-by-case basis. The issue involves both a macro-scale analysis—where routes used by large carnivores connecting very large core habitat areas may be impacted—as well as a micro-scale analysis—where a road or stream crossing may impact localized movement by many different animals.

The northern-most tank (Heidelberger Tank) and the two tanks north-west of Fairview Road (Running Ridge Tanks) (Unit B, Figure 6) are located within the ECA at the boundary of the corridor and developed portions of Ojai.

The Ventura County General Plan also identifies locally important species as significant biological resources to be protected from incompatible land uses and development.

City of Ojai

The Ojai Municipal Code (Ojai 2018) contains policies which strongly protect sensitive habitats.

Ojai Municipal Code Sec. 4-11.01 states:

- Oak, sycamore, heritage and other mature trees as significant historical, aesthetic and ecological resources and to create favorable conditions for the preservation and propagation of this unique irreplaceable plant heritage for the benefit of current and future residents of the City. It is the intent of this chapter to recognize the special value of tree species that are native to the City because they are especially adapted to the local environment, provide important wildlife habitat and contribute to the goals of a sustainable community. An equally important goal of this chapter is to maintain and enhance the public health, safety and welfare through the mitigation of soil erosion and air pollution. In addition, this chapter is designed to preserve and enhance property values by enhancing the distinctive and unique aesthetic character of many areas of the City in which oak, sycamore, heritage and other mature trees live.
- Except as otherwise set forth herein, a permit shall be required when any person wishes to:
 - a) Remove, cut down, destroy or relocate an oak or a sycamore, heritage or mature tree;



- b) Trench, grade, fill, compact or place construction material of any type in the drip line of an oak or a sycamore, mature or heritage tree;
- c) Prune live limbs over four (4") inches in diameter of an oak or a sycamore or heritage tree;
- d) Remove more than twenty-five (25%) percent of the canopy of an oak, sycamore, heritage or mature tree.

Ojai Municipal Code Sec. 4-11.06 states:

- Applications for a permit to remove, destroy or relocate an oak or a sycamore, mature or heritage tree shall be accompanied by a report to be prepared by an arborist certified by the International Society of Arboriculture ("ISA") at the applicant's expense.
- Applications for a permit involving grading, trenching, filling or placing materials in the drip line of a tree shall be accompanied by a report prepared by an ISA-certified arborist pursuant to Section 4-11.04 or deposit funds so that the City can arrange for an arborist's report at the applicant's expense.

Ojai Municipal Code Sec. 7-1.503 states:

- The trimming of trees shall be permitted only when and in the manner authorized by a permit so that the shapeliness of the tree may be preserved. The removal of non-hazardous live trees shall require Council approval; dead or hazardous trees may be removed at the discretion of the Director. The removal of trees will be approved, and a permit issued, only when a necessity for removal exists. When a tree is removed, the entire stump shall be taken out at least one foot below the existing or proposed subgrade, unless otherwise specified in the permit, and the hole back-filled and compacted. All debris from trimming or removal shall be removed from the site, and the right-of-way shall be restored to its former condition. A suitable replacement tree may be required.

Ojai Municipal Code Sec. 9-11.203 states:

- Applications for grading permits shall include a tree and floral assessment containing the following information: A description of the trees and vegetation to be affected by grading; a description of the efforts to be undertaken to retain trees and vegetation within the proposed grading area; and a description of the methods of disposal of selected trees and vegetation.

As stated above, coast live oak trees, valley oak trees, sycamore trees, and potential heritage trees were observed within the BSA in Units A, B, C, and D.

Ojai Municipal Code Sec. 10-2.1004 states:

- All structures (e.g., buildings, decks, fences) shall be set back a minimum of twenty-five (25') feet from a blue line creek's top of bank. Additional setbacks may be necessary to protect sensitive environmental resources (e.g., vernal pools). Setbacks adjacent to creekside paths or open spaces shall be measured from the outside boundary of the path or open space.
- Structures, parking access, parking spaces, paved areas, swimming pools, or utilities (e.g., overhead or underground) shall not be constructed within a creek or creekside setback area.
- Grading or filling, planting of exotic/non-native or non-riparian plant species, or removal of native vegetation shall not occur within a creek or creekside setback area.
- Creek stabilization measures may be required if development or land use changes increase impervious surfaces or sedimentation that result in stream channel erosion.



As stated above, San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek (jurisdictional water features described above) were located within the BSA in Units A, B, and C.

Conservation Plans

The project parcel does not occur within any Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan areas. The proposed project would not conflict with the provisions of any such plans.

Impact Analysis and Recommended Mitigation Measures

This section discusses the potential impacts to biological resources that may occur from implementation of the proposed project and recommends mitigation measures to reduce those impacts.

Special-Status Species

No special-status plant or wildlife species were observed or detected during the field survey. As discussed previously, no special-status plant species have potential to occur within the BSA. Special-status plant species have specialized habitat requirements, including plant community types, soils, and other components. The project alignment generally lack these requirements. In addition, none of the species analyzed were documented in the BSA during the November 13, 2018 survey. Based on the lack of suitable habitat within the BSA, no special-status plants are expected to occur within the BSA. Therefore, potential impacts to special-status plant species would be less than significant.

Four special-status wildlife species were determined to have a low potential to occur in the BSA based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDDB, species occurrence records from other sites in the vicinity of the survey area.

Southern California steelhead has a potential to occur in the BSA. Suitable habitat for the species is located within San Antonio Creek. But, the proposed project has been designed to avoid direct impacts to the creek. As previously discussed, the project proposes to replace an existing CMWD line that is suspended below the Grand Avenue Bridge crossing and above the creek. The proposed project components also include potentially replacing wells, tank, and pump station sites that are located approximately 110 feet east and 120 feet west of San Antonio Creek and occur within existing CMWD maintained facilities. The species is confined to aquatic habitat, the proposed construction would not occur below the top of the creek bank and no equipment is proposed within the creek. Further, mitigation measure BIO-1 below is suggested to avoid construction adjacent to San Antonio Creek during the rainy season (December through April). This measure would avoid construction work adjacent to San Antonio Creek when water has the potential to rise to the top of bank. Therefore, the project would not directly impact southern California steelhead. Indirect impacts to steelhead could result from construction equipment mobilization and operation of heavy equipment near the river area in the form water quality degradation (i.e. sediment transport, leaking equipment operated above the creek, track-off on roadways from heavy equipment use that mobilizes into creeks and drainages during rain events), if the species is present. Implementation of mitigation measures BIO-1 and BIO-8 through BIO-16 below will ensure the water quality of San Antonio Creek is not affected, thereby reducing indirect effects to steelhead to less than significant.

San Bernardino ringneck snake has a low potential to occur in the BSA. Elements of suitable habitat are present for the species adjacent to San Antonio Creek in Unit A and adjacent to the daylighted portions of Fox Canyon Barranca and Stewart Canyon Creek within Unit C. The species was observed in 2015



along Stewart Creek on the east side of South Ventura Street in oak and sycamore duff within a residential area (CNDDDB 2018). Although habitat for this species occurs throughout the BSA, the project footprint occurs within previously developed infrastructure. This infrastructure includes a paved road system, concrete and gravel substrates (i.e. the foundation below the pump stations, tanks, and wells), and highly disturbed herbaceous layer (i.e. mowed grasses). Little cover for the species was observed throughout this infrastructure. The species is not likely to frequent sites without cover in the form of vegetation or burrows. Little vegetation or burrows were observed within the project footprint. Potential impacts to San Bernardino ringneck snake, if present, could occur during construction equipment transport and operation of heavy equipment near potential habitat. Effects of these activities on these species would be minimized by surveying for and relocating individuals out of harm's way prior to and during activities. Mitigation measures BIO-2 and BIO-3 require pre-construction surveys in suitable habitats for the species and environmental education to aid workers in recognizing special-status biological resources that may occur in the project area. The effects to San Bernardino ringneck snake would be less than significant with mitigation incorporated.

The coast patch-nosed snake has a low potential to occur in elements of brushy or shrubby vegetation observed within the BSA adjacent to San Antonio Creek in Unit A, within the BSA within Unit B disturbed oak woodland habitat, and adjacent to Fox Canyon Barranca and Stewart Canyon Creek within Unit C. The species was observed in 2016 at the north end of Matilija Lake on the side of the Forest Route Road, approximately 0.25 mile southwest of SR-33 (CNDDDB 2018). This sighting was approximately 3.7 miles northwest of the BSA. Although habitat for this species occurs throughout the BSA, the project footprint occurs primarily within previously developed infrastructure. This infrastructure includes a paved road system, concrete and gravel (i.e. footprints below the pump stations, tanks, and wells), and highly disturbed herbaceous layer (i.e. mowed grasses). Little cover for the species was observed throughout this infrastructure. The species is not likely to frequent sites without cover in the form of vegetation or burrows. Little vegetation or burrows were observed within the project footprint. Potential impacts to coast patch-nosed snake, if present, could occur during construction equipment transport and operation of heavy equipment near potential habitat. Effects of these activities on these species would be minimized by surveying for and relocating individuals out of harm's way prior to and during activities. Further, mitigation measures BIO-2 and BIO-3 require pre-construction surveys in suitable habitats for the species and environmental education to aid workers in recognizing special-status biological resources that may occur in the project area. The effects to coast patch-nosed snake would be less than significant with mitigation incorporated.

The hoary bat has a low potential to occur in the BSA. Suitable roosting and foraging habitat for the species occurs within the BSA adjacent to San Antonio Creek in Unit A, within the developed and disturbed woodland in the BSA in Unit B, and adjacent to the BSA near Fox Canyon Barranca and Stewart Canyon Creek in Unit C. Impacts could occur if construction occurs adjacent to maternity roosts during the breeding season, because unlike adult bats, juvenile bats are unable to escape impacts. As a winter migrant the hoary bat does not commonly form maternity roosts in California. The proposed project does not include removal or trimming of trees or vegetation, therefore, the project has been designed to avoid impacts to the species' roosting habitat. In addition, the hoary bat requires a permanent water source. San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek are ephemeral water sources that would not support the species. It is unlikely construction would impact foraging bats because construction hours would most likely occur outside of this species' nocturnal feeding period. Foraging bats are expected to evade the construction areas with the onset of disturbance. Therefore, direct and indirect impacts to special-status bats would be less than significant.



The BSA contains habitat that can support nesting birds, including raptors protected under the CFGC and the MBTA. The adjacent native trees, ornamental vegetation and orchards along the project footprint provide suitable nesting habitat for avian species. Specifically, the tall eucalyptus trees adjacent to the existing infrastructure in Unit A contain suitable habitat for raptor species. Also, Grand Avenue Bridge and culverts below East Ojai Avenue and Aliso Street that channel flows from Fox Canyon Barranca and Stewart Canyon Creek, respectively, may provide habitat for mud and cavity-nesting birds such as tree swallows (*Tachycineta bicolor*) and black phoebe (*Sayornis nigricans*). The project could adversely affect raptors and other nesting birds if construction occurs while they are present within or adjacent to the project footprint, through direct mortality or abandonment of nests. The loss of a nest due to construction activities would be a violation of the MBTA and CFGC Section 3503. BIO-6 and BIO-7 are recommended for compliance with the MBTA and CFGC 3503.

BIO-1 Avoid Work above San Antonio Creek during the Rainy Season. Project activities associated with pipeline replacement above San Antonio Creek shall not occur during the rainy season (December 1 to April 1), to avoid work when higher flows and steelhead could be present. If activities at this location must occur during the rainy season, a pre-activity survey shall be conducted by a qualified fisheries biologist to determine if flow conditions are suitable for steelhead passage. If flow conditions are not suitable, pipeline replacement can proceed and the activity should be monitored by a qualified biologist, as needed, to confirm that flow conditions do not change during the project activity. If flow conditions are suitable for steelhead passage, pipeline replacement shall be postponed until a qualified biologist determines that the conditions are no longer suitable for the species.

BIO-2 Worker Environmental Awareness Program. Prior to initiation of all construction activities (including staging and mobilization), all personnel associated with project construction shall attend a Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in recognizing special-status biological resources that may occur in the project area. This training will include information about southern California steelhead, San Bernardino ringneck snake, coast patch-nosed snake, and hoary bat, as well as other special-status species potentially occurring in the project area.

The specifics of this program shall include identification of special-status species and habitats, a description of the regulatory status and general ecological characteristics of special-status resources, and review of the limits of construction and measures required to avoid and minimize impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employees, and other personnel involved with construction of the project. All employees shall sign a form provided by the trainer documenting they have attended the WEAP and understand the information presented to them. The crew foreman shall be responsible for ensuring crew members adhere to the guidelines and restrictions designed to avoid impacts to special-status species.

BIO-3 Pre-Construction Wildlife Surveys. Within one week prior to the commencement of project activities, a qualified wildlife biologist shall conduct pre-construction surveys in portions of the access and construction area, particularly those that contain natural vegetation. The surveys will be conducted within the project footprint locations specified below. A 50-foot buffer around the project footprint will be surveyed with inaccessible areas (i.e. private lands) surveyed with binoculars, as practicable.



A qualified biologist will conduct a survey within the following locations of the project footprint: Heidelberger Tank, 100 feet east and west San Antonio Creek at Grand Avenue, adjacent to the daylighted portions of Fox Canyon Barranca and Stewart Canyon Creek, and within the disturbed oak woodland habitat in Unit B (if trenching is to occur in this area). The biologist will document existing conditions and search for special-status species (i.e. San Bernardino ringneck snake and coast patch-nosed snake). If San Bernardino ringneck snake and coast patch-nosed snake are found, individual animals shall be relocated to similar habitat away from construction activities, at least 200 feet from any area of project construction.

- BIO-4 Night Construction Avoidance.** Night-time construction should be avoided adjacent to San Antonio Creek, daylighted portions of Fox Canyon Barranca, and daylighted portions of Stewart Canyon Creek as feasible, to avoid impacts to special-status wildlife in and near these drainages.
- BIO-5 Night Lighting.** If construction must occur at night (between dusk and dawn), all lighting will be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties and to reduce impacts on local wildlife.
- BIO-6 Nesting Bird Season Avoidance.** To avoid disturbance of nesting and special-status birds, including raptor species protected by the MBTA and CFGC 3503, activities related to the project including, but not limited to, vegetation removal, ground disturbance, and construction and demolition shall occur outside of the bird breeding season for migratory birds (February 1 through August 31), if practicable.
- BIO-7 Nesting Birds.** If construction must begin during the breeding season, then a pre-construction nesting bird survey shall be conducted no more than seven days prior to initiation of ground disturbance and vegetation removal activities. The nesting bird pre-construction survey shall be conducted on foot inside the project footprint, including a 100-foot buffer (300-foot for raptors), and in inaccessible areas (e.g., private lands) from afar using binoculars to the extent practical. The survey shall be conducted by a biologist familiar with the identification of avian species known to occur in southern California coastal communities. If nests are found, an avoidance buffer (dependent upon the species, the proposed work activity, and existing disturbances associated with land uses outside of the site) shall be determined and demarcated by the biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No ground-disturbing activities shall occur inside this buffer until the avian biologist has confirmed that breeding/ nesting is completed, and the young have fledged the nest. Encroachment into the buffer shall occur only at the discretion of the qualified biologist.

Sensitive Communities

A southern California steelhead stream, San Antonio Creek, is present within the BSA, but not within the project footprint. As stated above, the proposed construction was designed to avoid direct impacts to San Antonio Creek, and proposed work will replace existing infrastructure in-kind. Implementation of mitigation measures BIO1 and BIO-8 through BIO-16 will ensure construction materials do not indirectly



impact the creek. Therefore, the project would have a less than significant impact to the southern California steelhead stream with implementation of these measures.

Jurisdictional Waters and Wetlands

The proposed project would not 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. As stated above, several water features that are subject to the jurisdiction of the USACE, and RWQCB, and CDFW were observed within the BSA. San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek are located outside of the project footprint, but within the BSA. Construction activities will occur outside top of bank and no human traffic or equipment is proposed in any of the jurisdictional features. The proposed project is designed to avoid impacts to these water features.

Indirect impacts from construction materials (e.g. stockpiled materials, construction equipment, and trash) that may be stored onsite could adversely affect water quality (e.g., increased turbidity, altered pH, decreased dissolved oxygen levels, etc.) within the water features if runoff were to occur during storm events. Therefore, BIO-8 through BIO-16 outlined below should be implemented within 50 feet of San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek, to avoid potential indirect impacts to water quality within these jurisdictional waters. The implementation of these mitigation measures would reduce potential impacts to potential jurisdictional waters to potentially significant unless mitigation is incorporated.

- BIO-8 Disturbance Area.** Areas of temporary disturbance shall be minimized to the extent practicable.
- BIO-9 Staging Equipment.** Staging and laydown areas shall be unvegetated areas and previously disturbed sites only.
- BIO-10 Pollutant Management.** All vehicles and equipment shall be in good working condition and free of leaks. The contractor shall prevent oil, petroleum products, or any other pollutant from contaminating the soil or entering a watercourse (dry or otherwise). When vehicles or equipment are stationary, mats or drip pans shall be placed below vehicles to contain fluid leaks.
- BIO-11 Material Storage.** Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage. Material storage shall be at least 100 feet from San Antonio Creek, and daylighted portions of Fox Canyon Barranca, and Stewart Canyon Creek. Any material/spoils from project activities shall be located and stored 100 feet from potential jurisdictional areas (San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek). Construction materials and spoils shall be protected from stormwater run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.
- BIO-12 Tracking Loose Material.** Implement Best Management Practices (BMPs) to prevent the off-site tracking of loose construction and landscape materials such as street sweeping, vacuuming, and rumble plates, as appropriate.
- BIO-13 Pollution Prevention.** Prevent the discharge of silt or pollutants off of the site when working adjacent to potentially jurisdictional waters. Install BMPs (i.e. silt barriers, sand bags, straw bales) as appropriate.



- BIO-14 Site Materials and Refuse Management.** All food related trash shall be disposed of in closed containers and removed from the project area each day during the construction period. Construction personnel shall not feed or otherwise attract wildlife to the construction area. At project completion, all project-generated debris, vehicles, building materials, and rubbish shall be removed from the project footprint.
- BIO-15 Re-fueling and Maintenance.** All re-fueling, cleaning, and maintenance of equipment will occur at least 100-feet from potentially jurisdictional waters (Fox Canyon Barranca, Stewart Canyon Creek).
- BIO-16 Responding to Spilled materials.** Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned, and any contaminated materials properly disposed. For all spills, the project foreman or other designated liaison will notify CMWD immediately.

Wildlife Movement

The northern extent of the BSA is located within a known wildlife corridor that provides connectivity for wildlife north of the City of Ojai. San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek could act as movement corridors for wildlife species. As stated above, fully developed properties are present adjacent to the BSA for Fox Canyon Barranca and Stewart Canyon Creek and common wildlife adapted to urban and suburban areas (e.g., raccoon and striped skunk) could use the concrete-lined ephemeral drainages for local movement. Wildlife species could also use the riverine habitat of San Antonio Creek for local movement. The proposed project would not modify any of these features, nor substantially increase the level of disturbance beyond that which is present under ambient conditions.

Overall, the proposed project is not expected to hinder wildlife movement in the region, considering none of the project components are designed in such a way as to create a barrier to wildlife movement. The project footprint is located within previously developed infrastructure and no new infrastructure footprint is proposed beyond the new tank, new well, and new pump stations. The new infrastructure would be similar in design compared to the existing infrastructure and would not create a barrier to wildlife movement. Therefore, the project would have a less than significant impact to wildlife movement.

Local Policies and Ordinances

In the City and County jurisdictions (Figure 4), a number of protected trees were observed within the BSA including California sycamore, coast live oak, valley oak, and potential historical or heritage trees (Attachment D, Representative Site Photographs). Impacts to protected trees may include construction equipment compacting soil around the trees and disturbance of the canopy and the root zone. Trenching may occur in the root zone of potentially protected trees throughout the BSA, but the proposed project is replacing infrastructure currently in place. The majority of the project alignment is located within developed public right-of-way. The Ojai Municipal Code states that a permit is required when encroachment to a protected tree dripline is unavoidable. Applications for a permit to impact protected trees must be accompanied by a certified arborist report. The report should list each of the protected trees located within the work area, show the protected tree's location on a development plan, and recommend a program for protecting the trees prior to, during, and after construction.



Removal, alteration, or encroachment into a tree protection zone (dripline) of a tree regulated by the County of Ventura requires a ministerial permit to be obtained from the County. Minor pruning does not require a permit and includes pruning dead limbs or roots, pruning living limbs or roots that are 20 percent less than the trunk's girth, and pruning living limbs or roots that are less than 20 percent of the tree's overall canopy or root system. The removal, encroachment, or alteration of five protected trees (only three of which can be oaks or sycamores; none of which can be heritage or historical trees) may occur through a ministerial permit process. A ministerial permit requires the following:

- Ministerial tree permit application;
- Site sketch (no construction involved) or Site Plan (if involves new/expanding development);
- \$100 (non-refundable) application fee for one tree, \$315 for more than one tree;
- Color photos of tree(s); and
- Arborist Verification of Tree Protection Measures (Tree Form M5), if applicable.

Removal, encroachment, or alteration of more than the ministerial permit process may trigger a discretionary tree permit which requires the following:

- \$750 application deposit (if not part of another discretionary permit request) and
- An Arborist Report (Tree Doc D-AR).

The following mitigation measure would reduce the impact to potentially protected trees to a less than significant level.

BIO-17 Arborist Study. Prior to obtaining a permit from either jurisdiction, an Arborist Study should be conducted within portions of the project footprint that occur within 20 feet of the canopy drip line of protected trees. The study should plot the location of protected trees within this zone, identify each protected tree, and determine the jurisdiction of any trees to be impacted. An Arborist Report should be prepared by a Certified Arborist in compliance with both the City of Ojai and County of Ventura ordinance guidelines. Specifically, the Arborist Report should include, at minimum, the following:

- An inventory of all trees that contain a canopy drip line within 20 feet of the project footprint, as feasible without trespassing on private lands. Inventory data should record, at minimum: diameter at breast height (DBH), height, canopy cover information/mapping, health and vigor rating
- Representative photographs of each regulated tree that may be encroached upon
- Description of proposed site development activities including, but not limited to, excavation for trenching, any tree trimming for access, and construction access routes
- A project-specific Tree Protection Plan (TPP) shall be prepared which would at a minimum include site plans, protective tree fencing, the designated tree protection zone (identifying an area sufficiently large enough to protect the tree and its roots from disturbance), activities prohibited/permitted within the tree protective zone, encroachment boundaries, and potential transplanting or replacement tree plantings

The Arborist Report should be submitted to the appropriate department of the City of Ojai or County of Ventura for approval prior to the start of any tree-disturbing construction activities, as necessary.

The Ventura County General Plan (Biological Resources Policy 1.5.2-3 and 1.5.2-4) and Ojai Municipal Code (10-2.1004) also contain policies in place to protect potentially jurisdictional waters from



development. No new development is proposed. Within the City and County jurisdiction (Figure 4), infrastructure would be replaced adjacent to jurisdictional water features observed within the BSA including San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek. No work within the channel is proposed and all infrastructure to be constructed is replacing infrastructure currently in place. Further, implementation of BIO-1 and BIO 8 through BIO-16 would avoid and minimize potential indirect impacts to these water features. Therefore, the proposed project would not conflict with local policies or ordinances protecting potentially jurisdictional waters and impacts would be less than significant.

The Ventura County General Plan contains a policy in place to protect wildlife migration corridors. Within the County jurisdiction (Figure 4), three tanks observed within the BSA (Heidelberger Tank and Running Ridge Tanks) are located within the ECA. These tanks (within the project footprint) are located at the boundary of the ECA and developed portions of Ojai. The ECA surrounds the majority of the infrastructure within Ojai and directly to the north of the City and is approximately ten miles wide. Each tank is approximately 50 feet in diameter or less. The tanks do not represent a barrier to wildlife movement because the ECA is sufficiently wide to allow for wildlife movement around and past the tanks. Further, implementation of BIO-14 would minimize the attraction of wildlife to the project footprint. Therefore, the proposed project would not conflict with local policies or ordinances protecting habitat connectivity and impacts would be less than significant.

The County has a policy in place to protect locally important species as significant biological resources to be protected from incompatible land uses and development. The list of locally important species was reviewed and no species were observed within the BSA. The proposed project will replace existing infrastructure. Therefore, the proposed project would not conflict with local policies or ordinances protecting locally important species and impacts would be less than significant.

Generally, the project would be consistent with local policies or ordinances protecting biological resources. Nevertheless, due to potential impacts to protected trees in the City and County jurisdictions, this impact would be potentially significant unless mitigation is incorporated.

Conservation Plans

The project parcel does not occur within any Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan areas. The proposed project would not conflict with the provisions of any such plans. Therefore, the proposed project would have no impact to HCP, NCCP, or other approved local, regional, or state habitat conservation plans.

Conclusions

Potential impacts to special-status wildlife, nesting birds, potentially jurisdictional waters and wetlands, and conflicts with local policies and ordinances would be less than significant with implementation of the avoidance and minimization measures recommended above. Potential impacts to wildlife movement would be less than significant. Additionally, the proposed project would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plans.



Thank you for selecting Rincon Consultants to provide you with this BRA. Please call if you have questions, or if we can be of further assistance.

Sincerely,

Rincon Consultants, Inc.

Lindsay Griffin
Senior Biologist/Project Manager

Steven J. Hongola
Principal / Senior Ecologist

Attachments:

- Appendix A. Figures*
- Appendix B. Species Observed*
- Appendix C. Special-Status Species Table*
- Appendix D. Representative Site Photographs*

References

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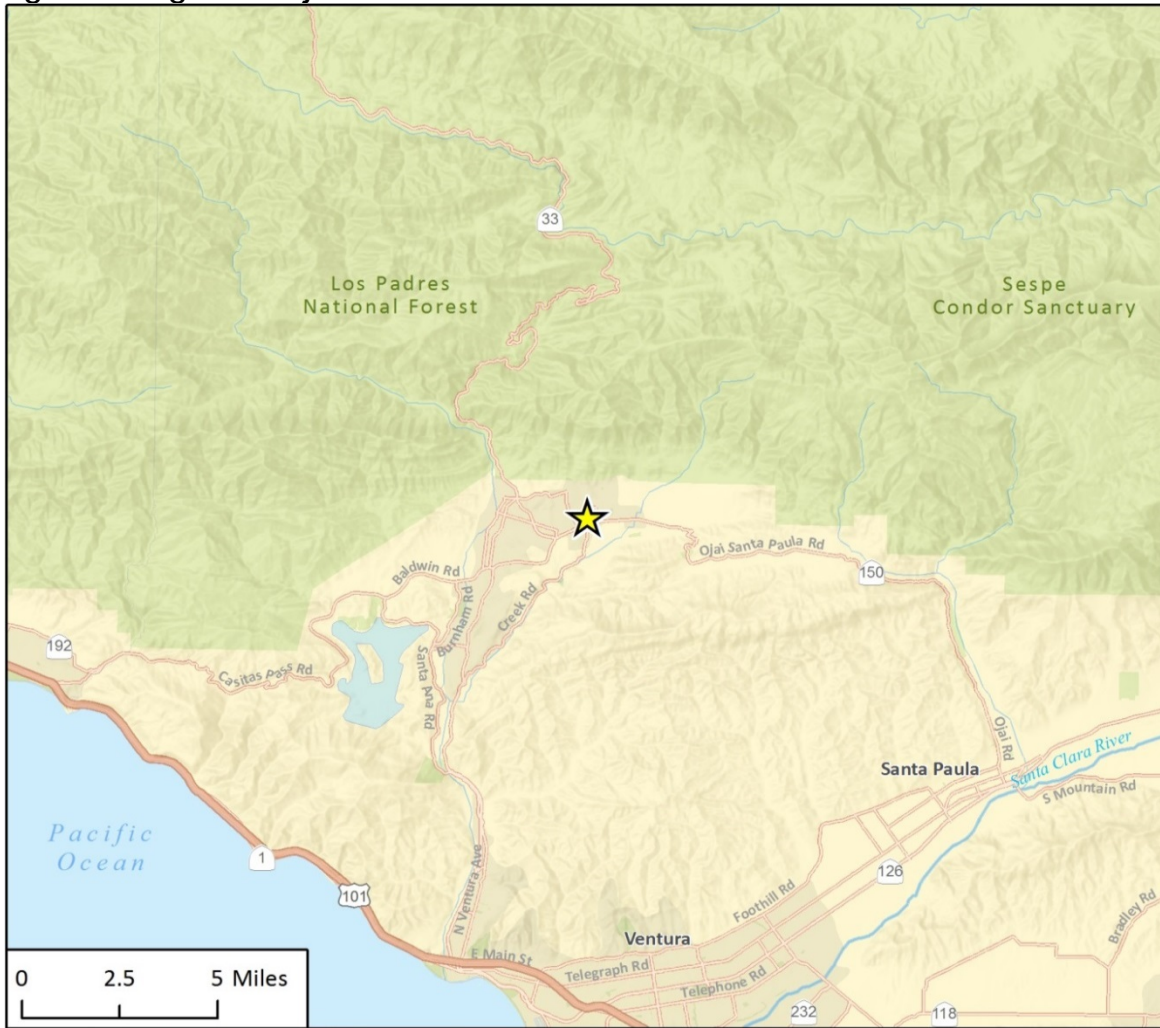
_____. 2018b. Critical Habitat Portal. <https://ecos.fws.gov/ipac/>

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Attachment A **Figures**

Figure 1 Regional Project Location



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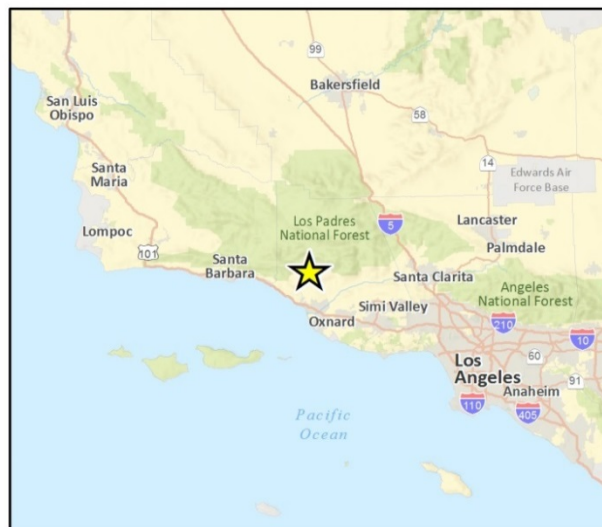
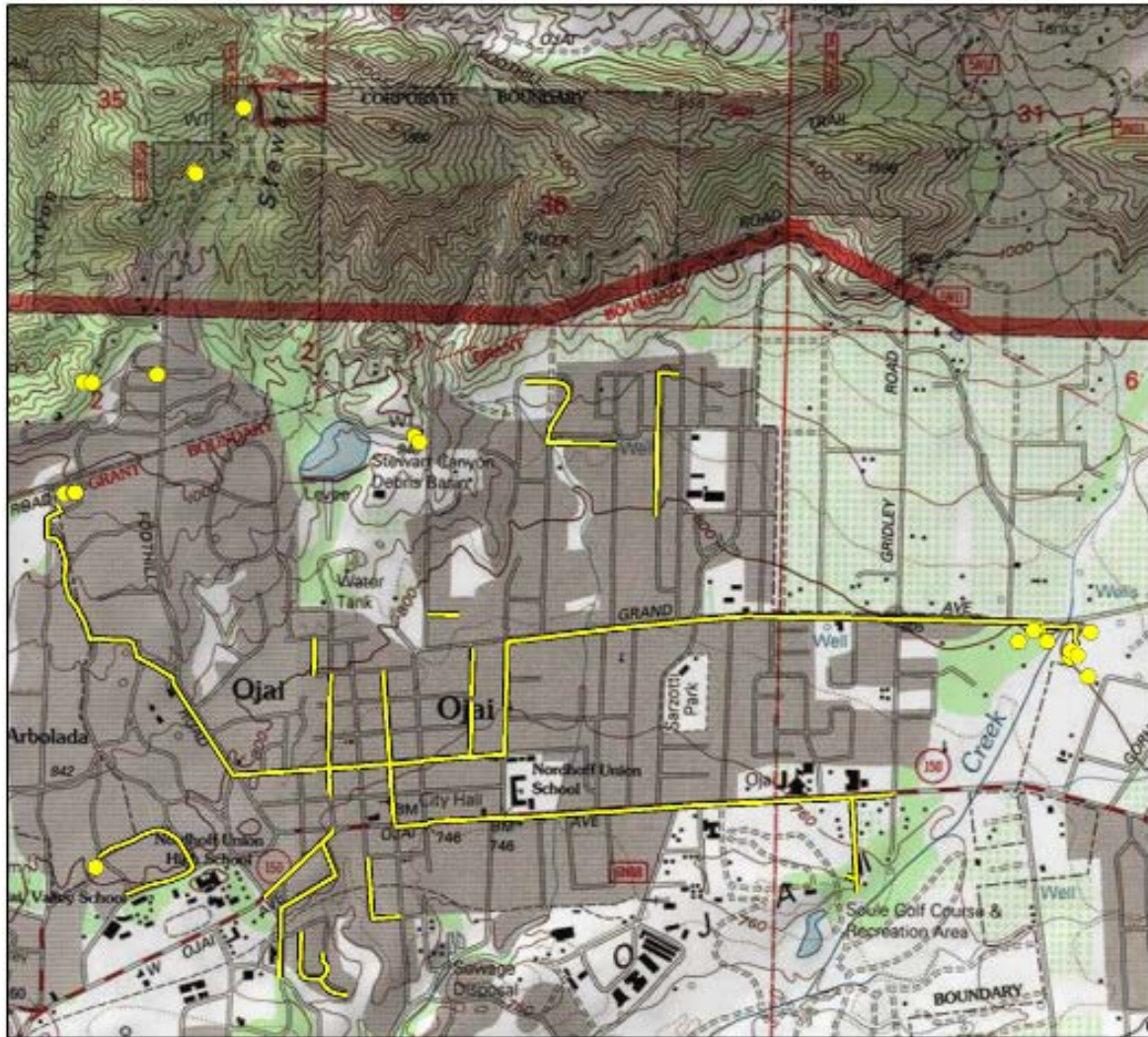


Fig. 1. Regional Location



Figure 2 Project Location A



Imagery provided by National Geographic Society, ESRI and its licensors © 2018. Matilija & Ojai Quadrangles. T04N R22W S06,07 & T04N R23W S01,02,11,12 & T05N R23W S35. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

 Project Location

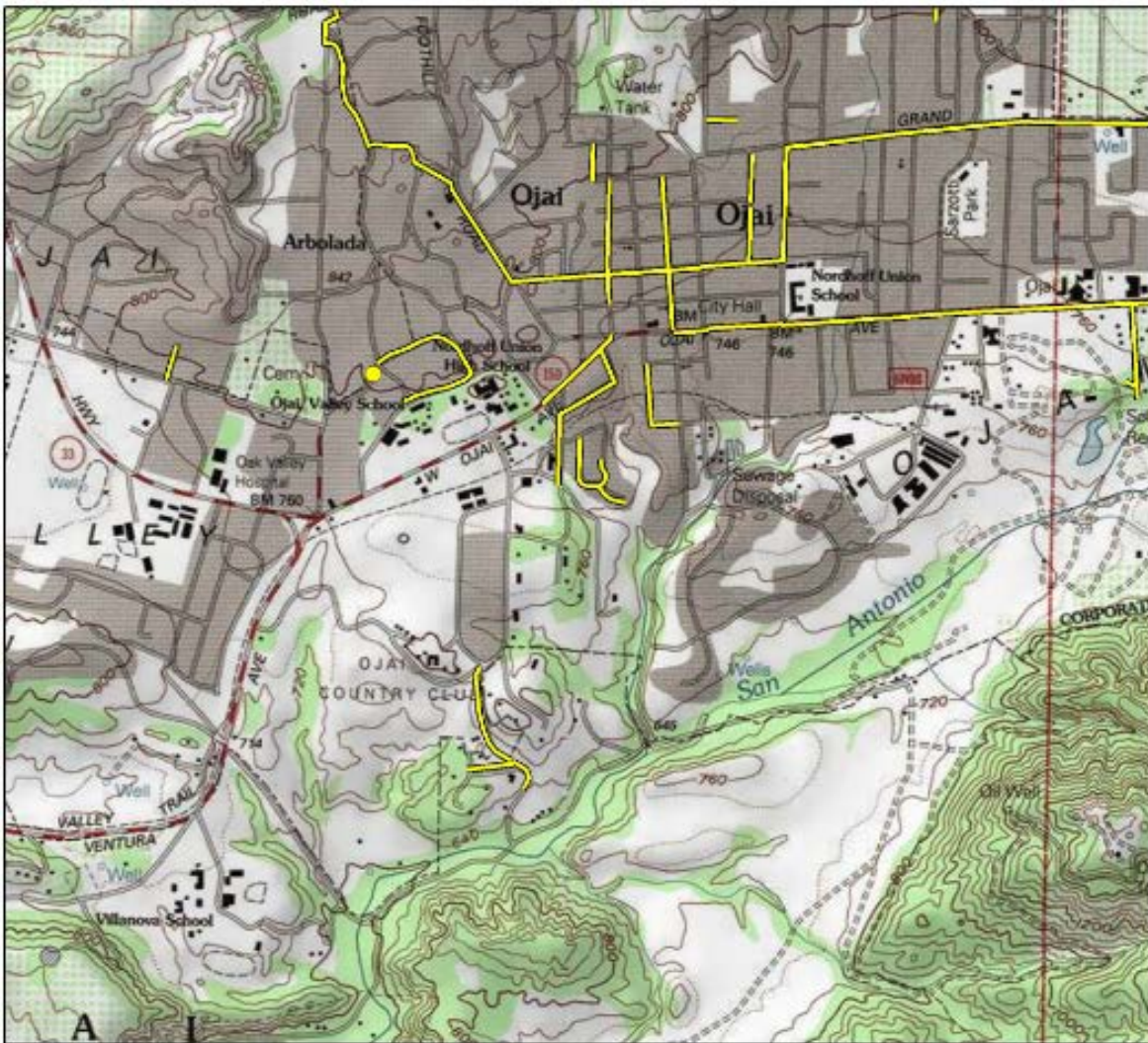
0 1,000 2,000

Scale in Feet





Figure 3 Project Location B



Imagery provided by National Geographic Society, Esri and its licensors © 2018. Matija & Ojai Quadrangles. T04N R22W S06,07 & T04N R23W S01,02,11,12. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

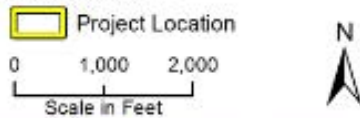
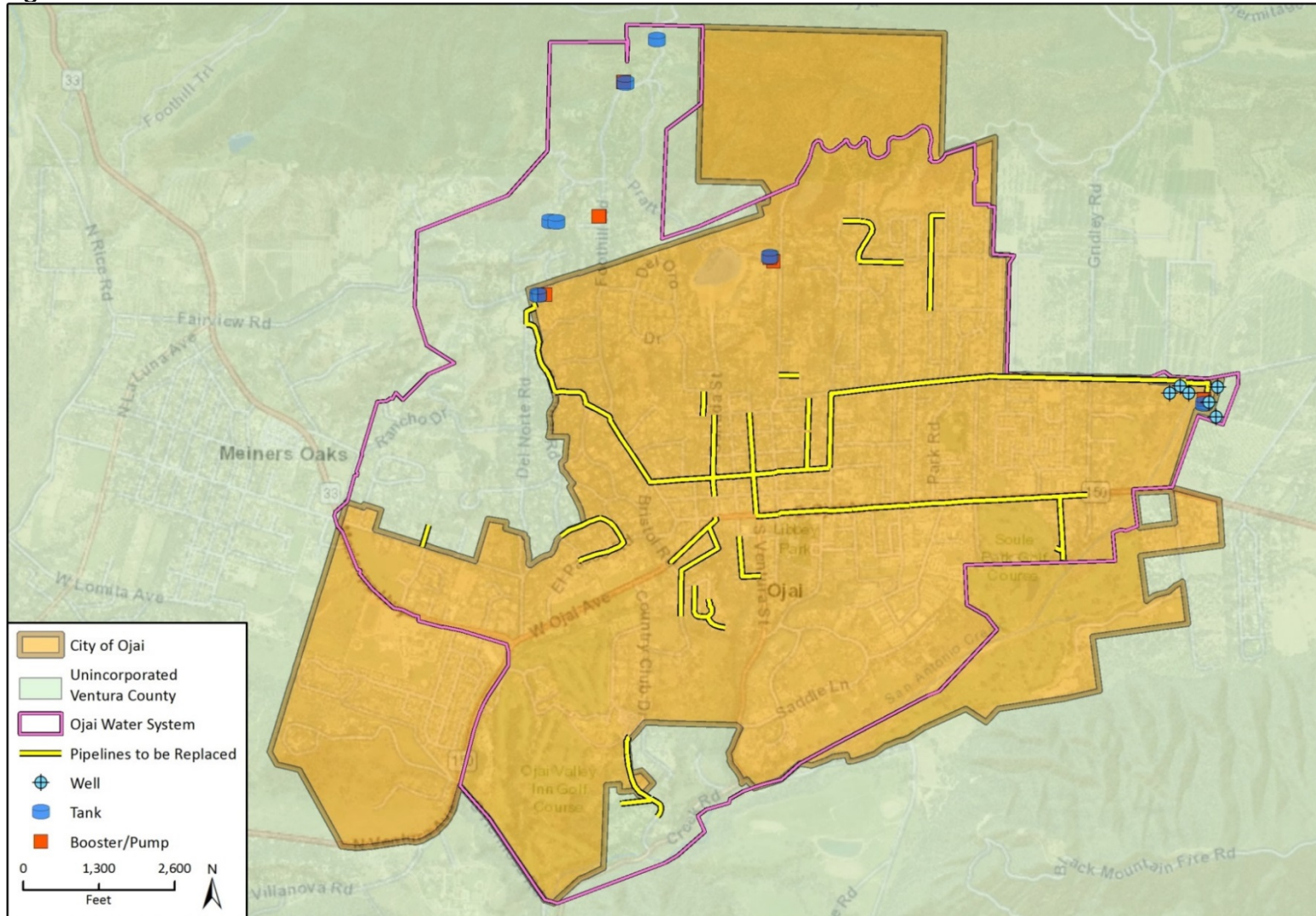




Figure 4 Jurisdictional Boundaries

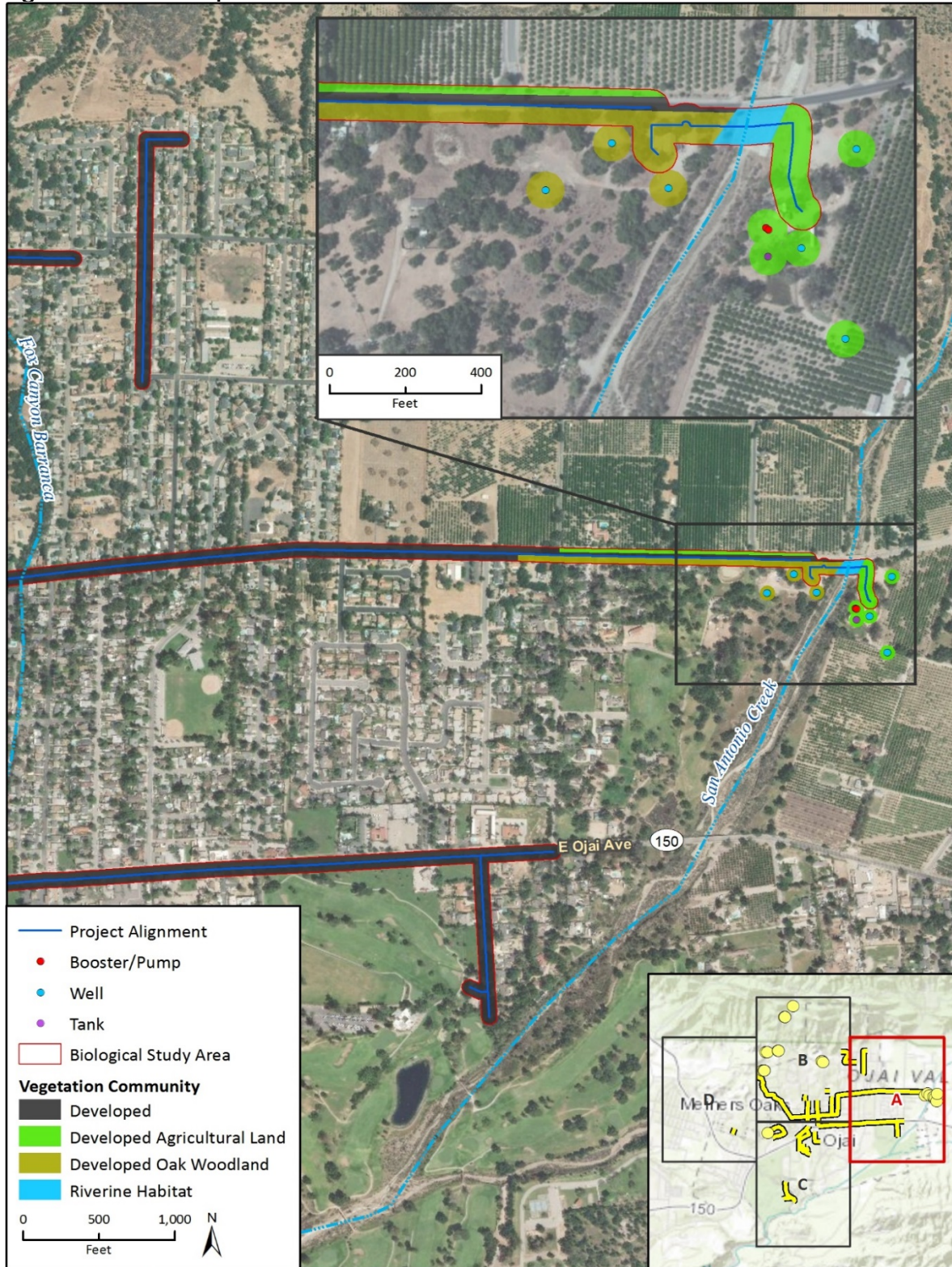


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CMWD, 2018.

Fig 3 Project Jurisdictions



Figure 5 Unit A Map



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Bio Fig X Vegetation Communities



Figure 6 Unit B Map

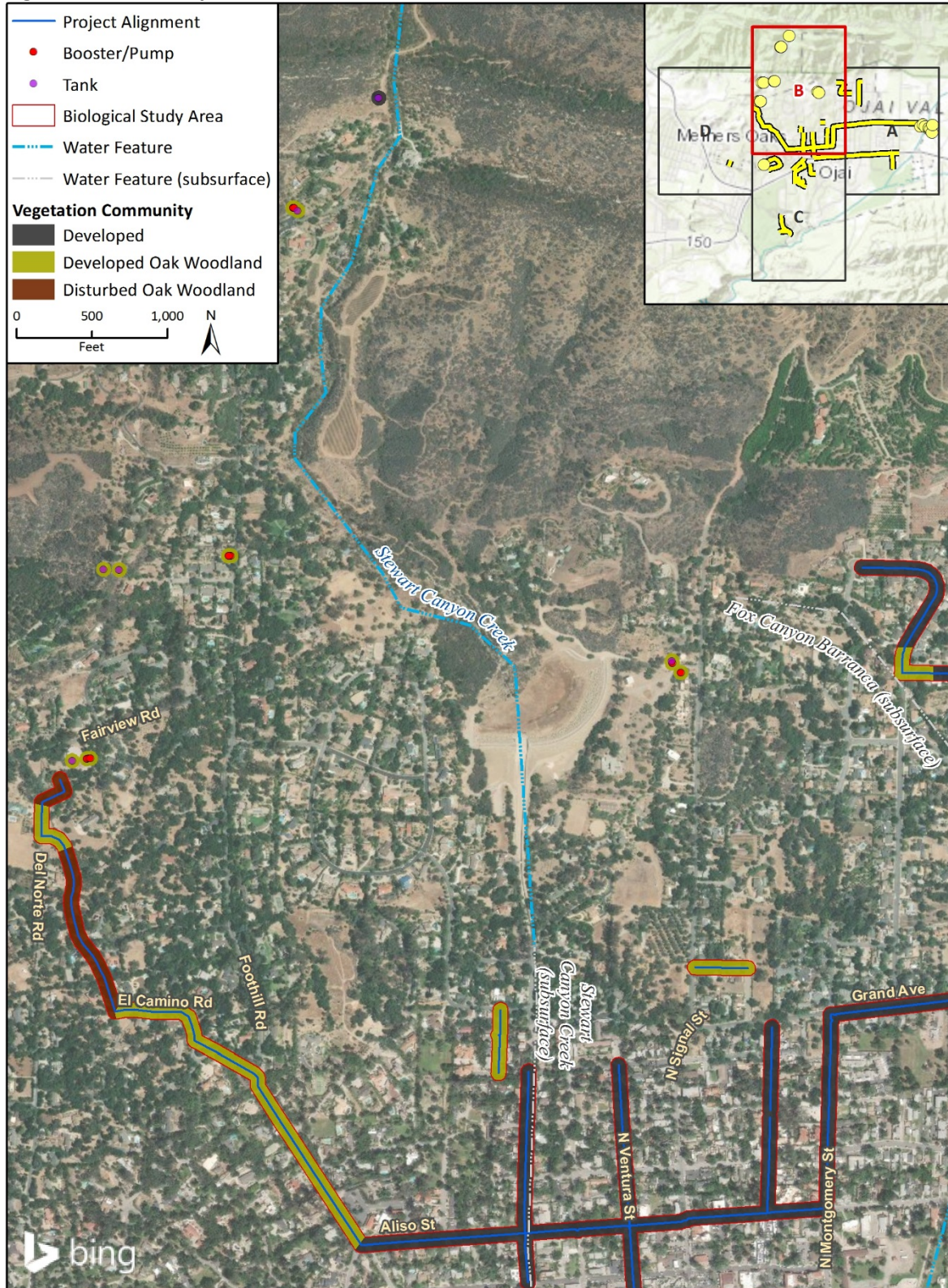
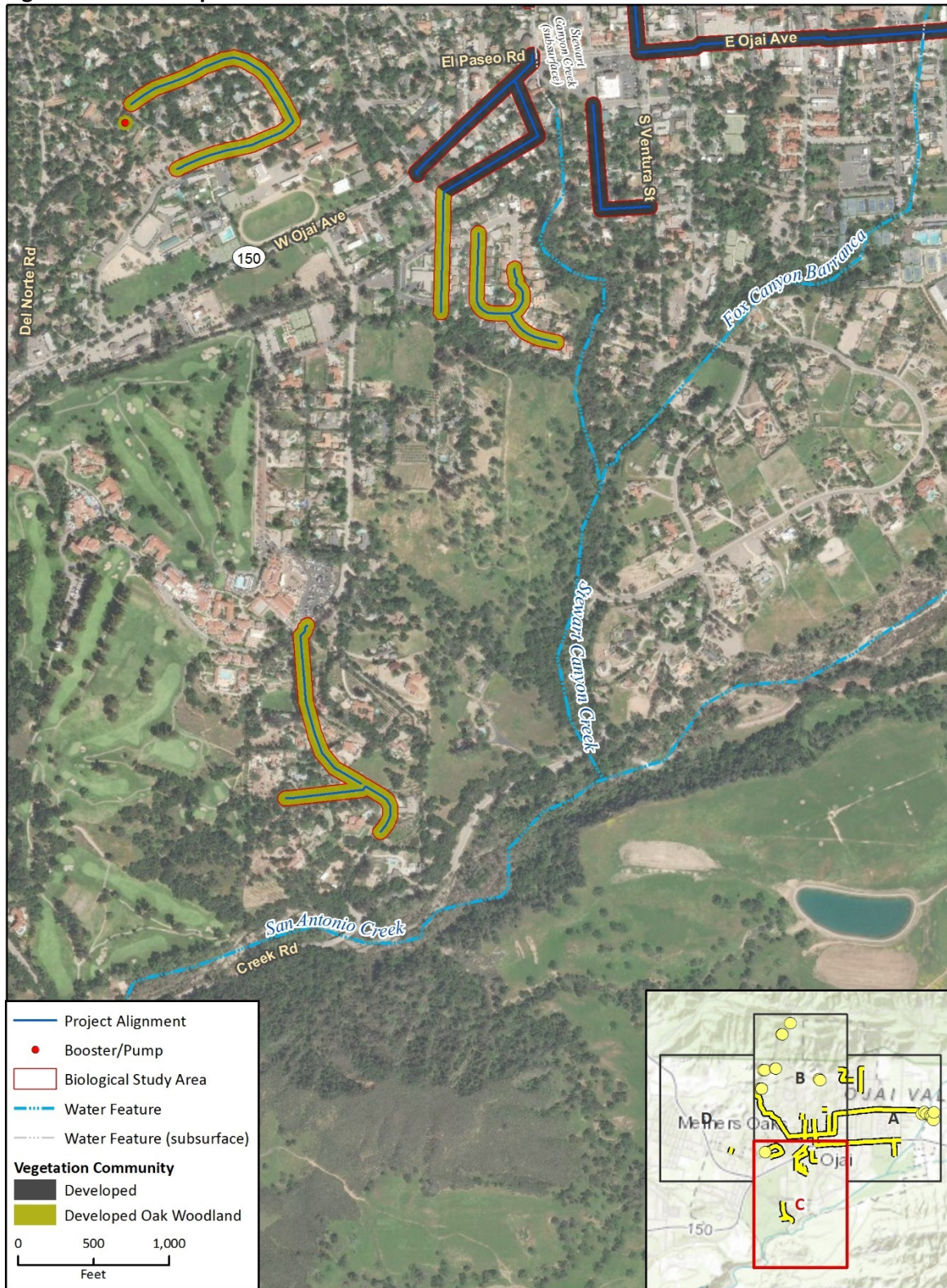




Figure 7 Unit C Map



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Bio Fig X Vegetation Communities



Figure 8 Unit D Map

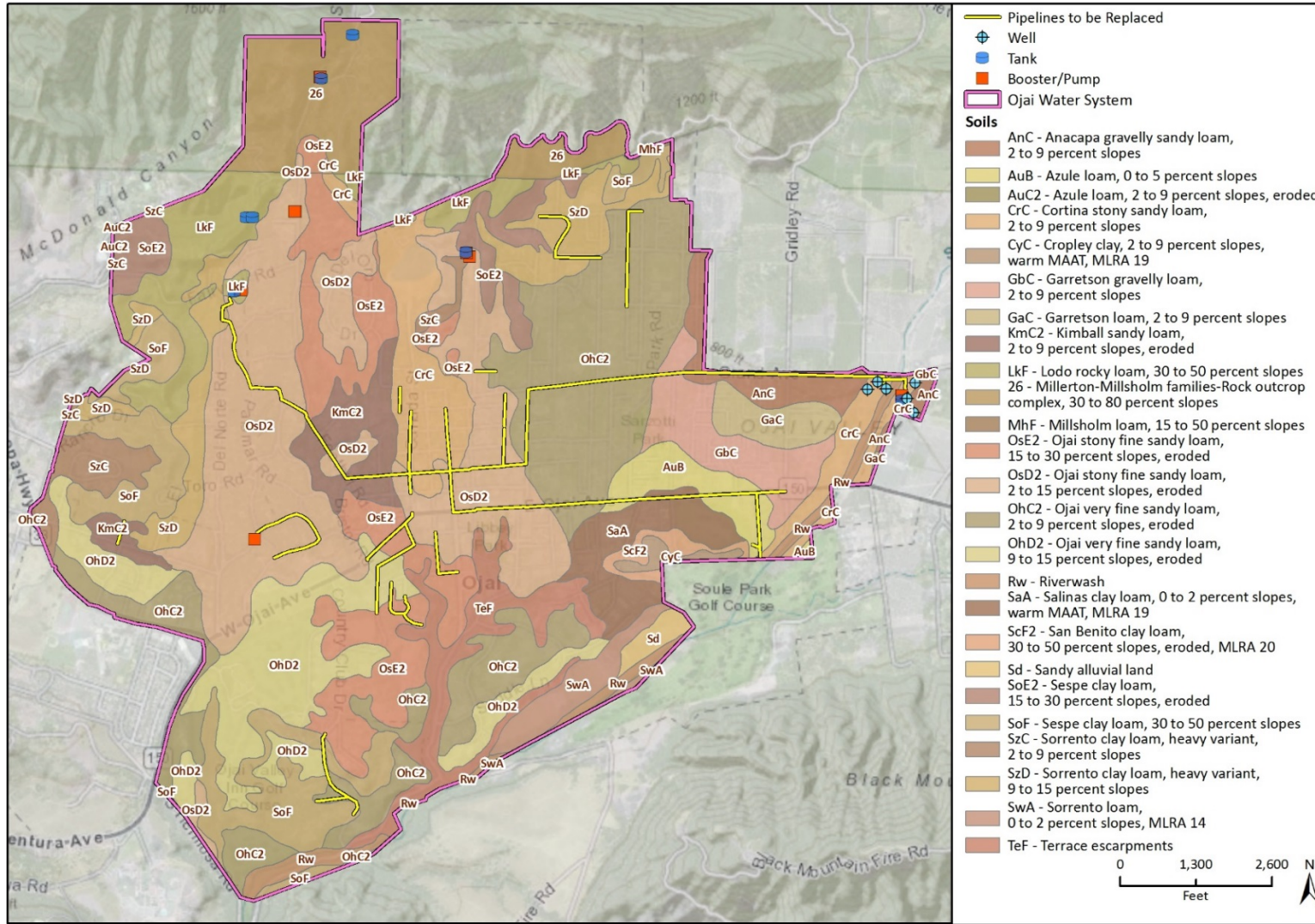


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Bio Fig X Vegetation Communities_



Figure 9 Soils Map



Imagery provided by Esri and its licensors © 2018.
Additional data provided by CMWD, 2018; USDA NRCS SSURGO, 2018.

Rev Fig X Soils



Attachment B; Table 1: Species Observed During November 13, 2018 Survey

Scientific name	Common Name	Status
<i>Acer palmatum</i>	Japanese maple	non-native
<i>Agave</i> sp.	agave	non-native
<i>Alnus rhombifolia</i>	white alder	native
<i>Anagallis arvensis</i>	scarlet pimpernel	non-native
<i>Arundo donax</i>	giant reed	non-native
<i>Brassica nigra</i>	black mustard	non-native
<i>Artemisia californica</i>	coastal sage brush	native
<i>Avena fatua</i>	wild oats	non-native
<i>Baccharis pilularis</i>	coyote brush	native
<i>Brassica nigra</i>	black mustard	non-native
<i>Brickellia</i> sp.	brickellia	native
<i>Bromus madritensis</i>	red brome	non-native
<i>Conium maculatum</i>	poison hemlock	non-native
<i>Cytisus multiflorus</i>	Spanish broom	non-native
<i>Elaeagnus angustifolia</i>	Russian olive	non-native
<i>Eriogonum fasciculatum</i>	California buckwheat	native
<i>Eucalyptus</i> sp.	eucalyptus	non-native
<i>Heteromeles arbutifolia</i>	toyon	native
<i>Juglans californica</i>	California black walnut	native
<i>Lavandula stoechas</i>	French lavender	non-native
<i>Malosma laurina</i>	Laurel sumac	native
<i>Marrubium vulgare</i>	white horehound	non-native
<i>Nerium oleander</i>	oleander	non-native
<i>Nicotiana glauca</i>	tree tobacco	non-native
<i>Platanus racemosa</i>	California sycamore	native
<i>Quercus agrifolia</i>	coast live oak	native
<i>Quercus lobata</i>	valley oak	native
<i>Ricinus communis</i>	castor bean	non-native
<i>Salix</i> sp.	willow	native
<i>Salsola australis</i>	Russian thistle	non-native
<i>Salvia mellifera</i>	black sage	native
<i>Schinus mole</i>	Peruvian pepper tree	non-native
<i>Stipa miliacea</i>	smilo grass	non-native



Attachment C; Table 2: CNDDDB Special-Status Resources

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
Plants and Lichens				
<i>Abronia maritima</i> red sand-verbena	None/None G4 / S3? 4.2	Coastal dunes. Dune plant. 0-100 m. perennial herb. Blooms Feb-Nov	No	No suitable habitat present within the BSA for the species (i.e. coastal dunes). The project occurs outside of the species' known elevation range.
<i>Acanthoscyphus parishii</i> var. <i>parishii</i> Parish's oxytheca	None/None G4?T3T4 / S3S4 4.2	Chaparral, lower montane coniferous forest. Sandy or gravelly places. 1220-2600 m. annual herb. Blooms Jun-Sep	No	No suitable soils present within the BSA for the species. The project occurs outside of the species' known elevation range.
<i>Allium howellii</i> var. <i>clokeyi</i> Mt. Pinos onion	None/None G4T2 / S2 1B.3	Great Basin scrub, pinyon and juniper woodland, meadows and seeps (edges). 1385-1800 m. perennial bulbiferous herb. Blooms Apr-Jun	No	No suitable habitat present within the BSA for the species. The project occurs outside of the species' known elevation range.
<i>Amsinckia douglasiana</i> Douglas' fiddleneck	None/None G4 / S4 4.2	Valley and foothill grassland, oak woodland. Monterey shale; dry habitats. 0-1950 m. annual herb. Blooms Mar-May	No	Suitable habitat (i.e. oak woodland) occurs within the BSA, but the habitat does not occur within the project footprint (area of impact). Portions of the project footprint occurs in previously disturbed public rights-of-way within disturbed oak woodland. The species is not expected to be present.
<i>Aphanisma blitoides</i> aphanisma	None/None G3G4 / S2 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. On bluffs and slopes near the ocean in sandy or clay soils. 3-305 m. annual herb. Blooms Feb-Jun	No	No suitable habitat present within the BSA for the species (i.e. coastal dunes or coastal scrub). Suitable clay and sandy soils do not occur within the project footprint. The species is not expected to occur within the project footprint.
<i>Astragalus didymocarpus</i> var. <i>milesianus</i> Miles' milk-vetch	None/None G5T2 / S2 1B.2	Coastal scrub. Clay soils. 50-385 m. annual herb. Blooms Mar-Jun	No	No suitable habitat present within the BSA for the species (i.e. coastal scrub). Suitable clay soils do not occur within the project footprint. The species is not expected to occur within the project footprint.
<i>Astragalus</i>	Endangered/Endang	Marshes and swamps, coastal	No	No suitable habitat



Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
<i>pycnostachyus</i> var. <i>lanosissimus</i> Ventura Marsh milk-vetch	ered G2T1 / S1 1B.1	dunes, coastal scrub. Within reach of high tide or protected by barrier beaches, more rarely near seeps on sandy bluffs. 1-35 m. perennial herb. Blooms (Jun)Aug-Oct		present within the BSA for the species (i.e. marshes, swamps or dunes). Species not expected to be present.
<i>Atriplex coulteri</i> Coulter's saltbush	None/None G3 / S1S2 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland. Ocean bluffs, ridgetops, as well as alkaline low places. Alkaline or clay soils. 2-460 m. perennial herb. Blooms Mar-Oct	No	No suitable habitat present within the BSA for the species (i.e. coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland). Suitable alkaline and clay soils not present within the project footprint. Species not expected to be present.
<i>Atriplex pacifica</i> south coast saltscale	None/None G4 / S2 1B.2	Coastal scrub, coastal bluff scrub, playas, coastal dunes. Alkali soils. 1-400 m. annual herb. Blooms Mar-Oct	No	No suitable habitat present within the BSA for the species (i.e. coastal scrub, coastal bluff scrub, playas, coastal dunes). Suitable alkaline soils not present within the project footprint. Species not expected to be present.
<i>Atriplex serenana</i> var. <i> davidsonii</i> Davidson's saltscale	None/None G5T1 / S1 1B.2	Coastal bluff scrub, coastal scrub. Alkaline soil. 0-460 m. annual herb. Blooms Apr-Oct	No	No suitable habitat present within the BSA for the species (i.e. coastal scrub). Suitable alkaline soils not present within the project footprint. Species not expected to be present.
<i>Baccharis plummerae</i> ssp. <i>plummerae</i> Plummer's baccharis	None/None G3T3 / S3 4.3	Broadleafed upland forest, cismontane woodland, coastal scrub, chaparral. Brushy canyons and mountainsides near the sea; usually shaded north-facing slopes. Rocky substrates. 5-425 m. perennial deciduous shrub. Blooms May, Aug, Sep, Oct	No	Suitable habitat (i.e. oak woodland) occurs within the BSA, but the habitat does not occur within the project footprint (area of impact). Portions of the project footprint occurs in previously disturbed public rights-of-way within disturbed or developed oak woodland. The species is not expected to be present.
<i>Calandrinia breweri</i> Brewer's calandrinia	None/None G4 / S4 4.2	Chaparral, coastal scrub. Sandy or loamy soils. Disturbed sites, burns. 10-1200 m. annual herb. Blooms (Jan)Mar-Jun	No	Suitable habitat (i.e. chaparral, coastal scrub) not present within the BSA, but suitable loamy soils and disturbed/burned areas are present in portions of the BSA. The northern-



Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
<i>Calochortus catalinae</i> Catalina mariposa-lily	None/None G3G4 / S3S4 4.2	Valley and foothill grassland, chaparral, coastal scrub, cismontane woodland. In heavy soils, open slopes, openings in brush. 15-700 m. perennial bulbiferous herb. Blooms (Feb)Mar-Jun	No	most tank is located in disturbed chaparral habitat that was burned in the Thomas Fire in December 2017. The proposed project will replace the existing tank in-kind. Therefore, no new impacts will occur to surrounding habitat because the tank is located within a previously disturbed area.
<i>Calochortus clavatus</i> var. <i>club-haired</i> mariposa-lily	None/None G4T3 / S3 4.3	Chapparal, cismontane woodland, valley and foothill grassland, coastal scrub. Generally on serpentine clay, rocky soils. 75-1300 m. perennial bulbiferous herb. Blooms (Mar)May-Jun	No	Suitable habitat (i.e. oak woodland) occurs within the BSA, but the habitat does not occur within the project footprint (area of impact). Portions of the project footprint occurs in previously disturbed public rights-of-way within disturbed oak woodland. The species is not expected to be present.
<i>Calochortus fimbriatus</i> late-flowered mariposa-lily	None/None G3 / S3 1B.3	Chaparral, cismontane woodland, riparian woodland. Dry, open coastal woodland, chaparral; on serpentine. 270-1435 m. perennial bulbiferous herb. Blooms Jun-Aug	No	Suitable habitat (i.e. oak woodland) occurs within the BSA, but the habitat does not occur within the project footprint (area of impact). Portions of the project footprint occurs in previously disturbed public rights-of-way within disturbed oak woodland. In addition, suitable serpentine clay soils or rocky soils do not occur within the BSA. The species is not expected to be present.



Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
<i>Calochortus palmeri</i> var. <i>palmeri</i> Palmer's mariposa- lily	None/None G3T2 / S2 1B.2	Meadows and seeps, chaparral, lower montane coniferous forest. Vernally moist places in yellow- pine forest, chaparral. 485-2500 m. perennial bulbiferous herb. Blooms Apr-Jul	No	species is not expected to be present. No suitable habitat (i.e. meadows and seeps, chaparral, lower montane coniferous forest) occurs within the BSA, and the project footprint does not occur in vernal moist places. The project will occur below the species' known elevation range. The species is not expected to be present.
<i>Calochortus</i> <i>plummerae</i> Plummer's mariposa-lily	None/None G4 / S4 4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60-2500 m. perennial bulbiferous herb. Blooms May-Jul	No	Suitable habitat is present within the BSA, but the project footprint occurs within previously disturbed public rights- of-way or within residential developed neighborhoods. The species is not expected to be present.
<i>Caulanthus</i> <i>lemmonii</i> Lemmon's jewelflower	None/None G3 / S3 1B.2	Pinyon and juniper woodland, valley and foothill grassland. 75- 1585 m. annual herb. Blooms Feb-May	No	No suitable habitat (i.e. Pinyon and juniper woodland, valley and foothill grassland) present within the BSA. The species is not expected to be present.
<i>Centromadia parryi</i> ssp. <i>australis</i> southern tarplant	None/None G3T2 / S2 1B.1	Marshes and swamps (margins), valley and foothill grassland, vernal pools. Often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with saltgrass. Sometimes on vernal pool margins. 0-975 m. annual herb. Blooms May-Nov	No	No suitable habitat (i.e. marshes and swamps, vernal pools or foothill grassland) present within the BSA. No suitable alkaline soils present within the project footprint. The species is not expected to be present.
<i>Chaenactis</i> <i>glabriuscula</i> var. <i>orcuttiana</i> Orcutt's pincushion	None/None G5T1T2 / S1 1B.1	Coastal bluff scrub, coastal dunes. Sandy sites. 3-80 m. annual herb. Blooms Jan-Aug	No	No suitable habitat (i.e. coastal bluff scrub, coastal dunes or sandy sites) present within the BSA. The project will occur above the species known elevation range. The species is not expected to be present.
<i>Chloropyron</i> <i>maritimum</i> ssp. <i>maritimum</i> salt marsh bird's- beak	Endangered/Endang ered G4?T1 / S1 1B.2	Marshes and swamps, coastal dunes. Limited to the higher zones of salt marsh habitat. 0-10 m. annual herb (hemiparasitic). Blooms May-Oct(Nov)	No	No suitable habitat (i.e. marshes and swamps, coastal dunes) present within the BSA. No salt marsh habitat present. The project occurs above



Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
<i>Convolvulus simulans</i> small-flowered morning-glory	None/None G4 / S4 4.2	Chaparral, coastal scrub, valley and foothill grassland. Wet clay, serpentine ridges. 30-700 m. annual herb. Blooms Mar-Jul	No	the species' known elevation range. The species is not expected to be present. No suitable habitat (i.e. Chaparral, coastal scrub, valley and foothill grassland) present within the BSA. No suitable clay or serpentine soils present. Species is not expected to be present within the project footprint.
<i>Delphinium parryi</i> ssp. <i>purpureum</i> Mt. Pinos larkspur	None/None G4T4 / S4 4.3	Pinyon and juniper woodland, Mojavean desert scrub, chaparral. 1000-2600 m. perennial herb. Blooms May-Jun	No	No suitable habitat present within the BSA. The project occurs below the species' known elevation range. Species is not expected to be present within the project footprint.
<i>Delphinium umbracolorum</i> umbrella larkspur	None/None G3 / S3 1B.3	Cismontane woodland, chaparral. Mesic sites. 215-2075 m. perennial herb. Blooms Apr-Jun	No	Suitable oak woodland occurs within the BSA, but the project footprint is generally located on disturbed public rights- of-way or in residential neighborhoods. In addition, no mesic sites occur within the pipe alignment. The species is not expected to occur within the project footprint.
<i>Eriogonum elegans</i> elegant wild buckwheat	None/None G3G4 / S3S4 4.3	Cismontane woodland, valley and foothill grassland. Usually in sandy or gravelly substrates; often in washes, sometimes roadsides. 200-1525 m. annual herb. Blooms May-Nov	No	Suitable oak woodland occurs within the BSA, but the project footprint is generally located on disturbed public rights- of-way or in residential neighborhoods. The species is not expected to occur within the project footprint.
<i>Frasera neglecta</i> pine green-gentian	None/None G4 / S4 4.3	Lower montane coniferous forest, pinyon and juniper woodland, upper montane coniferous forest. Dry, open woodlands. 1400-2500 m. perennial herb. Blooms May- Jul	No	No suitable habitat occurs within the BSA. The project occurs below the species' known elevation range.
<i>Fritillaria ojaiensis</i> Ojai fritillary	None/None G2? / S2? 1B.2	Broadleafed upland forest (mesic), chaparral, lower montane coniferous forest, cismontane woodland. Usually loamy soil. Sometimes on serpentine; sometimes along	No	Suitable oak woodland occurs within the BSA, but the project footprint is generally located on disturbed public rights- of-way or in residential



Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
		roadsides. 100-1140 m. perennial bulbiferous herb. Blooms Feb-May		neighborhoods. No serpentine soils present. No mesic sites present. The species is not expected to occur within the project footprint.
<i>Heuchera abramsii</i> Abrams' alumroot	None/None G3 / S3 4.3	Upper montane coniferous forest. Rock crevices. 2800-3500 m. perennial rhizomatous herb. Blooms Jul-Aug	No	No suitable habitat occurs within the BSA. The project occurs below the species' known elevation range.
<i>Heuchera caespitosa</i> urn-flowered alumroot	None/None G3 / S3 4.3	Lower montane coniferous forest, upper montane coniferous forest, cismontane woodland, riparian forest (montane). Rocky sites. 1155-2650 m. perennial rhizomatous herb. Blooms May-Aug	No	No suitable habitat occurs within the BSA. The project occurs below the species' known elevation range.
<i>Horkelia cuneata</i> var. <i>puberula</i> mesa Horkelia	None/None G4T1 / S1 1B.1	Chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites. 15-1645 m. perennial herb. Blooms Feb-Jul(Sep)	No	Suitable oak woodland occurs within the BSA, but the project footprint is generally located on disturbed public rights-of-way or in residential neighborhoods. The species is not expected to occur within the project footprint.
<i>Imperata brevifolia</i> California satintail	None/None G4 / S3 2B.1	Coastal scrub, chaparral, riparian scrub, Mojavean desert scrub, meadows and seeps (alkali), riparian scrub. Mesic sites, alkali seeps, riparian areas. 3-1495 m. perennial rhizomatous herb. Blooms Sep-May	No	No suitable habitat occurs within the BSA. No mesic sites, alkali seeps, or riparian areas occur within the disturbance footprint. The species is not expected to occur within the project footprint.
<i>Juglans californica</i> southern California black walnut	None/None G3 / S3 4.2	Chaparral, coastal scrub, cismontane woodland. Slopes, canyons, alluvial habitats. 50-900 m. perennial deciduous tree. Blooms Mar-Aug	No	Suitable oak woodland occurs within the BSA, but the project footprint is generally located on disturbed public rights-of-way or in residential neighborhoods. The species is not expected to occur within the project footprint.
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i> Coulter's goldfields	None/None G4T2 / S2 1B.1	Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1-1375 m. annual herb. Blooms Feb-Jun	No	No suitable habitat or soils occur within the BSA. The species is not expected to occur within the project footprint.
<i>Layia heterotricha</i> pale-yellow layia	None/None G2 / S2 1B.1	Cismontane woodland, coastal scrub, pinyon and juniper woodland, valley and foothill grassland. Alkaline or clay soils; open areas. 90-1800 m. annual	No	Suitable oak woodland occurs within the BSA, but the project footprint is generally located on disturbed public rights-



Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
		herb. Blooms Mar-Jun		of-way or in residential neighborhoods. No alkaline or clay soils occur within the disturbance footprint. The species is not expected to occur within the project footprint.
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	None/None G5T3 / S3 4.3	Chaparral, coastal scrub. Dry soils, shrubland. 4-1435 m. annual herb. Blooms Jan-Jul	No	No suitable habitat or soils occur within the BSA. The species is not expected to occur within the project footprint.
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i> ocellated Humboldt lily	None/None G4T4? / S4? 4.2	Chaparral, coastal scrub, cismontane woodland, lower montane coniferous forest, riparian forest. Yellow-pine forest or openings, oak canyons. 30-1800 m. perennial bulbiferous herb. Blooms Mar-Jul(Aug)	No	Suitable oak woodland occurs within the BSA, but the project footprint is generally located on disturbed public rights-of-way or in residential neighborhoods. The species is not expected to occur within the project footprint.
<i>Lonicera subspicata</i> var. <i>subspicata</i> Santa Barbara honeysuckle	None/None G5T2? / S2? 1B.2	Chaparral, cismontane woodland, coastal scrub. 5-825 m. perennial evergreen shrub. Blooms May-Aug(Dec-Feb)	No	Suitable oak woodland occurs within the BSA, but the project footprint is generally located on disturbed public rights-of-way or in residential neighborhoods. The species is not expected to occur within the project footprint.
<i>Malacothamnus davidsonii</i> Davidson's bush-mallow	None/None G2 / S2 1B.2	Coastal scrub, riparian woodland, chaparral, cismontane woodland. Sandy washes. 150-1525 m. perennial deciduous shrub. Blooms Jun-Jan	No	Suitable oak woodland occurs within the BSA, but the project footprint is generally located on disturbed public rights-of-way or in residential neighborhoods. The species is not expected to occur within the project footprint.
<i>Malacothrix phaeocarpa</i> dusky-fruited malacothrix	None/None G3 / S3 4.3	Closed-cone coniferous forest, chaparral. Openings, burned, or disturbed areas. 100-1400 m. annual herb. Blooms Apr-Jun	No	No suitable habitat or soils occur within the BSA. The species is not expected to occur within the project footprint.
<i>Monardella hypoleuca</i> ssp. <i>hypoleuca</i> white-veined monardella	None/None G4T3 / S3 1B.3	Chaparral, cismontane woodland. Dry slopes. 50-1280 m. perennial herb. Blooms (Apr)May-Aug(Sep-Dec)	No	Suitable oak woodland occurs within the BSA, but the project footprint is generally located on disturbed public rights-of-way or in residential neighborhoods. The species is not expected to occur within the project footprint.



Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
<i>Monardella linoides</i> ssp. <i>oblonga</i> Tehachapi monardella	None/None G5T2 / S2 1B.3	Lower montane coniferous forest, upper montane coniferous forest, pinyon and juniper woodland. On dry slopes of yellow pine forest, decomposed granitic soils; also in roadside disturbed areas. 1245-2590 m. perennial rhizomatous herb. Blooms (May)Jun-Aug	No	footprint. No suitable habitat or soils occur within the BSA. The project will occur below the species known elevation range. The species is not expected to occur within the project footprint.
<i>Navarretia ojaiensis</i> Ojai navarretia	None/None G2 / S2 1B.1	Chaparral, coastal scrub, valley and foothill grassland. Openings in shrublands or grasslands. 275-620 m. annual herb. Blooms May-Jul	No	No suitable habitat or soils occur within the BSA. The species is not expected to occur within the project footprint.
<i>Navarretia peninsularis</i> Baja navarretia	None/None G3 / S2 1B.2	Lower montane coniferous forest, chaparral, meadows and seeps, pinyon and juniper woodland. Wet areas in open forest. 1150-2365 m. annual herb. Blooms (May)Jun-Aug	No	No suitable habitat or soils occur within the BSA. The project will occur below the species known elevation range. The species is not expected to occur within the project footprint.
<i>Nolina cismontana</i> chaparral nolina	None/None G3 / S3 1B.2	Chaparral, coastal scrub. Primarily on sandstone and shale substrates; also known from gabbro. 140-1275 m. perennial evergreen shrub. Blooms (Mar)May-Jul	No	No suitable habitat or soils occur within the BSA. The species is not expected to occur within the project footprint.
<i>Phacelia hubbyi</i> Hubby's phacelia	None/None G4 / S4 4.2	Chaparral, coastal scrub, valley and foothill grassland. Gravelly, rocky areas and talus slopes. 0-1000 m. annual herb. Blooms Apr-Jul	No	No suitable habitat or soils occur within the BSA. The species is not expected to occur within the project footprint.
<i>Phacelia ramosissima</i> var. <i>australitoralis</i> south coast branching phacelia	None/None G5?T3 / S3 3.2	Chaparral, coastal scrub, coastal dunes, coastal salt marsh. Sandy, sometimes rocky sites. 5-300 m. perennial herb. Blooms Mar-Aug	No	No suitable habitat or soils occur within the BSA. The species is not expected to occur within the project footprint.
<i>Piperia michaelii</i> Michael's rein orchid	None/None G3 / S3 4.2	Coastal bluff scrub, coastal scrub, cismontane woodland, chaparral, closed-cone coniferous forest, lower montane coniferous forest. Mudstone and humus, generally dry sites. 3-915 m. perennial herb. Blooms Apr-Aug	No	Suitable oak woodland occurs within the BSA, but the project footprint is generally located on disturbed public rights-of-way or in residential neighborhoods. No mudstone or humus occurs within the disturbance footprint. The species is not expected to occur within the project footprint.
<i>Polygala cornuta</i> var. <i>fishiae</i> Fish's milkwort	None/None G5T4 / S4 4.3	Cismontane woodland, riparian woodland, chaparral. Scree slopes, brushy ridges, and along creeks; often with oaks. 100-1000 m. perennial deciduous shrub. Blooms May-Aug	No	Suitable oak woodland occurs within the BSA, but the project footprint is generally located on disturbed public rights-of-way or in residential



Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
<i>Pseudognaphalium leucocephalum</i> white rabbit-tobacco	None/None G4 / S2 2B.2	Riparian woodland, cismontane woodland, coastal scrub, chaparral. Sandy, gravelly sites. 35-515 m. perennial herb. Blooms (Jul)Aug-Nov(Dec)	No	neighborhoods. The species is not expected to occur within the project footprint. Suitable oak woodland occurs within the BSA, but the project footprint is generally located on disturbed public rights-of-way or in residential neighborhoods. The species is not expected to occur within the project footprint.
<i>Quercus dumosa</i> Nuttall's scrub oak	None/None G3 / S3 1B.1	Closed-cone coniferous forest, chaparral, coastal scrub. Generally on sandy soils near the coast; sometimes on clay loam. 15-640 m. perennial evergreen shrub. Blooms Feb-Apr(May-Aug)	No	No suitable habitat or soils occur within the BSA. The species is not expected to occur within the project footprint.
<i>Sagittaria sanfordii</i> Sanford's arrowhead	None/None G3 / S3 1B.2	Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. 0-605 m. perennial rhizomatous herb (emergent). Blooms May-Oct(Nov)	No	No suitable habitat or soils occur within the BSA. The species is not expected to occur within the project footprint.
<i>Sidalcea neomexicana</i> salt spring checkerbloom	None/None G4 / S2 2B.2	Playas, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub. Alkali springs and marshes. 3-2380 m. perennial herb. Blooms Mar-Jun	No	No suitable habitat or soils occur within the BSA. The species is not expected to occur within the project footprint.
<i>Streptanthus campestris</i> southern jewelflower	None/None G3 / S3 1B.3	Chaparral, lower montane coniferous forest, pinyon and juniper woodland. Open, rocky areas. 605-2590 m. perennial herb. Blooms (Apr)May-Jul	No	No suitable habitat or soils occur within the BSA. The project will occur below the species known elevation range. The species is not expected to occur within the project footprint.
<i>Suaeda taxifolia</i> woolly seablite	None/None G / S4 4.2	Coastal bluff scrub, coastal dunes, marshes and swamps. Margins of salt marshes. 0-50 m. perennial evergreen shrub. Blooms Jan-Dec	No	No suitable habitat or soils occur within the BSA. The species is not expected to occur within the project footprint.
Invertebrates				
<i>Bombus crotchii</i> Crotch bumble bee	None/None G3G4 / S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	No	No suitable habitat present within the BSA. The CNDDDB occurrence record from 1964 documented the species in the Wheeler Gorge Campground (approximately 3 miles northwest of the project footprint). An older record from 1892 documented the species



Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
<p>within the now residential developed section of Ojai. The species is not expected to be impacted by the proposed project.</p>				
Fish				
<i>Oncorhynchus mykiss irideus</i> pop. 10 steelhead - southern California DPS	Endangered/None G5T1Q/S1	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	Low	Suitable habitat occurs within San Antonio Creek for the species. The proposed project will not result in direct impacts to the creek, and the waterline will replace an existing line that is suspended below the Grand Avenue Bridge crossing, above the creek.
Amphibians				
<i>Anniella stebbinsi</i> southern California legless lizard	None/None G3 / S3 SSC	Often locally abundant, specimens are found in coastal sand dunes and a variety of interior habitats, including sandy washes and alluvial fans. Occurs in moist warm loose soil with plant cover. Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Moisture is essential.	No	No suitable sandy dune habitat occurs within the BSA. Moisture content is lacking throughout the BSA. One CNDDDB occurrence record from 2017 found the species along Reeves Creek approximately 2 miles east of the project footprint. The species is not expected to be present or impacted by proposed project activities.
<i>Rana boylei</i> foothill yellow- legged frog	None/Candidate Threatened G3 / S3 SSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	No	No suitable shaded shallow streams occur within the BSA. The species is not expected to be present or impacted by proposed project activities.
<i>Rana draytonii</i> California red- legged frog	Threatened/None G2G3 / S2S3 SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	No	No suitable habitat near permanent sources of water present within the BSA. The species is associated with the Ventura River and San Antonio Creek, downstream of the project footprint. The species is not expected to be present or impacted by proposed project activities.
Reptiles				
<i>Diadophis</i>	None/None	Most common in open, relatively	Low	Elements of suitable



Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
<i>punctatus modestus</i> San Bernardino ringneck snake	G5T2T3Q / S2?	rocky areas. Often in somewhat moist microhabitats near intermittent streams. Avoids moving through open or barren areas by restricting movements to areas of surface litter or herbaceous veg.		habitat are present for the species in Units A, B, and C in developed and disturbed oak woodland habitat areas, specifically east of Oak Creek Lane within drainage. The species was observed in 2015 along Stewart Creek on the east side of South Ventura Street in oak and sycamore duff within a residential area (CNDDDB). The species is not expected to be present within the project disturbance footprint or impacted by proposed project activities.
<i>Emys marmorata</i> western pond turtle	None/None G3G4/S3 SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	No	No suitable aquatic habitat present within the BSA. The species is not expected to be present or impacted by proposed project activities.
<i>Phrynosoma blainvillii</i> coast horned lizard	None/None G3G4/S3S4 SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	No	No suitable sandy washes occur within the BSA. Soils are compact within the project disturbance footprint. The project footprint occurs mostly along the public rights-of-way in disturbed or developed oak woodland areas of Ojai. The species is not expected to be present or impacted by proposed project activities.
<i>Salvadora hexalepis virgultea</i> coast patch-nosed snake	None/None G5T4 / S2S3 SSC	Brushy or shrubby vegetation in coastal Southern California. Require small mammal burrows for refuge and overwintering sites.	Low	Suitable habitat occurs within the BSA for the species. The species has been observed in 2016 at the north end of Matilija Lake on the side of the Forest Route Road, approximately 0.25 mile southwest of SR-33 (CNDDDB). The species is not expected to be present within the project footprint or impacted by proposed project activities.



Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
<i>Thamnophis hammondi</i> two-striped gartersnake	None/None G4/S3S4 SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	No	No suitable aquatic habitat present within the BSA. The species is not expected to be present or impacted by proposed project activities.
Birds				
<i>Athene cunicularia</i> burrowing owl	None/None G4/S3 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	No	No suitable habitat occurs within the BSA for the species. The species was observed in the fall of 2015 on the north shore of Lake Casitas (CNDDDB). The species is not expected to be present or impacted by proposed project activities.
<i>Vireo bellii pusillus</i> least Bell's vireo	Endangered/ Endangered G5T2/S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	No	No suitable riparian habitat occurs within the BSA. The species was observed along Matilija Creek, upstream of Matilija Lake in 2009 (CNDDDB). The species is largely associated with riparian habitat within Ventura River. The species is not expected to be present or impacted by proposed project activities.
Mammals				
<i>Chaetodipus californicus femoralis</i> Dulzura pocket mouse	None/None G5T3/S3 SSC	Variety of habitats including coastal scrub, chaparral & grassland in San Diego County. Attracted to grass-chaparral edges.	No	The species is historically associated with Matilija Lake area. The species is not expected to be present or impacted by proposed project activities.
<i>Lasiurus cinereus</i> hoary bat	None/None G5 / S4	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Low	Suitable roosting and foraging habitat for the species occurs within disturbed and developed oak woodland habitat areas throughout the project area. Specifically, suitable habitat occurs near the ephemeral drainage west of S Ventura Street (Unit C). The species is not expected to be present within the project disturbance footprint or impacted by proposed



Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
				project activities.
Sensitive Natural Communities				
Southern California steelhead Stream	None/None GNR/SNR	-	Present	Southern California steelhead Stream within San Antonio Creek.
Southern Coast Live Oak Riparian Forest	None/None G4 / S4	-	Absent	Coast live oak trees are not present within the study area.
Southern Sycamore Alder Riparian Woodland	None/None G4 / S4	-	Absent	Vegetation community present within San Antonio Creek.

¹ Notes:

FE = Federal Endangered

FT = Federal Threatened

SE = State Endangered

FP = CDFW Fully Protected

SSC = California Species of Special
Concern

CRPR (CNPS California Rare Plant Rank)

1B = Rare, Threatened, or Endangered in California and elsewhere

2B = Rare, Threatened, or Endangered in California, but more common elsewhere

CRPR Threat Code Extension

.1 = Seriously threatened in California (> 80% of occurrences threatened/high
degree and immediacy of threat)

.2 = Moderately threatened in California (20-80% occurrences threatened/
Moderate degree and immediacy of threat)

CDFW Rare

G1 or S1 = Critically Imperiled Globally or Subnationally (state)

G2 or S2 = Imperiled Globally or Subnationally (state)

G3 or S3 = Vulnerable to extirpation or extinction Globally or Subnationally (state)

G4/5 or S4/5 = Apparently secure, common and abundant



Attachment D; Representative Site Photographs



Photograph 1. View of existing pipeline alignment within BSA, facing northeast (Unit A). Photograph shows suspended pipe above San Antonio Creek adjacent to Grand Avenue Bridge. November 13, 2018.



Photograph 2. View of existing wells, tanks, and pumps infrastructure within BSA, east of San Antonio Creek, facing south (Unit A). Note eucalyptus trees within BSA. November 13, 2018.



Photograph 3. View of existing pipeline alignment within BSA, facing west (Unit A). Note remnant valley oak trees above the project footprint. November 13, 2018.



Photograph 4. View of existing Fairview Pump station within BSA, facing south (Unit B). November 13, 2018.



Photograph 5. View North Sunset Place of existing pipeline alignment within BSA, facing north (Unit B). Note ornamental vegetation surrounding the project footprint. November 13, 2018.



Photograph 6. View existing Arbolada tank within BSA, facing northeast (Unit B). Note ornamental vegetation surrounding the project footprint. November 13, 2018.

Appendix C

Cultural Resources Technical Report



Ojai Water System Improvements Project

Cultural Resources Technical Report

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Executive Summary

Rincon Consultants, Inc. (Rincon) was retained by Casitas Municipal Water District (Casitas MWD) to conduct a cultural resources study in support of an Initial Study-Mitigated Negative Declaration for the Ojai Water System Improvements Project (project). The proposed project consists of the replacement of approximately eight miles of pipeline segments throughout the Ojai Water Distribution System area to improve fire flow and/or pipeline segments approaching the end of their service life. Additionally, the proposed project includes plans to rehabilitate two tanks, demolish three existing tanks, and construct one new tank; rehabilitate booster pump station, upgrade an additional pump station, demolish and construct two new pump stations, and abandon one pump station; and rehabilitate or replace six active wells. The project also includes potential construction of a new well for future use. This project requires compliance with the California Environmental Quality Act (CEQA) with Casitas MWD acting as the CEQA lead agency. This report presents the findings of a cultural resources assessment which included a records search, Sacred Lands File search, historical research, field survey, and evaluation of results. In addition, management recommendations for cultural resources located within and near the project site are also provided.

Results of this study indicate three cultural resources are located within the project site. These include one newly identified historic built-environment resource (Ojai Water Distribution System) and two previously recorded archaeological sites (P-56-000061 and P-56-001109). In addition, two prehistoric archaeological sites (P-56-000137 and P-56-001779) and one historic-era archaeological site (P-56-001151) were identified within the immediate vicinity (i.e., 100 feet) of the project site.

The Ojai Water Distribution System is a system of pipelines, tanks, booster pump stations, and wells servicing the city of Ojai and surrounding areas. Archival research indicates portions of the Ojai Water Distribution System were constructed as early as 1920 and therefore, the system meets the minimum age requirement (i.e., 50 years old) to be considered a historical resource under CEQA. An evaluation of significance concluded the Ojai Water Distribution System does not meet any of the criteria for listing on the California Register of Historical Resources or the National Register of Historic Places. No further management of the resource is recommended.

A field survey of the project site failed to identify any archaeological remains within the mapped boundary of the prehistoric village site of P-56-000061. Although subsurface archaeological deposits associated with the site may be located within the project alignment, proposed construction in this area will be confined to the replacement of existing pipeline in previously disturbed sediments. Therefore, it is unlikely the project will impact any *intact* buried cultural deposits at P-56-000061. To ensure no significant archaeological deposits associated with the site are impacted during pipeline replacement, Rincon recommends archaeological and Native American monitoring during ground-disturbing activities within a 100-foot radius of the mapped boundary of P-56-000061 (see CUL – 1 and CUL – 2 below).

Results of the field survey additionally indicated the two recorded segments of the historic-era railroad alignment (P-56-001109) intersecting the project site have been destroyed by road construction and the installation of an equestrian, pedestrian, and bicycle path. Because this resource was originally above-grade and exhibits little potential to contain subsurface cultural deposits, the replacement of the pipeline in these areas will not result in any further impacts to P-56-001109. No further management of this historic-era resource is recommended.

Finally, record search results indicate three archaeological resources (P-56-000137, P-56-001779, and P-56-001151) are located outside of, but immediately adjacent to, the project site. No evidence of these resources was identified within survey area. However, given the close proximity of these known cultural resources to the project site, Rincon recommends archaeological and Native American monitoring for all ground-disturbing work occurring within a 100-foot radius of the mapped site boundaries of the prehistoric sites of 56-000137 and P-56-001779. Archaeological monitoring is also recommended within 100-foot radius of the mapped site boundaries of the historic period resource of P-56-001151 (see CUL – 1 and CUL – 2 below).

Rincon recommends a finding of ***less than significant impact to cultural resources with mitigation incorporated*** under CEQA and presents the following three mitigation measures to reduce the potential impacts of the project to a less than significant level. The project is also required to adhere to existing regulations regarding the unanticipated discovery of human remains, which are detailed below.

CUL-1 Archaeological Monitoring

Ground-disturbing activities shall be monitored by a qualified archaeologist within the mapped boundary of P-56-000061, as well as within a 100-foot radius of the site. Additionally, archaeological monitoring shall be conducted within 100-feet of the mapped boundaries of P-56-000137, P-56-001779 and P-56-001151. The archaeological monitor shall work under the direction of an archaeologist meeting the Secretary of the Interior’s Professional Qualification Standards for archaeology (National Park Service 1983). If cultural resources are encountered during ground-disturbing activities, work in the immediate area shall halt and the find shall be evaluated for significance under CEQA.

CUL-2 Native American Monitoring

Ground-disturbing activities shall be observed by a Native American monitor within the mapped boundary of P-56-000061, as well as within a 100-foot radius of the site. Further, Native American monitoring shall be conducted within 100-feet of the mapped boundaries of P-56-000137 and P-56-001779. If cultural resources are encountered during ground-disturbing activities, work in the immediate area shall halt and the find shall be evaluated by an archaeologist meeting the Secretary of the Interior’s Professional Qualification Standards for archaeology (National Park Service 1983) for significance under CEQA.

CUL-3 Unanticipated Discovery of Cultural Resources

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt, and an archaeologist meeting the Secretary of the Interior’s Professional Qualifications Standards for archaeology (National Park Service 1983) should be contacted immediately to evaluate the find. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation, Native American consultation, and archaeological monitoring may be warranted to mitigate any significant impacts.

Unanticipated Discovery of Human Remains

If human remains are found, existing regulations outlined in the State of California Health and Safety Code Section 7050.5 state that no further disturbance shall occur until the County Coroner has

made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of being granted access and provide recommendations as to the treatment of the remains to the landowner.

1 Introduction

Rincon Consultants, Inc. (Rincon) was retained by Casitas Municipal Water District (Casitas MWD) to conduct a cultural resources study in support of an Initial Study-Mitigated Negative Declaration for the Ojai Water System Improvements Project (project) in western Ventura County, California. The purpose of this report is to document the tasks conducted by Rincon; these tasks include a cultural resources records search, a Sacred Lands File (SLF) search, historical research, field survey, and evaluation of results. In addition, management recommendations for cultural resources located within and near the project site are also provided. This project is subject to the requirements of the California Environmental Quality Act (CEQA), and Casitas MWD is the CEQA lead agency.

1.1 Project Location and Description

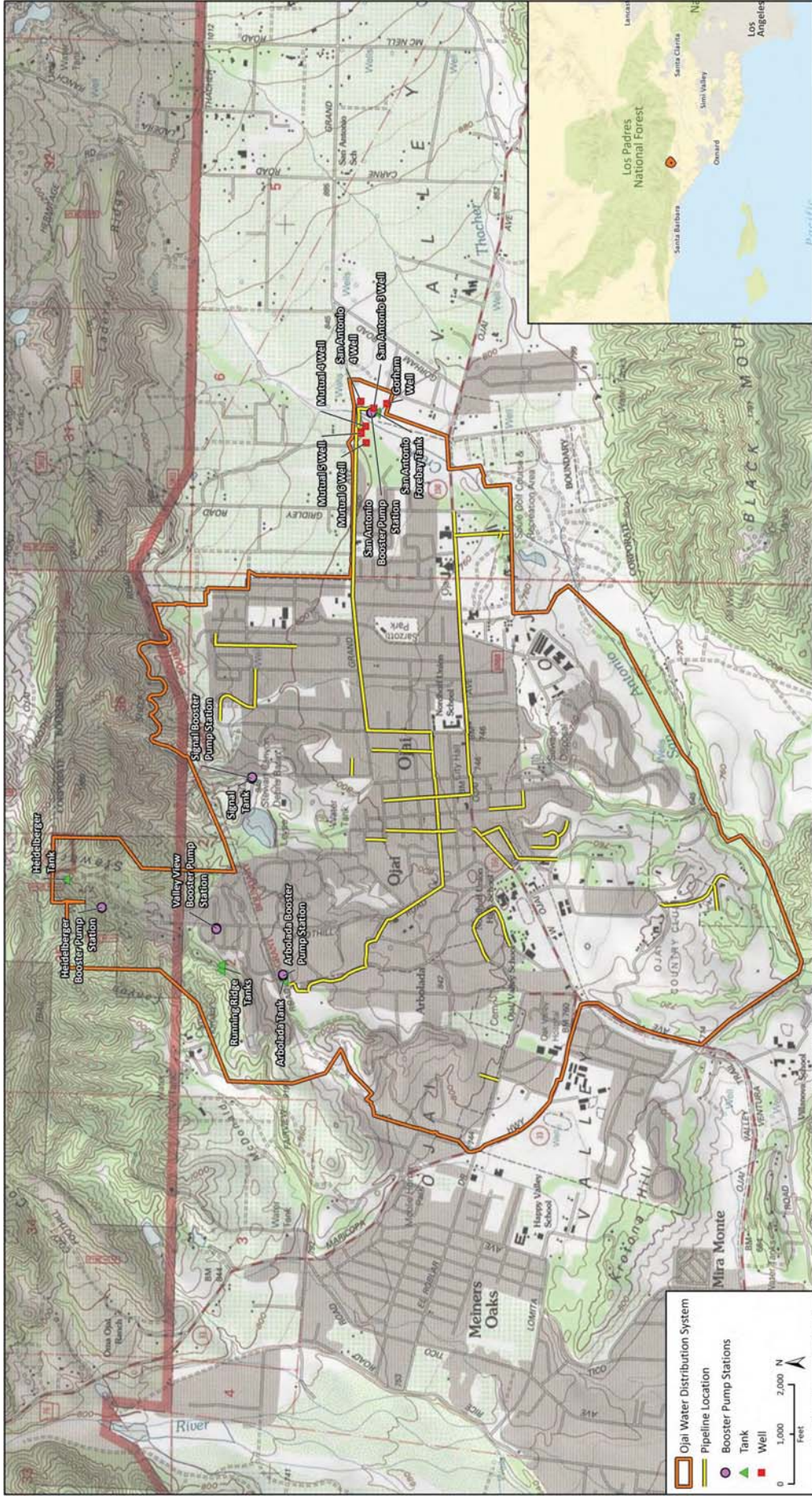
The project site is located within the city of Ojai, within unincorporated areas east of the city, and a small portion of the unincorporated Meiners Oaks community west of Ojai. It is depicted on Township 4N and 5N, Range 22W and 23W, and Sections 1, 2, 3, 6, 7, 10, 11, 12, 14 and 35, of the *Matilija and Ojai, California* 7.5-minute topographic quadrangles (Figure 1). The project site is located mostly within the public right-of-way through urban and residential neighborhoods and within Casitas MWD property.

The project primarily involves the replacement of pipeline segments to improve fire flow and/or pipeline segments approaching the end of their service life. The general purpose of the proposed project is to improve fire flow and replace aging mains, not to increase pipeline capacity to serve additional customers. The proposed project would replace pipeline segments throughout the Ojai Water Distribution System service area. Additionally, the proposed project includes plans to rehabilitate two tanks, demolish three existing tanks, and construct one new tank; rehabilitate one booster pump station, upgrade an additional pump station, demolish and construct two new pump stations, and abandon one pump station; and rehabilitate or replace six active wells in the Ojai system. The proposed project also includes the potential construction of a new well. Tank, booster pump station, and well rehabilitation would involve replacing existing infrastructure in kind, or with similar capacity infrastructure. Booster pump station upgrades would involve replacing existing systems with larger capacity or expanded systems.

1.2 Personnel

Rincon Archaeologist Meagan Szromba, MA, Registered Professional Archaeologist (RPA) authored this report. Archaeologist and Principal Investigator Tiffany Clark, PhD, RPA, provided management oversight for the project and is a contributing author of this report. Archaeologist Tricia Dodds, MA, RPA, performed the cultural resources records search, requested the SLF search, conducted the field survey, and is a contributing author of this report. Archaeologist Hannah Haas, MA, RPA, prepared the Department of Parks and Recreation (DPR) Series 523 forms and is a contributing author of this report. Geographic Information Systems Analysts Jonathon Schuhrke and Allysen Valencia prepared the figures found in this report. Principal Jennifer Haddow, PhD, reviewed this report for quality control.

Figure 1 Project Location Map



Property provided by National Geographic Society, ESRI and its licensors © 2018. MapInfo & Open Data. TOPOI 82379.506.02 & TOPOI 82379.502.01.D.12.14 & TOPOI 82379.535. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity. Any and/or features depicted in this map may have changed since the original topographic map was assembled.

2 Regulatory Setting

This section includes a discussion of the applicable state laws, ordinances, regulations, and standards governing cultural resources that should be adhered to before and during implementation of the proposed project.

2.1 California Environmental Quality Act

CEQA requires a lead agency to determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1) or tribal cultural resources (PRC Section 21074[a][1][A]-[B]). A historical resource is a resource listed, or determined to be eligible for listing in the California Register of Historical Resources (CRHR); a resource included in a local register of historical resources; or an object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (State CEQA Guidelines, Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it meets any of the following 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 to 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

In addition, if it can be demonstrated a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a], [b]).

PRC Section 21083.2(g) defines a unique archaeological resource as an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability it meets any of the following criteria:

- 1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
- 2) Has a special and particular quality such as being the oldest of its type or the best available example of its type
- 3) Is directly associated with a scientifically recognized important prehistoric or historic event or person

2.1.1 Assembly Bill 52

As of July 1, 2015, California Assembly Bill 52 (AB 52) was enacted and expands CEQA by defining a new resource category called Tribal Cultural Resources (TCRs). AB 52 establishes that "a project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that

may have a significant effect on the environment” (PRC Section 21084.2). It further states the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a TCR, when feasible (PRC Section 21084.3).

PRC Section 21074(a)(1)(A) and (B) defines TCRs as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and meets either of the following criteria:

- 1) Listed or eligible for listing in the CRHR, or in a local register of historical resources, as defined in PRC, Section 5020.1(k)
- 2) 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 PRC, Section 5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe

AB 52 also establishes a formal consultation process for California tribes regarding TCRs. The consultation process must be completed before a CEQA document can be certified or adopted. Under AB 52, lead agencies are required to “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” Native American tribes to be included in the process are those who have requested notice of projects proposed within the jurisdiction of the lead agency.

3 Cultural Setting

The project site is located within the city of Ojai and in surrounding unincorporated areas in western Ventura County. Ojai is located approximately 15 miles inland from the city of Ventura and is bounded generally by San Antonio Creek to the east and south, State Route 33 to the west, and the Topa Topa Mountains to the north.

3.1 Prehistoric Setting

During the twentieth century, many archaeologists developed chronological sequences to explain prehistoric cultural changes within all or portions of southern California (c.f., Jones and Klar 2007; Moratto 1984). Wallace (1955, 1978) devised a prehistoric chronology for the southern California coastal region that included four horizons: Early Man, Milling Stone, Intermediate, and Late Prehistoric. Wallace's chronology was based on early studies and lacked the chronological precision of absolute dates (Moratto 1984:159). Since then, Wallace's (1955) synthesis has been modified and improved using thousands of radiocarbon dates obtained by southern California researchers over recent decades (Byrd and Raab 2007:217; Koerper and Drover 1983; Koerper et al. 2002; Mason and Peterson 1994). The prehistoric chronological sequence for southern California presented below is a composite based on Wallace (1955) and Warren (1968) as well as later studies, including Koerper and Drover (1983).

3.1.1 Early Man Horizon (10,000 – 6000 BC)

Numerous pre-8000 BC sites have been identified along the mainland coast and Channel Islands of southern California (c.f., Erlandson 1991; Johnson et al. 2002; Jones and Klar 2007; Moratto 1984; Rick et al. 2001:609). One of them, the Arlington Springs site on Santa Rosa Island, produced human femurs dating to approximately 13,000 years ago (Arnold et al. 2004; Johnson et al. 2002). On nearby San Miguel Island, human occupation at Daisy Cave (SMI-261) has been dated to nearly 13,000 years ago. This site also included some of the earliest examples of basketry on the Pacific Coast, dating to over 12,000 years old (Arnold et al. 2004).

Although few Clovis or Folsom style fluted points have been found in southern California (e.g., Dillon 2002; Erlandson et al. 1987), Early Man Horizon sites are generally associated with a greater emphasis on hunting than later horizons. Recent data indicate the Early Man economy was a diverse mixture of hunting and gathering, including a significant focus on aquatic resources in coastal areas (e.g., Jones et al. 2002) and on inland Pleistocene lakeshores (Moratto 1984). A warm and dry 3,000-year period called the Altithermal began around 6000 BC. The conditions of the Altithermal are likely responsible for the change in human subsistence patterns at this time, including a greater emphasis on plant foods and small game.

3.1.2 Milling Stone Horizon (6000 – 3000 BC)

Wallace (1955:219) defined the Milling Stone Horizon as "marked by extensive use of milling stones and mullers, a general lack of well[-]made projectile points, and burials with rock cairns." The dominance of such artifact types indicate a subsistence strategy oriented around collecting plant foods and small animals. A broad spectrum of food resources were consumed including small and

large terrestrial mammals, sea mammals, birds, shellfish and other littoral and estuarine species, near-shore fishes, yucca, agave, and seeds and other plant products (Kowta 1969; Reinman 1964). Variability in artifact collections over time and from the coast to inland sites indicates Milling Stone Horizon subsistence strategies adapted to environmental conditions (Byrd and Raab 2007:220). The Topanga Canyon site in the Santa Monica Mountains is considered one of the definitive Milling Stone Horizon sites in southern California.

3.1.3 Intermediate Horizon (3000 BC – AD 500)

Wallace's Intermediate Horizon dates from approximately 3000 BC-AD 500 and is characterized by a shift toward a hunting and maritime subsistence strategy, as well as greater use of plant foods. During the Intermediate Horizon, a noticeable trend occurred toward greater adaptation to local resources including a broad variety of fish, land mammal, and sea mammal remains along the coast. Tool kits for hunting, fishing, and processing food and materials reflect this increased diversity, with flake scrapers, drills, various projectile points, and shell fishhooks being manufactured.

Mortars and pestles became more common during this transitional period, gradually replacing manos and metates as the dominant milling equipment. Many archaeologists believe this change in milling stones signals a change from the processing and consuming of hard seed resources to the increasing reliance on acorn (e.g., Glassow et al. 1988; True 1993). Mortuary practices during the Intermediate typically included fully flexed burials oriented toward the north or west (Warren 1968:2-3).

3.1.4 Later Prehistoric Horizon (AD 500 – Historic Contact)

During Wallace's (1955, 1978) Late Prehistoric Horizon, the diversity of plant food resources and land and sea mammal hunting increased even further than during the Intermediate Horizon. More classes of artifacts were observed during this period and high quality exotic lithic materials were used for small finely worked projectile points associated with the bow and arrow. Steatite containers were made for cooking and storage and an increased use of asphalt for waterproofing is noted. More artistic artifacts were recovered from Late Prehistoric sites and cremation became a common mortuary custom. Larger, more permanent villages supported an increased population size and social structure (Wallace 1955:223).

According to Warren (1968), the period between AD 500 and European contact is divided into three regional patterns. The Chumash Tradition is present mainly in the region of Santa Barbara and Ventura counties; the Takic or Numic Tradition is present mainly in the Los Angeles and Orange Counties region; and the Yuman Tradition is present mainly in the San Diego region. The seemingly abrupt changes in material culture, burial practices, and subsistence focus at the beginning of the Late Prehistoric period are considered the result of a migration to the coast of peoples from inland desert regions to the east. This Takic or Numic Tradition was formerly referred to as the "Shoshonean wedge" or "Shoshonean intrusion" (Warren 1968); however, the Chumash were not assimilated or replaced and retained cultural identity.

After AD 500, a wealth of ornaments, ceremonial, and artistic items characterize the Chumash Tradition (Warren 1968) along the central coast and offshore islands. Ground stone items include bowls, mortars and pestles, balls, grooved stones, doughnut stones, stone beads, pendants, pipes, tubes, and mammal effigies. Projectile points, both large and small, were typically non-stemmed and leaf-shaped, with convex or concave bases. Chipped stone implements also included drills and scrapers. Utilitarian objects were made from bone (e.g., awls, fishhooks, whistles, and tubes) and

shell (e.g., fishhooks and abalone shell dishes). Shell beads and ornaments were abundant, and bowls, pestles, pipes, and stone tubes were inlaid with shell beads and engraved. Bowls, pipes, and ornaments were commonly manufactured from steatite.

Characteristic mortuary practices during the Chumash Tradition included burial in crowded cemeteries. Burials are normally flexed, placed face down, and oriented toward the north or west (Warren 1968:5). The interments are typically marked by vertical pieces of whalebone, and have abundant grave goods, such as ornaments, effigies, and utensils.

3.2 Ethnographic Overview

The project site lies within an area historically occupied by the Ventureño Chumash, so called after their historic period association with Mission San Buenaventura (Grant 1978a). The Chumash spoke six closely related Chumashan languages, which have been divided into three branches—Northern Chumash (consisting only of Obispeño), Central Chumash (consisting of Purisimeño, Ineseño, Barbareño, and Ventureño), and Island Chumash (Jones and Klar 2007:80). Groups neighboring Chumash territory included the Salinan to the north, the Southern Valley Yokuts and Tataviam to the east, and the Gabrielino (Tongva) to the south.

Early Spanish accounts describe the Santa Barbara Channel as heavily populated at the time of contact. Estimates of the total Chumash population range from 8,000-10,000 (Kroeber 1976) to 18,000-22,000 (Cook and Heizer 1965: 21). Coastal Chumash lived in hemispherical dwellings made of tule reed mats, or animal skins in rainy weather. These houses could usually lodge as many as 60 people (Brown 2001). The village of šukuw, (or shuku), at Rincon Point, was encountered by Gaspar de Portola in 1769. This village had 60 houses and seven canoes, with an estimated population of 300 (Grant 1978b).

The tomol, or wooden plank canoe, was an especially important tool for the procurement of marine resources and for maintaining trade networks between Coastal and Island Chumash. Sea mammals were hunted with harpoons, while deep-sea fish were caught using nets and hooks and lines. Shellfish were gathered from beach sands using digging sticks, and mussels and abalone were pried from rocks using wood or bone wedges.

The acorn was an especially important resource. Acorn procurement and processing involved the manufacture of baskets for gathering, winnowing, and cooking and the production of mortars and milling stones for grinding. Bow and arrow, spears, traps and other various methods were used for hunting (Hudson and Blackburn 1983). The Chumash also manufactured various other utilitarian and non-utilitarian items. Eating utensils, ornaments, fishhooks, harpoons, and other items were made using bone and shell. Olivella shell beads were especially important for trade.

The Chumash were heavily affected by the arrival of Europeans. The Spanish missions and later Mexican and American settlers dramatically altered traditional Chumash lifeways. Chumash population was drastically reduced by the introduction of European diseases. However, many Chumash descendants still inhabit the region.

3.3 History

Post-European contact history for the state of California is generally divided into three periods: the Spanish Period (1769–1822), the Mexican Period (1822–1848), and the American Period (1848–present).

3.3.1 Spanish Period (1769 – 1822)

Spanish exploration of California began when Juan Rodriguez Cabrillo led the first European expedition into the region in 1542. For more than 200 years after his initial expedition, Spanish, Portuguese, British, and Russian explorers sailed the California coast and made limited inland expeditions, but they did not establish permanent settlements (Bean 1968; Rolle 2003). In 1769, Gaspar de Portolá and Franciscan Father Junipero Serra established the first Spanish settlement in what was then known as Alta (upper) California at Mission San Diego de Alcalá. This was the first of 21 missions erected by the Spanish between 1769 and 1823. Mission San Buenaventura was founded in 1782, approximately fifteen miles south of Ojai. Initial Spanish settlement of the project vicinity began during this time.

3.3.2 Mexican Period (1822 – 1848)

The Mexican Period commenced when news of the success of the Mexican Revolution (1810-1821) against the Spanish crown reached California in 1822. This period saw the privatization of mission lands in California with the passage of the Secularization Act of 1833. This Act enabled Mexican governors in California to distribute mission lands to individuals in the form of land grants. Successive Mexican governors made more than 700 land grants between 1822 and 1846, putting most of the state's lands into private ownership for the first time (Shumway 2007). About 20 land grants (ranchos) were located in Ventura County.

The Mexican Period for Ventura County and adjacent areas ended in early January 1847. Mexican forces fought combined United States Army and Navy forces in the Battle of the San Gabriel River on January 8 and in the Battle of La Mesa on January 9 (Nevin 1978). American victory in both of these battles confirmed the capture of Los Angeles by American forces (Rolle 2003). On January 10, leaders of the Pueblo of Los Angeles surrendered peacefully after Mexican General José María Flores withdrew his forces. Shortly thereafter, newly appointed Mexican Military Commander of California Andrés Pico surrendered all of Alta California to United States Army Lieutenant Colonel John C. Fremont in the Treaty of Cahuenga (Nevin 1978).

3.3.3 American Period (1848 – Present)

The American Period officially began with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico \$15 million for the conquered territory, including California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. Settlement of southern California continued to increase during the early American Period. Many ranchos in the county were sold or otherwise acquired by Americans, and most were subdivided into agricultural parcels or towns.

The discovery of gold in northern California in 1848 led to the California Gold Rush (Guinn 1976; Workman 1935:26). The presence of commercial grade oil in what became Ventura County was discovered in 1852 at Rancho Ojai (Franks and Lambert 1985). By 1853, the population of California exceeded 300,000. Ventura County was officially divided from Santa Barbara County on January 1, 1873. Thousands of settlers and immigrants continued to move into the state, particularly after the completion of the transcontinental railroad in 1869 and the real estate boom of the 1880s (Dumke 1944). The Saugus to Santa Barbara Branch (or Santa Paula Branch) of the Southern Pacific Railroad was constructed in the mid-1880s, encouraging travel through and settlement of the Santa Clara River Valley, as well as a large distribution network for its citrus and other products (Sperry 2006).

The City of Ojai is a small community situated within the Topa Topa Mountains of Ventura County. Ojai's first inhabitants were the Chumash Indians, who called the area "Awhai," meaning moon. In 1837, the area was granted to Fernando Tico who established the land as Rancho Ojai. Tico sold Rancho Ojai in 1853, and by 1868, after several years of ownership changes, the land was eventually sold off to settlers (Ojai Valley Museum 2016).

In 1873, R.G. Surdam of Ventura established Nordhoff, a town in the lower Ojai Valley, which quickly became a haven for people seeking the healing benefits of a warm climate. The Ojai Valley additionally became a popular tourist location for visitors interested in the backcountry experience of southern California. In 1908, Edward Libbey and his wife Florence moved to the area and began efforts to renovate the town, which became known as Ojai again in 1917 (Ojai Valley Museum 2016).

Ojai Water Distribution System

The Ojai Water Distribution System was owned and operated by the Golden State Water Company, a subsidiary of American States Water Company, from the company's inception 1929 through April of 2017, when it was taken over by Casitas MWD (Business Wire 2017). The American States Water Company was founded in 1928 by public utility engineer John C. Rath, and included several smaller companies throughout southern California (Golden State Water Company 2018). After the purchase of the Los Angeles Water Service Company in 1933, American States Water Company was able to rapidly expand and by 1950 served more than 97,000 customers across southern California. Golden State Water Company operated in Ojai for 87 years before Ojai citizens voted to end the company's service. Casitas MWD, which had operated in the area surrounding Golden State Water Company's system since 1952, took over the Ojai Water Distribution System in April of 2017 (Water Systems Consulting 2018).

4 Background Research

Background studies for this cultural resources study included a records search of the California Historical Resources Information System (CHRIS) and a SLF search by the Native American Heritage Commission (NAHC). In addition, Rincon also conducted research on the history and development of Casitas MWD and reviewed historical maps and aerial photographs of the area. A summary of the methods and results associated with these efforts is provided below.

4.1 Cultural Resources Records Search

On October 17, 2018, Rincon requested a records search of the CHRIS at the South Central Coastal Information Center (SCCIC) located at California State University, Fullerton. On November 20, 2018, Rincon received the records search results from the SCCIC (Appendix A). The search was conducted to identify all previously recorded cultural resources and previously conducted cultural resources studies within the project site and a 0.5-mile radius surrounding it. The CHRIS search included a review of the National Register of Historic Places (NRHP), the CRHR, and the California State Historic Resources Inventory list.

The cultural resources records search identified 98 previously conducted cultural resources studies within a 0.5-mile radius of the project site. Of these, 14 studies intersect the project site. One of these studies (VN-01041) involved the investigation of an archaeological resource (P-56-000061) which extends into the project site. A list of previously conducted studies included in the records search results is provided in Table 1 below.

Table 1 Previously Conducted Cultural Resources Studies within 0.5-mile of the Project Site

Report Number	Author(s)	Year	Title	Relationship to Project Site
VN-00020	D'Altroy, Terence N.	1975	<i>Evaluation of the Archaeological Resources and Potential Impact of Proposed Construction of Route 33 Between its Present End South of Casitas Springs and its Projected End South of Ojai</i>	Outside
VN-00141	Horne, Stephen	1973	<i>Archaeological Survey of Ojai West Fuelbreak East of Ventura River (ARR 05-07-18)</i>	Outside
VN-00152	Horne, Stephen and John Johnson	1978	<i>Archaeologist and Historical Overview Matilija Fuel Management Block Ojai Ranger District Los Padres National Forest</i>	Within
VN-00274	Lopez, Robert	1980	<i>An Archaeological Reconnaissance of the Eight Acres Involved in Parcel Map No. 3516 Ojai, Ventura County, California</i>	Outside
VN-00364	Lopez, Robert	1981	<i>An Archaeological Reconnaissance of the 12.81 Acres for the Maricopa Commercial Center, Ojai, Ventura County, California</i>	Outside

Casitas Municipal Water District
Ojai Water System Improvements Project

Report Number	Author(s)	Year	Title	Relationship to Project Site
VN-00408	Lopez, Robert	1981	<i>An Archaeological Reconnaissance of the 13.61 Acres Involved in Parcel Map 3364, Ojai Valley, Ventura County, California</i>	Outside
VN-00530	Breece, William H.	1986	<i>Cultural Resources Survey, Ojai Valley, Ventura County, California</i>	Outside
VN-00664	Lopez, Robert	1988	<i>An Archaeological Reconnaissance of the Ojai Valley Sanitary District's Sewer System to Serve St. Joseph's Convalescent Hospital, Ojai, Ventura County, California</i>	Outside
VN-00672	Lopez, Robert	1988	<i>An Archaeological Reconnaissance of the Two Acres Involved in Tract Map 4478, Meiners Oaks, Ventura County, California</i>	Outside
VN-00675	Schmidt, James J.	1988	<i>Gorham Road Pipeline Alignment, City of Ojai, Ventura County, California</i>	Outside
VN-00681	Lopez, Robert	1985	<i>An Archaeological Reconnaissance of the 5.9 Acres Involved in Tract 3154, Meiners Oaks, Ojai Valley, Ventura County, California</i>	Outside
VN-00749	Lopez, Robert	1979	<i>An Archaeological Survey of a Proposed Parcel Division in the Unincorporated Territory of Ventura County, California</i>	Outside
VN-00807	Lopez, Robert	1976	<i>An Archaeological Survey of the Vicinity of the Proposed Bridge 315 Construction at the Junction of the Creek Road and San Antonio Creek, Ventura County, California</i>	Outside
VN-00836	Singer, Clay A. and John E. Atwood	1990	<i>Cultural Resources Survey and Impact Assessment for Tentative Tract No. 4509 in Ojai, Ventura County, California</i>	Outside
VN-00840	Lopez, Robert	1977	<i>An Archaeological Survey of a Proposed Subdivision in the Ojai Valley of Ventura County, California (Foothill Park)</i>	Outside
VN-00841	Wilcoxon, Larry R. and James J. Schmidt	1990	<i>A Phase 1 Archaeological Resource Evaluation for a Proposed Eight Lot Residential Subdivision at 1091 Cuyama Road, Ojai, California</i>	Outside
VN-00886	Callison, Sheila	1980	<i>Survey Data Sheet: PD-929 - Meiners Oaks</i>	Outside
VN-00888	Callison, Sheila	1979	<i>Survey Data Sheet: PM-3056 - Request for Data from John Crowley</i>	Outside
VN-00892	Lopez, Robert	1990	<i>An Archaeological Reconnaissance of the Twenty Acres Involved in Tract No. 100.235e, Ojai Valley, Ventura County, California</i>	Outside
VN-00970	Maxwell, Thomas J.	1990	<i>A Phase One Archaeological Survey of 5.15 Acres on Fairview Road, Matilija Quadrangle, California (APN 010-0-110-080)</i>	Outside
VN-01041	Susia, Margaret	1962	<i>The Soule Park Site (VEN-61)</i>	Within
VN-01102	Singer, Clay A.	1977	<i>Preliminary Cultural Resource Survey and Potential Impact Assessment for Thirteen Areas in Southern Ventura County, California</i>	Within

Report Number	Author(s)	Year	Title	Relationship to Project Site
VN-01280	Singer, Clay A. and John E. Atwood	1994	<i>Cultural Resources Survey and Impact Assessment for Assessor's Parcel Number 024-010-040 in the City of Ojai, Ventura County, California</i>	Outside
VN-01293	Macko, Michael E.	1994	<i>Final Letter Report of Archaeological Monitoring of the Ojai Valley Sanitation District 1927 Sewer Rehabilitation Project, Ventura County, California</i>	Outside
VN-01452	Garcia, Juanita D.	1996	<i>Cozy Dell Road (5n34) Erfo Project, Ojai Ranger District, Los Padres National Forest, Ventura County, California</i>	Outside
VN-01454	Garcia, Juanita D.	1996	<i>Stewart Canyon Road (5n41) Erfo Project, Ojai Ranger District, Los Padres National Forest, Ventura County, California</i>	Within
VN-01549	Lopez, Robert	1997	<i>An Archaeological Reconnaissance of Area Involved in Conditional Use Permit No. 4997 Located at 1175 Grand Avenue, Ojai Valley, Ventura County, California</i>	Outside
VN-01560	Lopez, James M. and Steve Galbraith	1998	<i>Heritage Resource Report for Negative Findings: Foothill Prescribed Burn Project</i>	Outside
VN-01562	Horne, Stephen	1997	<i>Heritage Resource Report for Negative Findings: Sisar Canyon Land Exchange</i>	Outside
VN-01564	Lopez, James M.	1998	<i>Heritage Resource Report for Negative Findings: Fox Canyon Trail Reroute</i>	Outside
VN-01628	Garcia, Juanita D.	1997	<i>Shelf Road Prescribed Burn Project, Ojai Ranger Station District, Los Padres National Forest, Ventura County, California</i>	Outside
VN-01756	Horne, Stephen	1990	<i>Archaeological Survey Report Pratt Trailhead</i>	Outside
VN-01757	Jackson, Terry	1982	<i>Los Padres National Forest Archaeological Survey Report - Foothill Trail Spur</i>	Outside
VN-01758	Lauter, Gloria	1985	<i>Cultural Resources Reconnaissance Ojai Flood Control Project</i>	Within
VN-01764	Horne, Stephen	1977	<i>Archaeological Reconnaissance for the Proposed Schroff Road Project in Cozy Dell Canyon (ARR 05-05-86)</i>	Outside
VN-01870	Schmidt, James J.	1999	<i>Phase I Archaeological Survey: Parcels Nos. 203 to 307 Ojai, Ventura County, California</i>	Outside
VN-01871	Schmidt, James J.	2001	<i>Negative Archaeological Survey Report: Phase I Investigation at 701 North Montgomery Street, Ojai</i>	Outside
VN-01917	Schmidt, James J.	2000	<i>Phase I Investigation: SCE Patricia Distribution System</i>	Outside
VN-01932	Lopez, Robert	1979	<i>An Archaeological Reconnaissance of the Areas Included in the 201 Facilities Plan for Relocation, Protection and Realignment of Flood Damage Prone Sewers Serving the Ojai Valley, Ventura County</i>	Outside
VN-02057	Whitley, David S.	2000	<i>Phase I Archaeological Survey for the North Montgomery Street Study Area, Ojai, Ventura County, California</i>	Within

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Report Number	Author(s)	Year	Title	Relationship to Project Site
VN-02058	Unknown	1999	<i>Phase I Archaeological Survey for the South Fulton Street Affordable Housing Project Area, Ojai, Ventura County, California</i>	Outside
VN-02060	Romani, John F.	2001	<i>Archaeological Assessment for the Residential Condo Project on Montgomery Street, Ojai</i>	Outside
VN-02061	Unknown	2001	<i>Extended Phase I Archaeological Investigation at 203-307 S. Montgomery Street, Ojai</i>	Outside
VN-02062	Amaglio, Sandra	2001	<i>Soule Park Embankment Stabilization Project, Ventura County, FEMA-1203-DR-CA, DSR #52055 and #73861</i>	Outside
VN-02063	Unknown	1998	<i>Phase I Archaeological Survey for the Arc Parking Lot Project, 210 Canada Street, Ojai, Ventura County, California</i>	Outside
VN-02191	Garcia, Juanita D.	1996	<i>Heritage Resource Report Gridley Canyon Road (5n11/5n34) Erfo Project, Ojai Ranger District, Ventura County, California</i>	Outside
VN-02192	Horne, Stephen	1977	<i>Archaeological Reconnaissance for the Proposed Schroff Road Project in Cozy Dell Canyon</i>	Outside
VN-02193	Romani, John F.	2002	<i>Archaeological Survey Report 324 Bryant Street, Ojai</i>	Outside
VN-02275	Maki, Mary K.	2005	<i>Phase I Archaeological Investigation of Approximately 3500 Linear Feet for the OVSD Sewer Extension for El Paseo, Sierra & Cuyama Roads, City of Ojai, Ventura County, California</i>	Within
VN-02276	Bonner, Wayne H.	2005	<i>Cultural Resources Records Search Results and Site Visit for Cingular Wireless Candidate VN-0020-01 (Caltrans Ojai), 1116 Maricopa Highway, Ojai, Ventura County, California</i>	Outside
VN-02285	Romani, John F. and George A. Toren	2003	<i>Phase I Archaeological Investigation for the Fulton Street Extension, Ojai, Ventura County, California</i>	Outside
VN-02286	Paniagua, Jamie and John F. Romani	2005	<i>Archaeological Survey Report Phase I Archaeological Investigation for APN 028-0-072-280 and -270, Ojai, California</i>	Outside
VN-02287	Paniagua, Jamie and John F. Romani	2005	<i>Archaeological Reconnaissance Report: 409 Bryant Circle (APN 024-0-120-205), City of Ojai, Ventura County, California</i>	Outside
VN-02288	Paniagua, Jamie and John F. Romani	2005	<i>Archaeological Reconnaissance Report: 1105 N. Signal St., Ojai, Ventura County, California (APN 021-011-01)</i>	Within
VN-02289	Girod, Catherine	2006	<i>Extended Phase I Report: APN 028-0-072-280 and APN 028-0-072-270, City of Ojai, Ventura County, California</i>	Outside
VN-02290	Girod, Catherine	2006	<i>Archaeological Monitoring Report: Willow Street Extension, City of Ojai, Ventura County, California</i>	Outside
VN-02293	Romani, John F.	2005	<i>Archaeological Survey Report: Phase I Archaeological Survey of 914 Bryant Place, APN 023-0-160-355, Ojai, California</i>	Outside

Report Number	Author(s)	Year	Title	Relationship to Project Site
VN-02294	Romani, Gwendolyn R.	2005	<i>Archaeological Report on the Cultural Resources From CA-VEN-1667, City of Ojai, Ventura County, California</i>	Outside
VN-02295	McFarland, Janine R.	2003	<i>Old Ojai Administrative Site Land Exchange</i>	Within
VN-02296	Roycraft, Elizabeth	2006	<i>ESDR 05: Pratt Trailhead Rd #4n17</i>	Outside
VN-02297	Unknown		<i>Letter Report: Results of Archaeological Monitoring Along Montgomery Street, Ojai Avenue, and S. Montgomery Street for the Placement of Underground Utilities by Southern California Edison, in the City of Ojai, California</i>	Within
VN-02386	Jordon, Stacey C. and Joshua D. Patterson	2006	<i>Archaeological Survey Report for the Southern California Edison Company Replacement of 71 Deteriorated Poles on the Patricia 16kv, Thacher 16kV, Matilda 16kV, Tico 16kV, Seaquit 4kV, Maguire 16kV, Galahad 16kV, Brennan B4 16kV Strathern 16kV, Gabbert B2</i>	Outside
VN-02410	McLean, Roderic	2006	<i>Cultural Resources Study for the Replacement of Thirteen Deteriorated Southern California Edison Utility Poles: Santa Clara-Ojai-Santa Barbara 66kV and Santa Clara-Ojai 66kV Circuits (gwo/jo: 4605-0081/2400), Santa Clara-Casitas-Tayshell 66kV Circuits</i>	Outside
VN-02484	Wlodarski, Robert J. and Matthew Conrad	2007	<i>A Phase I Archaeological Study for the Mallory Way Bungalows Project Located at 412 Mallory Way (APN#020-0-071-370), City of Ojai, County of Ventura, California</i>	Within
VN-02506	Wlodarski, Robert J.	2007	<i>A Phase 1 Archaeological Study for the Ojai Meadows Preserve Habitat Restoration and Flood Control Plan Project Ojai Meadows Preserve, Maricopa Highway, City of Ojai, County of Ventura, California</i>	Outside
VN-02519	Girod, Catherine	2007	<i>Archaeological Survey Report: Phase 1 Archaeological Investigation for 201 S. Montgomery Street, City of Ojai, Ventura County, California, APN 023-0-100-100</i>	Outside
VN-02574	Girod, Catherine	2007	<i>Phase I Archaeological Investigation for 404 E. Willow Street, Ojai, Ventura County, California, APN 023-0-110-280</i>	Outside
VN-02615	Girod, Catherine	2007	<i>Phase I Archaeological Investigation for APN 023-0-075-210, (temporary Address 207 South Signal Street), City of Ojai, Ventura County, California</i>	Outside
VN-02618	Paniagua, Jaime	2007	<i>Final Letter Report on the Results of the Findings for the Archaeological Monitoring Program Conducted at 1005 N. Signal Street, City of Ojai, Ventura County, California</i>	Outside
VN-02623	Schmidt, June A.	2005	<i>Ojai C3 and Riva C1 16 kV Distribution Line in the Oak View and Ojai Areas, Ventura County</i>	Outside
VN-02631	Romani, John F.	2005	<i>Archaeological Extended Phase I Presence/Absence Test Excavations at 1005 and 1055 N. Signal Street, Ojai, Ventura County, California</i>	Within
VN-02675	Girod, Catherine	2008	<i>Archaeological Monitoring Report: 1055 N. Signal Street City of Ojai, Ventura County, California</i>	Outside

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Report Number	Author(s)	Year	Title	Relationship to Project Site
VN-02702	Maki, Mary K.	2008	<i>Phase I Cultural Resources investigation of 0.17 Acre at 309 South Montgomery St. (APN 023-0-100-140), Ojai, Ventura County, California</i>	Outside
VN-02717	Gonzalez, Matthew and Kyle Garcia	2009	<i>Results of the Cultural Resource Assessment for the Southern California Edison Replacement of Deteriorated Pole Nos. 786527E, 728195H, and 728937E; Ventura County, California; WO 6039-4800, 9-4807</i>	Outside
VN-02733	Parr, Robert E.	2009	<i>Cultural Resource Assessment for the Replacement of Eleven Deteriorated Power Poles in the Ojai Valley, Ventura County, California</i>	Outside
VN-02738	Parr, Robert E.	2009	<i>Cultural Resource Assessment for the Replacement of two Deteriorated Power Poles on the Southern California Edison Company Patricia and Thacher 16kV Circuits, Ojai, Ventura County, California</i>	Outside
VN-02747	Toren, A. George and John F. Romani	2009	<i>Archaeological Reconnaissance Report: 206 Bald Street, City of Ojai, Ventura County, California</i>	Outside
VN-02748	Toren, A. George and John F. Romani	2009	<i>Phase I Archaeological Investigation: 7.46 Acres of Libbey Park, City of Ojai, Ventura County, California</i>	Within
VN-02792	Williams, Audry	2010	<i>Archaeological Letter Report: WO 6039-4800 9-4842; TD 352285: SCE Red Mountain, Seacliff, Matilija, and Patricia 16kV Deteriorated Pole Replacement Projects, Ventura County</i>	Outside
VN-02820	Romani, Gwen R.	2010	<i>Phase I Archaeological Investigation for the Proposed Visitors Center, Humane Society of Ventura County, 402 Bryant Street, Ojai, Ventura County, California</i>	Outside
VN-02860	Paniagua, Jaime	2005	<i>Archaeological Reconnaissance Report: Phase I Archaeological Investigation at 312 W. Aliso Street, Ojai, Ventura County, California</i>	Outside
VN-02871	Lopez, Robert	2004	<i>An Archaeological Assessment of the Property known as the "Cottages Among the Flowers", Ojai, Ventura County, California</i>	Outside
VN-02872	Fortier, Jana	2009	<i>TEA-21 Rural Roadside Inventory: Native American Consultation and Ethnographic Study for Caltrans District 7, Ventura County</i>	Within
VN-02891	Schmidt, James	2010	<i>Archaeological Letter Report: Thacher 16kV deteriorated pole replacement project (WO 6039-4800; 0-4883), City of Ojai, Ventura County, California</i>	Outside
VN-02914	Orfila, Rebecca	2010	<i>Archaeological Survey for the Southern California Edison Company: Replacement of Fourteen Deteriorated Power Poles on the Tico 16kV, Thacher 16kV, Castro 16kV, and Timber Canyon 16kV Circuits near Ojai and Fillmore in Ventura County, California</i>	Outside
VN-02919	Schmidt, June A. and Gwen R. Romani	2011	<i>Phase I Cultural Resources Investigation: 305 South Ventura Street, City of Ojai, Ventura County, California</i>	Outside

Report Number	Author(s)	Year	Title	Relationship to Project Site
VN-02920	Schmidt, June A. and Gwen R. Romani	2011	<i>Phase I Cultural Resources Investigation: 207 South Blanche Street, 209 South Blanche Street, 211 South Blanche Street, City of Ojai, Ventura County, California</i>	Outside
VN-02928	Toren, A. George	2011	<i>Phase I Archaeological Investigation: Weil Tennis Academy Campus Expansion and Improvement Project, City of Ojai, Ventura County, California</i>	Outside
VN-02971	Chandler, Evelyn and Sara Hale	2010	<i>Cultural Resources Inventory of Eight Pole Replacements in Ojai, Ventura County, California</i>	Outside
VN-02973	Ewing-Toledo, Kelly	2009	<i>Historic Resources Compliance Report for the Ojai Maintenance Station, Ventura County, California</i>	Outside
VN-03120	Toren, George	2012	<i>Letter Report- Archaeological Investigation of Property at 601 Pope Lane, Ojai (APN 023-0-132-090)</i>	Outside
VN-03193	Unknown	2014	<i>Limited Archaeological Survey of Construction Area, 1105 North Signal Avenue, Ojai, California</i>	Outside
VN-03194	Bonner, Diane	2013	<i>Cultural Resources Record Search and Site Visit Results for the proposed AT&T Mobility LLC Site CLV2722 (Ojai Lutheran Church) located at 1290 Grand Avenue, Ojai, Ventura County, California</i>	Outside
VN-03233	Salisbury, Melinda, Foster, Robert and William Rich	2013	<i>A Cultural Resources Investigation of the California Department of Fish and Wildlife CREW Lower West Barranca Restoration Project – City of Ojai (R5-008), Ventura County, California</i>	Outside
VN-03276	Foster, John M.	2015	<i>Archaeological Inventory, 303 Bald Street, City of Ojai</i>	Outside
VN-03278	Foster, John M.	2016	<i>Archaeological Monitoring, Twice Sold Tales, Historic Book Store, 121 East Ojai Avenue, City of Ojai</i>	Outside
VN-03281	Foster, John M.	2015	<i>Archaeological Inventory, Sarzotti Picnic Shelters Project, City of Ojai</i>	Outside
VN-03282	Foster, John M.	2016	<i>Weil Tennis Academy Project, Ojai, California</i>	Outside

*Source: South Central Coastal Information Center, November 2018

The cultural resources records search additionally identified 25 previously documented cultural resources within a 0.5-mile radius of the project site (Table 2). Of these, two archaeological resources (P-56-000061 and P-56-001109) are located within the project site with an additional three archaeological resources (P-56-000137, P-56-001779, and P-56-1151) situated within the immediate vicinity (e.g., 100 feet) of the project site. Descriptions of these six archaeological resources are provided below; locations of each resource are shown on Figure B.1 in Appendix B.

The SCCIC records search identified seven built-environment resources located adjacent to the project site. These include P-56-153100, P-56-151212, P-56-150988, P-56-150989, P-56-151090, P-56-152272, and P-56-152303. Rincon assumes that none of these resources will be impacted by the proposed project, as development requires the replacement of existing subsurface pipelines within the public right-of-way near their locations.

Table 2 Previously Recorded Cultural Resources within 0.5-mile of the Project Site

Primary Number	Trinomial	Resource Type	Description	Recorder(s) and Year(s)	NRHP/CRHR Status ¹	Relationship to Project Site ²
P-56-000061	CA-VEN-61	Prehistoric site	Lithic scatter, architectural feature, burial, habitation debris	1949 (ORR) 1960 (UCLA) 1960 (J. Dron, Ojai Press) 1961 (J. Dron, Ojai Press) 2018 (S. Bryne, ICF)	Not evaluated	Within
P-56-000136	CA-VEN-136	Prehistoric site	Lithic scatter	1961 (T. Blackburn)	Not evaluated	Outside
P-56-000137	CA-VEN-137	Prehistoric site	Lithic scatter, bedrock milling feature, habitation debris	1961 (T. Blackburn) 2005 (J. Paniagua, Compass Rose Archaeological) 2007 (A. G. Toren, Compass Rose Archaeological)	Not evaluated	Adjacent
P-56-000138	CA-VEN-138	Prehistoric site	Lithic scatter, habitation debris	1961 (T. Blackburn)	Not evaluated	Outside
P-56-000189	CA-VEN-189	Prehistoric site	Lithic scatter	1968 (T. Blackburn)	Not evaluated	Outside
P-56-000554	CA-VEN-554	Prehistoric site	Lithic scatter, bedrock milling feature	1978 (D. Whitley)	Not evaluated	Outside
P-56-001109	CA-VEN-1109H	Historic-era site	Roads/trails/railroad grades	1993 (M. Macko, Macko Archaeological Consulting) 1994 (James and June Schmidt, Greenwood and Associates); 2012 (H. Switalski and A. Bardsley, AMEC)	Not evaluated	Within
P-56-001151	CA-VEN-1151H	Historic-era site	Privies/dumps/trash scatters	1993 (R. Pence, Pence Archaeological Consulting)	Not evaluated	Adjacent
P-56-001158	CA-VEN-1158	Prehistoric site	Lithic scatter	1994 (Unknown, Macko Archaeological Consulting)	Not evaluated	Outside

Primary Number	Trinomial	Resource Type	Description	Recorder(s) and Year(s)	NRHP/CRHR Status ¹	Relationship to Project Site ²
P-56-001515	CA-VEN-1515H	Historic-era site	Foundations/ structure pads/ privies/dumps/ trash scatters/ roads/trails/ railroad grades/ railroad depot	2016 (J. Foster)	Not evaluated	Outside
P-56-001516	CA-VEN-1516H	Historic-era site	Foundations/ structure pads/ privies/dumps/ trash scatters/ religious building	2016 (J.M. Foster)	NRHP listed	Outside
P-56-001517	CA-VEN-01517	Prehistoric site	Lithic scatter, habitation debris	2016 (J.M. Foster)	Not evaluated	Outside
P-56-001667	CA-VEN-1667/H	Prehistoric site, historic site	Lithic scatter	2004, 2005 (G. Romani, Compass Rose Archaeological, Inc.)	Not evaluated	Outside
P-56-001779	CA-VEN-1779	Prehistoric site	Lithic scatter	2005 (J. Paniagua, Compass Rose Archaeological, Inc.) 2018 (S. Bryne, ICF)	Not evaluated	Adjacent
P-56-100440	N/A	Historic-era site	Privies/dumps/ trash scatters	2018 (S. Bryne, ICF)	Not evaluated	Outside
P-56-150988	N/A	Historic-era building and structures	Ranch	Unknown	Eligible for local register listing	Adjacent
P-56-150989	N/A	Historic-era building	Ranch	Unknown	Not evaluated	Adjacent
P-56-151090	N/A	Historic-era building	Single family property	Unknown	Not evaluated	Adjacent
P-56-151212	N/A	Historic-era building	Commercial property	1988 (Unknown)	Eligible for NRHP or CRHR	Adjacent
P-56-152272	N/A	Historic-era building	Single family property	1990 (Unknown)	Ineligible for NRHP	Adjacent
P-56-152303	N/A	Historic-era building	Single family property	Unknown	Ineligible for NRHP	Adjacent
P-56-152386	N/A	Historic-era district	Religious building	1995 (A. Cole, Preservation Planning)	NRHP listed	Outside
P-56-153054	N/A	Historic-era building	Single family property	2000 (Unknown)	NRHP listed	Outside

Primary Number	Trinomial	Resource Type	Description	Recorder(s) and Year(s)	NRHP/CRHR Status ¹	Relationship to Project Site ²
P-56-153060	N/A	Historic-era structure	Engineering structure	2012 (W.L. Tinsley Becker, Urbana Preservation & Planning)	Ineligible	Outside
P-56-153100	N/A	Historic-era building	Religious building	2013 (B.D. Johnson, Heritage Preservation Consultants)	Not eligible	Adjacent

4.1.1 P-56-000061

P-56-000061 (CA-VEN-61), also known as the Soule Park Site, is a prehistoric archaeological site that may represent the location of the prehistoric/ethnohistoric Chumash village of “awah’y”, from which Ojai got its name. The site contains numerous burials, thermal features, rock concentrations, and midden deposits, the latter of which exceed one meter in depth. Archaeological investigations at P-56-000061 have recovered a diverse assemblage including a variety of flaked and ground stone tools, shell ornaments, and bone awls and tubes (Susia 1967). Although the site has not been formally evaluated for listing on the CRHR, it likely meets Criterion 4 (data potential) as a historical resource under CEQA. The project site runs through the eastern boundary of P-56-000061.

4.1.2 P-56-001109

P-56-001109 (CA-VEN-1109H) represents the remains of the Ventura River and Ojai Valley Railroad. Built in 1898, the approximately 16-mile-long railroad spur ran between Nordhoff (Ojai) and Ventura. The railroad was abandoned in the 1950s with the tracks and rails removed in 1969. Today, the portion of the route through Ojai has been modified for use as an equestrian, bicycle, and pedestrian trail. This resource is entirely above-grade (e.g., a raised berm) with no subsurface component. P-56-001109 has not been evaluated for listing on the CRHR. The recorded alignment intersects the southern portion of the project site at San Antonio and South Blanche Streets

4.1.3 P-56-000137

P-56-000137 (CA-VEN-137) is a prehistoric habitation site located on a small knoll [REDACTED]. The site was first recorded in 1961 as a flaked and ground stone surface scatter. Archaeological testing at the site identified two bedrock milling slicks, as well as shallow subsurface cultural deposits extending 20 centimeters in depth (Romani 2005). Much of the site appears to have been destroyed by the construction of a single-family residence in the 1960s. P-56-000137 has not been formally evaluated for listing on the CRHR. Based on information obtained from previous investigations, it likely meets Criterion 4 (data potential) as a historical resource under CEQA. The project site is located immediately adjacent to the northern boundary of P-56-000137.

4.1.4 P-56-001151

P-56-001151 (CA-VEN-1151H) is a historic-period refuse scatter located under the roadway of [REDACTED]. Discovered during the monitoring for the installation of underground utilities, the site included historic-era ceramics, bricks, and oxidized iron fragments

(Pence 1993). The refuse scatter appeared to have been disturbed by previous utility trenches and road construction. P-56-001151 was not evaluated for listing on the CRHR. The site is situated on [REDACTED] approximately 50 feet north of the project site.

4.1.5 P-56-001779

P-56-001779 (CA-VEN-1779) is a prehistoric archaeological site located at the northwest corner of [REDACTED]. The site was originally recorded as a surface scatter of flaked and ground stone artifacts. Recently, three shovel test pits were excavated along the portion of the site bordering [REDACTED] as part of an Extended Phase I program (Bryne and Sparks 2018). In total, two pieces of flaked stone debitage and a biface fragment were recovered during the test excavations. P-56-001779 has not been formally evaluated for listing on the CRHR. The presence of subsurface remains suggests the site may be eligible for the CRHR under Criterion 4 (data potential). The project site is located immediately adjacent to the southern boundary of P-56-001779.

4.2 Sacred Lands File Search

As part of the process of identifying cultural resources issues for this project, Rincon contacted the NAHC on October 18, 2018 to request a SLF search of the project site and vicinity (Appendix C). The NAHC responded on November 9, 2018 stating that the results of the search were positive and suggested contacting the Barbareño/Ventureño Band of Mission Indians for more information. Casitas MWD as the CEQA lead agency will be conducting Native American consultation for the project in compliance with AB 52 requirements. Rincon assumes Casitas MWD will discuss the positive SLF results with the Barbareño/Ventureño Band of Mission Indians and will address any other Native American concerns with interested tribes as part of the AB 52 process.

4.3 Historical Research

Rincon consulted a number of archival sources as part of historical background research for the project. Information on the history and development of the Ojai Water Distribution System was obtained from online sources and the Casitas MWD Condition Based Assessment and Water Master Plan (Water Systems Consulting 2018). Rincon additionally examined historical aerial images of the project site (NETRonline 2018). The earliest available aerial photograph dates to 1947 and depicts the project area as largely undeveloped and characterized by agricultural fields. Many of the residential neighborhoods within the vicinity of the project alignments were constructed between 1947 and 1967, with further development occurring in the 1970s. All of the above-referenced sources were reviewed to identify historic-age elements of the water system (at least 50 years old).

5 Field Survey

5.1 Methods

On November 26, 2018, Rincon conducted a field survey of the project site. The pipeline alignments, approximately eight miles in length, were surveyed via windshield survey within the paved street and along the existing right-of-way. Portions of the alignment north of Palomar Road near Arbolada Tank could not be inspected because the pipeline right-of-way ran through private property. A pedestrian survey was completed of each tank, booster pump station, and well location using 10-meter transect intervals with a 60-meter (200-foot) perimeter surrounding the facilities. As part of the pedestrian survey, the mapped locations of the five previously recorded archaeological resources situated within and adjacent to the project site were also revisited.

During the pedestrian survey, Rincon examined all exposed ground surface for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), ecofacts (marine shell and bone), soil discolorations that might indicate the presence of cultural midden, soil depressions, and features indicative of the former presence of structures of buildings (e.g., standing exterior walls, postholes, foundations) or historic-era debris (e.g., metal, glass, ceramics). Ground disturbances such as burrows and road cuts were also visually inspected. Field notes of survey conditions and observations, including above-ground elements of the Ojai Water Distribution System, were recorded using Rincon field forms and a digital camera. Copies of the original field notes and photographs are on file at Rincon's Ventura office.

5.2 Results

Results of the windshield survey revealed that the majority of the project site is completely developed by roadways and surrounding residential and urban development. The pedestrian survey also identified the project site as being disturbed by grading and infrastructure construction, including the areas surrounding the tanks, booster pump stations, and wells. Visibility of the ground surface during the pedestrian survey ranged from approximately 30 to 75 percent due to surface obstructions including grasses, pavement, and gravel. In exposed areas, the soil was generally semi-compact, moist, and medium-brown silty clay with pebbles and some small river cobbles. Large amounts of modern trash including broken glass bottles, plastic, and paper were also identified during the pedestrian survey.

No surficial evidence of P-56-000061 or P-56-001109 was identified during the pedestrian survey. The areas of the project site that intersect these site boundaries are heavily disturbed by roadways and surrounding infrastructure and landscaping. P-56-000061 has largely been developed by the Soule Park Golf Course and Fairway Lane. P-56-001109 is currently in use as an equestrian, pedestrian, and bicycle path; the portions of P-56-001109 within the project alignment have been destroyed by the construction of San Antonio and South Blanche streets. Finally, no evidence of any of the archaeological resources (P-56-000137, P-56-001151, and P-56-001779) located adjacent to the project site was identified during the field survey.

Although the field survey documented no archaeological resources within the project site, results of the historical research indicate that numerous elements of the Ojai Water Distribution System are

historic in age (at least 50 years old). Therefore, the system meets the minimum age requirement to qualify as a historical resource under CEQA. Given this finding, the Ojai Water Distribution System was formally recorded on DPR Series 523 forms and evaluated for listing on the CRHR (see Chapter 5 and Appendix D).

6 Resource Documentation and Evaluation

The Ojai Water Distribution System is a system of tanks, booster pump stations, wells, and pipelines servicing the city of Ojai and surrounding areas (Figure 2). The distribution system contains approximately 45 miles of distribution and transmission mains, six storage reservoirs (tanks), five booster pump stations, six wells, and three interconnections. The system is divided into six distribution zones that contain seven pressure zones. Pipelines within the Ojai Water Distribution System service area are constructed of asbestos cement, cast iron, ductile iron, polyvinyl chloride, and steel and were installed between 1920 and 2017. Tanks were installed pre-1950 to 2011. Booster pump stations were constructed within a similar timeframe. Supply wells were constructed between 1947 and 2012. The system was owned by the Golden State Water Company since 1929 before ownership was transferred to Casitas MWD in April of 2017.

The following descriptive information and tables of the various elements that comprise the Ojai Water Distribution System are adapted from the Condition Based Assessment and Water Master Plan (Water System Consulting 2018).

6.1 Pipelines

The Ojai Water Distribution System contains a total of 45.4 miles of pipeline. Table 3 presents the material type, length, and installation year for pipeline alignments included in the system (Water Systems Consulting 2018). The pipelines are located almost entirely underground in existing public right-of-way. Segments of each pipeline are over 50 years in age.

Included within the Ojai Water Distribution System are two small segment of pipeline located above ground where they cross San Antonio Creek at Grand Avenue. At this location, the pipelines are connected to either side of the San Antonio Creek Bridge (Photograph 1). According to the California Department of Transportation (Caltrans) listing of bridges owned and maintained by local agencies, San Antonio Creek Bridge (Bridge No. 52C0192) was constructed in 1945. Based on an evaluation conducted by Caltrans in 1986, the bridge is not eligible for listing on the NRHP and as such, it is not considered eligible for listing on the CRHR (Caltrans 2018). Further, no impacts to the bridge will result from the replacement of the pipeline as part of the current project.

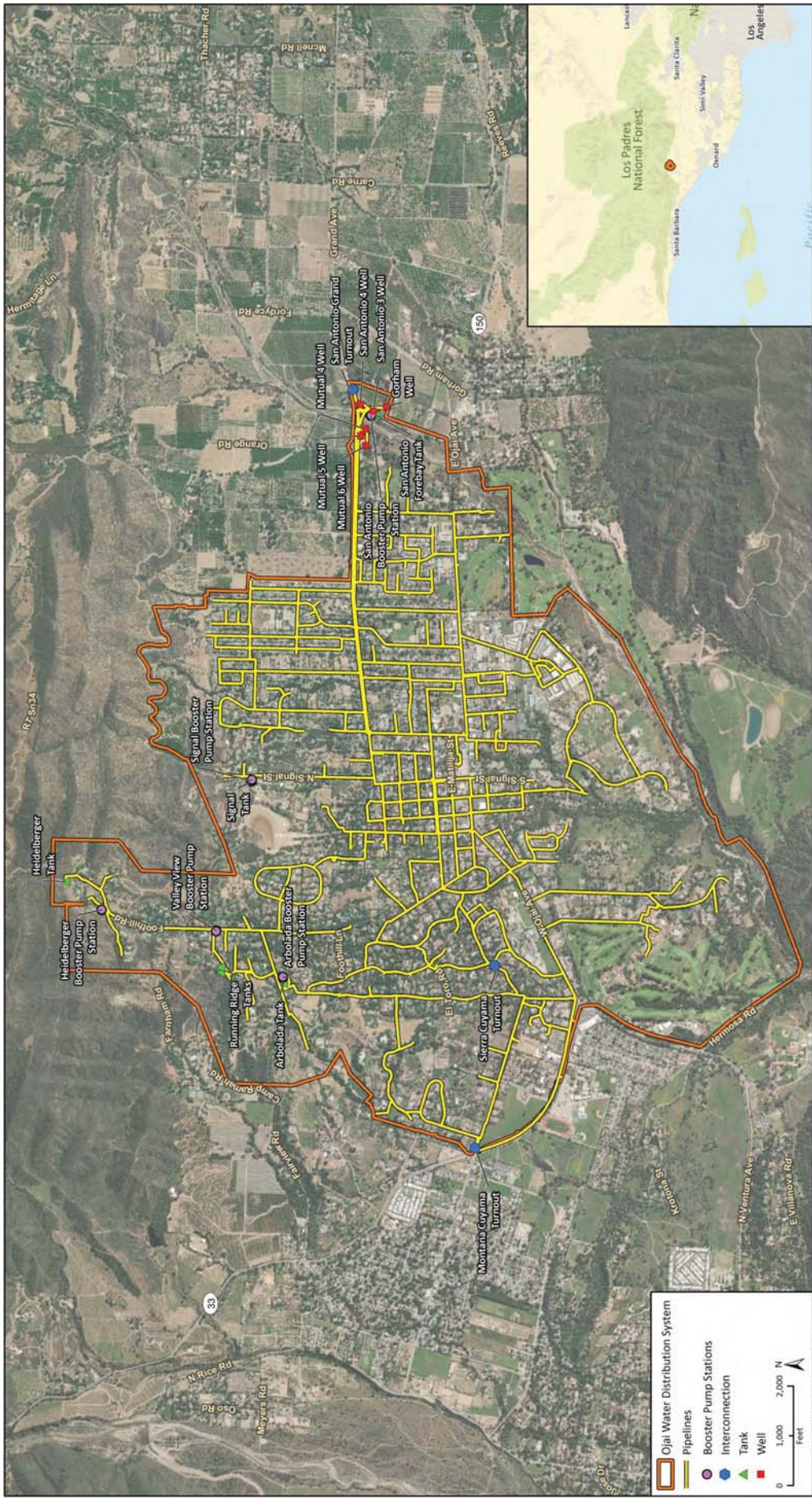
6.2 Tanks

The Ojai Water Distribution System has six tanks or storage reservoirs to supply water to the system. Table 4 provides the construction year, type, and measurements of each tank (Water Systems Consulting 2018). Of the storage tanks in the system, four are over 50 years of age at the time of this report: Arbolada, Signal (Photograph 2), Running Ridge 1, and Running Ridge 2.

6.3 Booster Pump Stations

The system includes a total of five booster pump stations that operate based on gravity storage tank levels and pressure settings to maintain adequate supply to the system. Table 5 provides the approximate construction year and model of each booster pump station (Water Systems Consulting 2018).

Figure 2 Ojai Water Distribution System



Casitas Municipal Water District
Ojai Water System Improvements Project

Table 3 Pipelines in the Ojai Water Distribution System

Material	Unknown Year	1920-1929	1930-1939	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2017	Total (feet)	Total (miles)
Asbestos Cement	4,295	0	0	0	3,342	26,024	27,850	27,465	1,538	0	0	90,515	17.1
Cast Iron	398	581	21,899	4956	25,763	16,661	652	1,423	0	650	0	72,984	13.8
Ductile Iron	1,819	218	0	65	0	0	0	1,603	1,376	10,994	15,874	31,949	6.05
PVC	1,651	0	0	0	322	0	0	13,217	8,683	607	392	24,872	4.71
Steel	3,775	3,539	132	1,299	6,552	1,926	817	1,064	0	0	0	19,104	3.62
Unknown	315	0	0	0	0	0	0	0	0	0	0	315	0.06
Total (feet)	12,253	4,338	22,031	6,320	35,980	44,611	29,319	44,773	11,596	12,251	16,266	239,737	-
Total (miles)	2.3	0.8	4.2	1.2	6.8	8.4	5.6	8.5	2.2	2.3	3.1	-	45.4

Source: Water Systems Consulting 2018

Photograph 1 Pipeline Attached to the San Antonio Creek Bridge



Table 4 Tanks in the Ojai Water Distribution System

Tank	Year Constructed	Type	Diameter (feet)	Height (feet)	Capacity (gallon)
Arbolada	Unknown, before 1966; rehabilitated in 2004	Circular Partially Buried Concrete	100	17	1,000,000
Signal	1948	Circular Ground Supported Welded Steel	36	41	300,000
San Antonio Forebay	2011	Circular Ground Supported Welded Steel	64	27	500,000
Running Ridge 1	Unknown, before 1950	Circular Ground Supported Bolted Steel	22	16	44,000
Running Ridge 2	Unknown, before 1950	Rectangular Partially Buried Concrete	N/A	9	50,000
Heidelberger	2010	Circular Ground Supported Bolted Steel	27.9	24.5	100,000

*Source: Water Systems Consulting 2018; NETRonline 2018

Photograph 2 Signal Tank



Table 5 Booster Pump Stations in the Ojai Water Distribution System

Booster Pump Station	Year Constructed	Model
San Antonio	Unknown, before 1967	2 x Goulds Turbine, Model 14RJLC, 4 Stages
Signal	Unknown, before 1967	Paco Model 4ma-LRu; Goulds Turbine Model G+L Series SSH, 1x2-8
Arbolada	Unknown	2 x Flowserve Model O8ELL, 2 Stages
Valley View	Unknown	2 x Paco Model 1595-7
Heidelberger	Unknown, before 2005	Grundfos CR2-40 and CRB-20U

Source: Water Systems Consulting 2018; NETRonline 2018

Three of the booster pump stations, San Antonio, Signal, and Heidelberger (Photograph 3), are apparent in 1967 aerial imagery and are thus known to be of historic age (NETRonline 2018). The remaining two, Arbolada and Valley View, are not visible on any aerial imagery and are thus assumed to be over 50 years old for the purposes of this evaluation.

Photograph 3 Heidelberg Booster Pump Station



6.4 Wells

The Ojai Water Distribution System contains a total of six wells of various ages to supply the system. Table 6 provides the construction year, construction method, and description of each well (Water Systems Consulting 2018). Of the wells included in this system, three are over 50 years of age: San Antonio 3, Mutual 4, and Mutual 5 (Photograph 4). Each of the historic-age wells were constructed using the cable tool method and feature carbon steel casing.

Table 6 Wells in the Ojai Water Distribution System

Well	Year Constructed	Construction Method and Description
San Antonio 3	1956	Cable tool method; 16-inch diameter carbon steel casing
San Antonio 4	2005	Reverse rotary method; stainless steel blank casing with perforated intervals of stainless steel wire-wrapped screen
Gorham	1996	Direct rotary method; copper-bearing carbon steel blank and copper-bearing carbon steel wire-wrapped screen
Mutual 4	1947	Cable tool method; 20-inch diameter carbon steel casing
Mutual 5	1951	Cable tool method; 16-inch diameter carbon steel casing
Mutual 6	2012	Reverse rotary method; constructed of stainless steel blank casing with perforated intervals of stainless steel wire-wrapped screen

Source: Water Systems Consulting 2018; NETRonline 2018

Photograph 4 Mutual 5 Well



6.5 Ojai Water Distribution System Evaluation

According to available documentation, the components of the Ojai Water Distribution System were constructed variously between 1920 and 2017. The water system was owned and operated by the Golden State Water Company, a subsidiary of American States Water Company, from the company's inception in 1929 through April of 2017, when it was taken over by Casitas MWD (Business Wire 2017).

The Ojai Water Distribution System was constructed to provide adequate water supply to the growing town of Ojai and surrounding area. This system did not contribute to the establishment of the community, nor does it appear to have encouraged growth of the community. Constructed between the 1920s and 2017, the system is not unique or important to the history of the Ojai Valley, the Golden State Water Company, or the American States Water Company. Rather, it is one of many such examples of water distribution systems operated by the American States Water Company throughout Southern California. A review of historical newspapers and other primary and secondary source materials also failed to indicate that the system is directly associated with any other significant events or persons (NRHP Criteria A and B; CRHR Criteria 1 and 2).

The system is a ubiquitous property type that is also not significant for its design or construction (NRHP Criterion C; CRHR Criterion 3). The storage tanks and reservoirs are unexceptional in their design and construction, and the pipelines are standard water distribution pipelines. Each booster

pump station features a common pump model. The wells were built using conventional methods for the era in which they were constructed and are made of ubiquitous materials.

The construction of the pipelines, storage tanks, booster stations, and wells are not unique and do not represent an early or important example of water distribution infrastructure. As confirmed by the cultural resources survey, there is no evidence to suggest that the system has potential to yield important information in history or prehistory (NRHP Criterion D; CRHR Criterion 4). Therefore, the Ojai Water Distribution System is not eligible for listing in the NRHP or the CRHR under any applicable designation criterion.

7 Conclusion and Recommendations

Results of this cultural resources study indicate three cultural resources are located within the project site. These include one newly identified historic-era built-environment resource (Ojai Water Distribution System) and two previously recorded archaeological sites (P-56-000061 and P-56-001109). In addition, two prehistoric archaeological sites (P-56-000137 and P-56-001779) and one historic-era archaeological site (P-56-001151) were identified within the immediate vicinity of the project site.

The Ojai Water Distribution System is a system of pipelines, tanks, booster pump stations, and wells servicing the city of Ojai and surrounding areas. The historical significance of the Ojai Water Distribution System was assessed within the context of the development of Ojai. The Ojai Water Distribution System does not appear to meet the criteria for listing on the CRHR. No further management of this resource is recommended.

A field survey of the project site failed to identify any archaeological remains within the mapped boundary of the prehistoric village site of P-56-000061. Although subsurface archaeological deposits associated with the site may be located within the project alignment, proposed construction in this area will be confined to the replacement of existing pipeline in previously disturbed sediments. Therefore, it is unlikely the project will impact any *intact* buried cultural deposits at P-56-000061. To ensure no significant archaeological deposits associated with the site are impacted during pipeline replacement, Rincon recommends archaeological and Native American monitoring during ground-disturbing activities within a 100-foot radius of the mapped boundary of P-56-000061 (see CUL – 1 and CUL – 2 below).

Results of the field survey additionally indicated the two recorded segments of the historic –era railroad alignment (P-56-001109) intersecting the project site have been destroyed by road construction and the installation of an equestrian, pedestrian, and bicycle path. Because this resource was originally above-grade and no subsurface cultural deposits, the replacement of the pipeline in these areas will not result in any further impacts to P-56-001109. No further management of this historic-era resource is recommended.

Finally, record search results indicate three archaeological resources (P-56-000137, P-56-001779, and P-56-001151) are located outside of, but immediately adjacent to, the project site. No evidence of these resources was identified within survey area. However, given the close proximity of these known cultural resources to the project site, Rincon recommends archaeological and Native American monitoring for all ground-disturbing work occurring within a 100-foot radius of the mapped site boundaries of the prehistoric sites of 56-000137 and P-56-001779. Archaeological monitoring is also recommended within 100-foot radius of the mapped site boundaries of the historic period resource of P-56-001151 (see CUL – 1 and CUL – 2 below).

Rincon recommends a finding of a ***less than significant impact to cultural resources with mitigation incorporated*** for the purposes of CEQA. The following three mitigation measures are recommended to reduce the potential impacts of the project to a less than significant level. The project is also required to adhere to existing regulations regarding the unanticipated discovery of human remains, which are detailed below.

CUL-1 Archaeological Monitoring

Ground-disturbing activities shall be monitored by a qualified archaeologist within the mapped boundary of P-56-000061, as well as within a 100-foot radius of the resource site. Additionally, archaeological monitoring shall be conducted within 100-feet of the mapped boundaries of P-56-000137, P-56-001779 and P-56-001151. The archaeological monitor shall work under the direction of an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983). If cultural resources are encountered during ground-disturbing activities, work in the immediate area shall halt and the find shall be evaluated for significance under CEQA.

CUL-2 Native American Monitoring

Ground-disturbing activities shall be observed by a Native American monitor within the mapped boundary of P-56-000061, as well as within a 100-foot radius of the site. Further, Native American monitoring shall be conducted within 100-feet of the mapped boundaries of P-56-000137 and P-56-001779. If cultural resources are encountered during ground-disturbing activities, work in the immediate area shall halt and the find shall be evaluated by an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) for significance under CEQA.

CUL-3 Unanticipated Discovery of Cultural Resources

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt, and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) should be contacted immediately to evaluate the find. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation, Native American consultation, and archaeological monitoring may be warranted to mitigate any significant impacts.

Unanticipated Discovery of Human Remains

If human remains are found, existing regulations outlined in the State of California Health and Safety Code Section 7050.5 state that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of being granted access and provide recommendations as to the treatment of the remains to the landowner.

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Appendix A

Records Search Results (Confidential)

Appendix B

Previously Recorded Archaeological Resources within and Adjacent to the Project Site
(Confidential)

Appendix C

Sacred Lands File Search Results (Confidential)

Appendix D

Resource Record

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code

Reviewer

Date

Page 1 of 11

*Resource Name or #: Ojai Water Distribution System

P1. Other Identifier:

*P2. Location: Not for Publication Unrestricted *a. County:

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad: Matilija and Ojai

Date: 1995 T 4N ; R 22W, 23W; ¼ of ¼ of Sec Various ; M.D. B.M.

c. Address: Multiple

City: Ojai, CA Zip: 93023, 93024

d. UTM: Zone: ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:

***P3a. Description:**

The Ojai Water Distribution System is a system of tanks, booster pump stations, wells, and pipelines servicing the City of Ojai and immediately surrounding area. The distribution system contains approximately 45 miles of distribution and transmission mains, six wells, three interconnections, five booster pump stations, and six storage reservoirs. The system is divided into six distribution zones that contain seven pressure zones. Pipelines within the Ojai Valley service area are constructed of asbestos cement, cast iron, ductile iron, polyvinyl chloride, and steel and were installed between 1920 and 2017 (see table on continuation sheet). Storage reservoirs and tanks were installed pre-1950 to 2011 (see table). Booster pump stations were constructed within a similar timeframe. Supply wells were constructed between 1947 and 2012. (Continued on Continuation Sheet).

*P3b. Resource Attributes: (List attributes and codes) HP11. Engineering structure; HP39. Other; AH6. Water conveyance system

*P4. Resources Present: Building Structure Object Site District Element of District Other (Isolates, etc.)



P5b. Description of Photo: (View, date, accession #)
Running Ridge Steel Tank, camera facing east

*P6. Date Constructed/Age and Sources: Historic

Prehistoric Both

Multiple construction dates, see table

*P7. Owner and Address:

Casitas Municipal Water District
1055 Ventura Avenue
Oak View, CA 93022

*P8. Recorded by: (Name, affiliation, and address)

Rincon Consultants, Inc.
180 N. Ashwood
Ventura, CA 93003

*P9. Date Recorded:

December 3, 2018

*P10. Survey Type: (Describe)

Pedestrian Survey

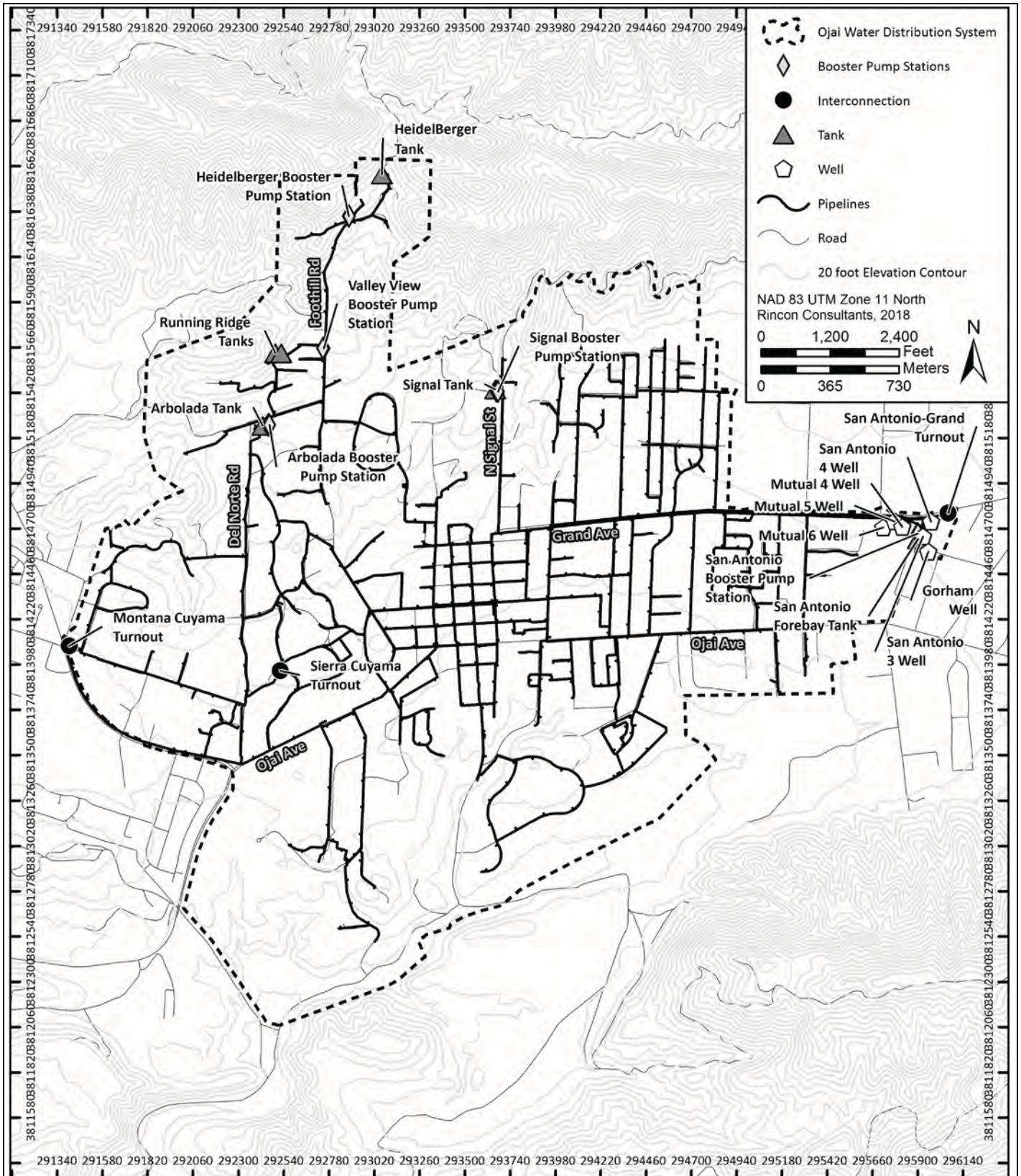
*P11. Report Citation: (Cite survey report and other sources, or enter "none.")

Szromba, Meagan, Tiffany Clark, Tricia Dodds, and Hannah Haas. 2018. Cultural Resources Technical Report for the Ojai Water System Improvements Project. Rincon Consultants Project No. 18-06232. Report on file, South Central Coastal Information Center.

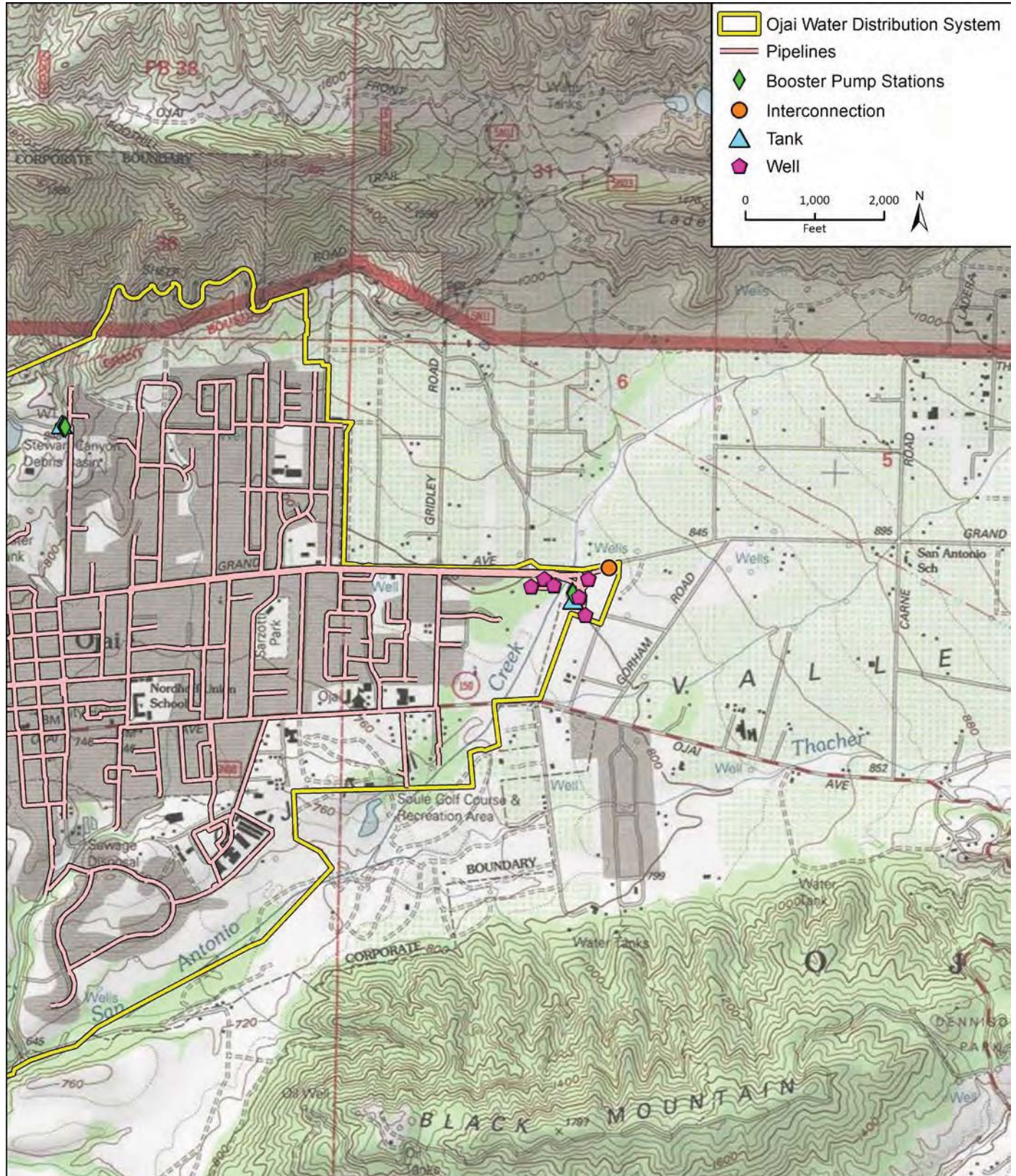
*Attachments: NONE Location Map Sketch Map Continuation Sheet Building, Structure, and Object Record
 Archaeological Record District Record Linear Feature Record Milling Station Record Rock Art Record
 Artifact Record Photograph Record Other (List):

DPR 523A (1/95)

*Required information



NOTE: Include bar scale and north arrow.



BUILDING, STRUCTURE, AND OBJECT RECORD

Page 5 of 11

*NRHP Status Code

*Resource Name or # (Assigned by recorder) Ojai Water Distribution System

- B1. Historic Name: Ojai Water Distribution System
B2. Common Name: Ojai Water Distribution System
B3. Original Use: Water distribution system
B4. Present Use: Water distribution system

*B5. Architectural Style: N/A

*B6. Construction History: (Construction date, alterations, and date of alterations)
See table- system components constructed between 1920 and 2017.

*B7. Moved? No Yes Unknown Date: Original Location:

*B8. Related Features:
Pipelines, wells, booster pump stations, and storage tanks/reservoirs

B9a. Architect: Unknown b. Builder: Various

*B10. Significance: Ineligible Theme: N/A

Area: N/A

Period of Significance: N/A

Property Type: N/A

Applicable Criteria: N/A

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)
According to available documentation, the components of the Ojai Water Distribution System were constructed variously between 1920 and 2017. The water system was owned and operated by the Golden State Water Company, a subsidiary of American States Water Company, from the company's inception 1929 through April of 2017, when it was taken over by the Casitas Municipal Water District (CMWD) (Business Wire 2017). The American State Water Company was founded in 1928 by public utility engineer John C. Rath, and included several smaller companies throughout southern California (Golden State Water Company 2018). After the purchase of the Los Angeles Water Service Company in 1933, American States was able to rapidly expand and by 1950 served more than 97,000 customers across southern California. Golden State Water Company operated in Ojai for 87 years before Ojai citizens voted end the company's service, citing failing infrastructure. The CMWD, which had operated in the area surrounding Golden State Water Company's system since 1952, took over the Ojai Distribution System in April of 2017 (WSC 2018).

B11. Additional Resource Attributes: (List attributes and codes)

*B12. References:

Business Wire. 2017. American States Water Company Announces Agreement to Resolve Litigation and Eminent Domain Action of Its Ojai Water System. <https://www.businesswire.com/news/home/20170413006178/en/American-States-Water-Company-Announces-Agreement-Resolve>. Accessed December 3, 2018.

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B13. Remarks:

*B14. Evaluator: Hannah Haas

*Date of Evaluation: December 3, 2018

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

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*Date: December 3, 2018

Continuation Update

P3a. Description

The following description information and tables are adapted from the Ojai Distribution System Condition Based Assessment Water Master Plan (Water System Consulting, Inc. 2018).

Wells

The Ojai Distribution System contains a total of six wells of various ages to supply the system. The following table provides the construction year, construction method, and description of each well (Water Systems Consulting, Inc. 2018). Of the wells included in this system, three are over 50 years of age: San Antonio #3, Mutual #4, and Mutual #5. Each of the historic-age wells was constructed using the cable tool method and feature carbon steel casing.

Well	Year Constructed	Construction Method and Description
San Antonio #3	1956	Cable tool method; 16-inch diameter carbon steel casing
San Antonio #4	2005	Reverse rotary method; stainless steel blank casing with perforated intervals of stainless steel wire-wrapped screen
Gorham	1996	Direct rotary method; Copper-bearing carbon steel blank and copper-bearing carbon steel wire-wrapped screen
Mutual #4	1947	Cable tool method; 20-inch diameter carbon steel casing
Mutual #5	1951	Cable tool method; 16-inch diameter carbon steel casing
Mutual #6	2012	Reverse rotary method; constructed of stainless steel blank casing with perforated intervals of stainless steel wire-wrapped screen

Booster Pump Stations

The system includes a total of five booster pump stations that operate based on gravity storage tank levels and pressure settings to maintain adequate supply to the system. The following table provides the approximate construction year and model of each booster pump station (Water Systems Consulting, Inc. 2018). Three of the booster pump stations are apparent in 1967 aerial imagery and are thus known to be of historic age (HistoricAerials.com). The remaining two are not visible on any aerial imagery and are assumed to be over 50 years old.

Booster Pump Station	Year Constructed	Model
San Antonio	Unknown, before 1967	2 x Goulds Turbine, Model 14RJLC, 4 Stages
Signal	Unknown, before 1967	Paco Model 4ma-LRu; Goulds Turbine Model G+L Series SSH, 1x2-8
Arbolada	Unknown	2 x Flowserve Model O8ELL, 2 Stages
Valley View	Unknown	2 x Paco Model 1595-7
Heidelberger	Unknown, before 1967	Grundfos CR2-40 and CRB-20U

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CONTINUATION SHEET

Primary #
 HRI#
 Trinomial

Page 7 of 11 *Resource Name or # (Assigned by recorder) Ojai Water Distribution System

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Storage Tanks/Reservoirs

The system has six storage reservoirs or tanks to supply water to the distribution system. The following table provides the construction year, type, and measurements of each tank (Water Systems Consulting, Inc. 2018). Of the storage tanks in the system, four are over 50 years of age at the time of the recordation.

Reservoir/Tank	Year Constructed	Type	Diameter (ft)	Height (ft)	Capacity (gal)
Arbolada	Unknown, before 1966; rehabilitated in 2004	Circular Partially Buried Concrete	100	17	1,000,000
Signal Tank	1948	Circular Ground Supported Welded Steel	36	41	300,000
San Antonio Forebay	2011	Circular Ground Supported Welded Steel	64	27	500,000
Running Ridge 1	Unknown, before 1950	Circular Ground Supported Bolted Steel	22	16	44,000
Running Ridge 2	Unknown, before 1950	Rectangular Partially Buried Concrete	N/A	9	50,000
Heidelberger Tank	2010	Circular Ground Supported Bolted Steel	27.9	24.5	100,000

Pipelines

The system contains a total of 45.4 miles of pipeline. The following table presents material type and installation year for pipeline alignments included in the system. The pipelines are located almost entirely underground in existing public right of way. Two small segments of pipeline are located above ground where they cross San Antonio Creek. At this location, the two segments of pipeline are connected to either side of the San Antonio Creek Bridge. The California Department of Transportation's Local Agency Bridge Inventory lists the bridge as ineligible for the NRHP (Caltrans 2018) (see photo on continuation page).

Material/Year	Unknown Year	1920-1929	1930-1939	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2017	Total (ft)	Total (mi)
Asbestos Cement	4,295	0	0	0	3,342	26,024	27,850	27,465	1,538	0	0	90,515	17.1
Cast Iron	398	581	21,899	4956	25,763	16,661	652	1,423	0	650	0	72,984	13.8
Ductile Iron	1,819	218	0	65	0	0	0	1,603	1,376	10,994	15,874	31,949	6.05
PVC	1,651	0	0	0	322	0	0	13,217	8,683	607	392	24,872	4.71
Steel	3,775	3,539	132	1,299	6,552	1,926	817	1,064	0	0	0	19,104	3.62
Unknown	315	0	0	0	0	0	0	0	0	0	0	315	0.06
Total (ft)	12,253	4,338	22,031	6,320	35,980	44,611	29,319	44,773	11,596	12,251	16,266	23,9737	-
Total (mi)	2.3	0.8	4.2	1.2	6.8	8.4	5.6	8.5	2.2	2.3	3.1	-	45.4

B10. Significance

The system is not eligible for listing in the NRHP or CRHR under any applicable designation criteria. The Ojai Distribution System was constructed to provide adequate water supply to the growing town of Ojai and surrounding area. Constructed between the 1920s and 2017, the system is not unique or important in the history of the Ojai Valley or the Golden State Water Company, a subsidiary of the American States Water Company. Rather, it is just one of many such examples of water distribution systems operated by the American States Water Company throughout Southern California. A review of historical newspapers and other primary and secondary source materials also failed to indicate that is directly associated with any other significant events or persons (NRHP Criteria A and B; CRHR Criteria 1 and 2). The system is a ubiquitous property type that is also not significant for its design or construction (NRHP Criterion C; CRHR Criterion 3). The construction of the pipelines, booster pump stations, and storage tanks are not unique and do not represent an early or important example of water distribution infrastructure. As confirmed by the cultural resources survey, there is no evidence to suggest that the property has potential to yield important information in history or prehistory (NRHP Criterion D; CRHR Criterion 4).

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Continuation Update



Photo 1. Mutual Well #4, view south



Photo 2. Heidelberg Booster Pump Station, facing west

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*Date: December 3, 2018

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Photo 3. Signal Storage Tank, facing northeast



Photo 4. Pipeline crossing San Antonio Creek, facing southwest

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Photo 5. Pipeline alignment along Oak View Drive, facing west.



Photo 6. Pipeline alignment on San Antonio Road, facing south

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Photo 7. W Arbolada Tank, facing southwest



Photo 8. Heidelberger Tank, facing northwest

Appendix D

Noise Measurement Data Sheets

Freq Weight : A
 Time Weight : FAST
 Level Range : 40-100
 Max dB : 75.6 - 2018/11/15 07:19:10
 Level Range : 40-100
 SEL : 90.0
 Leq : 60.5

No. s	Date Time	(dB)				
1	2018/11/15 07:17:14	52.4	53.1	55.8	57.1	59.9
6	2018/11/15 07:17:19	64.9	69.4	70.5	64.9	59.5
11	2018/11/15 07:17:24	58.3	57.0	54.6	53.9	53.8
16	2018/11/15 07:17:29	52.9	54.3	51.9	51.0	50.8
21	2018/11/15 07:17:34	51.2	50.4	50.0	50.7	51.8
26	2018/11/15 07:17:39	51.9	54.0	55.3	56.4	56.6
31	2018/11/15 07:17:44	59.6	61.6	62.4	60.4	59.1
36	2018/11/15 07:17:49	60.5	62.1	66.2	73.4	74.3
41	2018/11/15 07:17:54	68.7	62.3	59.0	56.0	54.5
46	2018/11/15 07:17:59	53.1	52.4	51.1	50.8	50.2
51	2018/11/15 07:18:04	49.9	49.7	50.3	50.0	50.6
56	2018/11/15 07:18:09	50.9	51.5	51.7	51.3	52.8
61	2018/11/15 07:18:14	52.9	52.8	52.2	51.9	52.6
66	2018/11/15 07:18:19	52.0	52.6	52.5	53.3	53.8
71	2018/11/15 07:18:24	53.6	55.1	54.8	56.8	58.4
76	2018/11/15 07:18:29	61.2	63.8	66.2	62.2	59.1
81	2018/11/15 07:18:34	56.0	56.1	54.6	53.9	53.4
86	2018/11/15 07:18:39	54.5	56.0	58.2	57.2	59.9
91	2018/11/15 07:18:44	55.6	52.5	54.5	54.8	54.6
96	2018/11/15 07:18:49	55.2	56.6	57.5	60.3	62.3
101	2018/11/15 07:18:54	66.4	71.2	70.5	66.6	62.8
106	2018/11/15 07:18:59	64.6	67.9	69.5	65.9	62.2
111	2018/11/15 07:19:04	59.7	60.1	59.3	62.3	67.2
116	2018/11/15 07:19:09	73.6	73.7	67.1	61.4	60.8
121	2018/11/15 07:19:14	57.5	57.2	54.5	52.4	51.9
126	2018/11/15 07:19:19	57.0	58.8	56.5	52.4	51.3
131	2018/11/15 07:19:24	53.5	52.3	53.1	53.6	56.5
136	2018/11/15 07:19:29	60.0	62.9	64.9	65.5	66.3
141	2018/11/15 07:19:34	65.2	61.7	58.5	56.4	64.6
146	2018/11/15 07:19:39	58.5	56.7	56.0	55.5	58.0
151	2018/11/15 07:19:44	60.0	61.9	59.5	56.4	57.5
156	2018/11/15 07:19:49	54.1	51.5	51.9	51.4	51.3
161	2018/11/15 07:19:54	52.0	52.2	52.7	54.7	55.7
166	2018/11/15 07:19:59	58.9	59.5	62.1	62.6	63.0
171	2018/11/15 07:20:04	64.6	64.7	60.3	57.7	59.5
176	2018/11/15 07:20:09	62.9	65.1	64.3	60.9	56.8
181	2018/11/15 07:20:14	56.1	54.8	54.9	57.3	61.8
186	2018/11/15 07:20:19	63.8	62.4	55.1	51.5	50.6
191	2018/11/15 07:20:24	49.5	48.6	50.3	50.2	50.1
196	2018/11/15 07:20:29	49.4	48.8	47.9	47.6	47.6
201	2018/11/15 07:20:34	48.5	47.6	48.2	48.1	48.9
206	2018/11/15 07:20:39	49.5	49.9	51.2	52.5	55.2
211	2018/11/15 07:20:44	58.0	58.3	56.8	54.1	53.2
216	2018/11/15 07:20:49	52.6	51.5	51.2	55.9	58.0
221	2018/11/15 07:20:54	62.0	62.4	62.8	60.1	58.8
226	2018/11/15 07:20:59	58.3	58.9	58.8	60.4	59.8
231	2018/11/15 07:21:04	60.7	60.9	60.3	59.2	59.3
236	2018/11/15 07:21:09	61.9	62.8	61.5	61.3	58.8
241	2018/11/15 07:21:14	58.1	60.3	61.3	61.3	57.1
246	2018/11/15 07:21:19	52.3	51.6	50.4	50.0	49.6
251	2018/11/15 07:21:24	50.2	50.6	51.1	52.3	52.0
256	2018/11/15 07:21:29	53.4	54.0	53.1	53.6	54.4
261	2018/11/15 07:21:34	55.4	57.0	57.6	59.2	64.1
266	2018/11/15 07:21:39	66.4	65.0	63.4	61.4	58.0
271	2018/11/15 07:21:44	56.0	54.9	57.6	55.3	55.4
276	2018/11/15 07:21:49	56.5	55.8	57.7	57.2	57.4
281	2018/11/15 07:21:54	56.7	57.3	56.7	58.4	61.0
286	2018/11/15 07:21:59	60.7	59.4	59.1	57.8	58.4
291	2018/11/15 07:22:04	59.1	59.7	59.9	60.4	58.8
296	2018/11/15 07:22:09	59.8	62.1	59.4	59.7	57.3
301	2018/11/15 07:22:14	58.3	61.0	62.0	60.7	61.4
306	2018/11/15 07:22:19	64.8	66.1	64.0	64.1	64.5
311	2018/11/15 07:22:24	64.9	64.5	64.9	64.3	64.2
316	2018/11/15 07:22:29	65.3	65.0	64.5	64.2	64.2
321	2018/11/15 07:22:34	63.7	64.2	64.9	64.2	64.3
326	2018/11/15 07:22:39	65.0	65.7	64.7	69.1	63.8
331	2018/11/15 07:22:44	72.7	74.2	73.4	71.3	65.2
336	2018/11/15 07:22:49	65.9	65.8	62.9	59.9	59.2
341	2018/11/15 07:22:54	57.4	57.6	57.5	58.7	60.0
346	2018/11/15 07:22:59	62.3	62.0	61.0	57.6	55.6
351	2018/11/15 07:23:04	56.2	56.7	58.5	61.9	59.1
356	2018/11/15 07:23:09	63.2	65.0	65.3	63.8	62.0
361	2018/11/15 07:23:14	58.5	54.9	54.1	53.5	54.7
366	2018/11/15 07:23:19	56.8	55.6	54.5	56.3	57.3
371	2018/11/15 07:23:24	56.3	56.6	57.0	57.0	56.5
376	2018/11/15 07:23:29	57.5	58.1	60.2	62.7	62.8
381	2018/11/15 07:23:34	61.6	57.9	57.5	57.5	60.2
386	2018/11/15 07:23:39	62.0	60.5	63.6	64.0	63.3
391	2018/11/15 07:23:44	64.3	64.9	64.9	63.0	60.8
396	2018/11/15 07:23:49	58.7	60.4	61.6	61.7	60.2
401	2018/11/15 07:23:54	59.2	57.2	59.3	60.9	61.4
406	2018/11/15 07:23:59	56.3	53.2	52.0	50.9	50.9
411	2018/11/15 07:24:04	50.7	54.5	51.8	51.9	54.6
416	2018/11/15 07:24:09	53.6	55.0	57.1	56.6	62.3
421	2018/11/15 07:24:14	64.5	64.1	63.5	62.3	60.2

426	2018/11/15	07:24:19	61.1	60.1	61.1	58.7	58.4
431	2018/11/15	07:24:24	62.2	61.2	62.9	62.0	62.0
436	2018/11/15	07:24:29	65.1	63.4	62.3	58.1	55.6
441	2018/11/15	07:24:34	56.8	54.9	55.5	55.9	56.0
446	2018/11/15	07:24:39	57.3	56.7	59.5	60.7	58.8
451	2018/11/15	07:24:44	58.3	60.0	57.2	59.2	60.2
456	2018/11/15	07:24:49	59.9	59.8	58.4	57.9	59.8
461	2018/11/15	07:24:54	59.2	59.6	59.1	63.9	65.6
466	2018/11/15	07:24:59	61.1	54.9	53.8	52.5	52.2
471	2018/11/15	07:25:04	52.8	52.9	55.6	58.8	57.9
476	2018/11/15	07:25:09	65.1	65.8	63.0	58.5	55.2
481	2018/11/15	07:25:14	55.3	55.5	55.0	54.3	53.9
486	2018/11/15	07:25:19	54.0	53.0	54.4	55.6	54.4
491	2018/11/15	07:25:24	58.6	60.1	57.9	52.5	50.9
496	2018/11/15	07:25:29	50.5	50.3	52.5	51.9	52.2
501	2018/11/15	07:25:34	51.8	51.6	51.5	52.0	52.1
506	2018/11/15	07:25:39	51.5	52.3	53.7	55.3	55.4
511	2018/11/15	07:25:44	60.4	61.9	60.9	56.5	52.9
516	2018/11/15	07:25:49	51.5	51.3	51.3	52.7	53.9
521	2018/11/15	07:25:54	53.8	54.4	55.9	57.9	56.4
526	2018/11/15	07:25:59	63.4	64.7	62.2	57.7	54.2
531	2018/11/15	07:26:04	53.1	52.2	53.2	53.2	54.3
536	2018/11/15	07:26:09	56.1	59.7	62.2	60.7	59.2
541	2018/11/15	07:26:14	55.1	53.1	51.5	50.8	50.7
546	2018/11/15	07:26:19	51.4	50.5	50.8	51.4	51.2
551	2018/11/15	07:26:24	52.6	53.1	54.8	54.4	53.2
556	2018/11/15	07:26:29	54.7	56.7	58.0	61.0	61.4
561	2018/11/15	07:26:34	58.7	55.6	55.2	55.2	55.0
566	2018/11/15	07:26:39	56.5	59.5	60.4	61.6	61.4
571	2018/11/15	07:26:44	55.6	51.2	50.7	50.5	50.7
576	2018/11/15	07:26:49	49.3	51.2	52.1	52.1	51.8
581	2018/11/15	07:26:54	53.9	55.7	56.9	57.8	60.5
586	2018/11/15	07:26:59	56.6	54.1	51.0	50.2	51.2
591	2018/11/15	07:27:04	51.5	51.3	50.7	51.5	51.0
596	2018/11/15	07:27:09	53.2	53.1	52.3	52.9	53.7
601	2018/11/15	07:27:14	55.0	56.1	60.1	65.7	65.0
606	2018/11/15	07:27:19	63.4	59.2	58.1	58.0	57.5
611	2018/11/15	07:27:24	60.5	60.2	58.0	54.4	50.7
616	2018/11/15	07:27:29	49.8	49.6	50.4	49.4	49.8
621	2018/11/15	07:27:34	51.3	51.5	54.1	57.9	62.6
626	2018/11/15	07:27:39	62.2	60.1	57.9	57.3	54.7
631	2018/11/15	07:27:44	55.2	55.0	57.2	62.4	63.9
636	2018/11/15	07:27:49	61.3	61.6	59.8	59.2	60.4
641	2018/11/15	07:27:54	62.9	62.1	59.8	61.7	62.7
646	2018/11/15	07:27:59	59.4	58.4	59.7	62.4	63.3
651	2018/11/15	07:28:04	63.7	65.3	61.9	57.1	55.6
656	2018/11/15	07:28:09	57.0	56.2	57.4	53.9	52.6
661	2018/11/15	07:28:14	52.6	51.1	50.7	50.0	49.6
666	2018/11/15	07:28:19	50.3	49.0	49.2	48.7	49.9
671	2018/11/15	07:28:24	49.7	48.9	49.5	50.4	49.5
676	2018/11/15	07:28:29	49.0	49.1	49.6	49.2	49.9
681	2018/11/15	07:28:34	50.1	50.5	51.0	52.0	51.7
686	2018/11/15	07:28:39	53.8	54.7	55.0	56.2	57.2
691	2018/11/15	07:28:44	59.7	62.4	63.9	63.3	60.3
696	2018/11/15	07:28:49	60.2	59.3	60.4	61.6	63.6
701	2018/11/15	07:28:54	63.1	62.1	59.0	56.9	57.7
706	2018/11/15	07:28:59	60.5	60.8	59.3	54.6	54.6
711	2018/11/15	07:29:04	54.2	53.7	54.2	54.9	55.5
716	2018/11/15	07:29:09	57.7	60.5	59.7	57.6	56.0
721	2018/11/15	07:29:14	57.7	59.9	58.8	60.8	60.4
726	2018/11/15	07:29:19	56.2	55.6	55.0	55.9	58.1
731	2018/11/15	07:29:24	59.8	60.3	61.3	61.5	61.0
736	2018/11/15	07:29:29	60.4	61.7	64.7	61.6	57.3
741	2018/11/15	07:29:34	56.2	56.9	58.7	60.7	62.6
746	2018/11/15	07:29:39	60.2	57.9	53.7	54.0	55.6
751	2018/11/15	07:29:44	55.4	56.5	57.9	59.5	60.9
756	2018/11/15	07:29:49	61.5	61.4	59.3	57.4	57.8
761	2018/11/15	07:29:54	60.1	60.1	56.8	56.4	58.5
766	2018/11/15	07:29:59	59.5	58.7	54.8	49.5	49.7
771	2018/11/15	07:30:04	50.0	48.8	48.4	48.2	48.3
776	2018/11/15	07:30:09	48.6	50.5	48.7	48.6	49.7
781	2018/11/15	07:30:14	49.8	51.6	49.7	55.3	50.4
786	2018/11/15	07:30:19	51.4	49.2	49.0	49.9	47.9
791	2018/11/15	07:30:24	48.5	48.5	47.7	49.7	49.6
796	2018/11/15	07:30:29	50.7	51.1	52.9	54.2	55.3
801	2018/11/15	07:30:34	58.2	58.2	62.9	62.6	55.5
806	2018/11/15	07:30:39	50.8	48.3	49.5	48.5	51.7
811	2018/11/15	07:30:44	55.1	54.2	55.0	55.3	57.3
816	2018/11/15	07:30:49	58.5	60.9	63.5	64.8	64.6
821	2018/11/15	07:30:54	63.1	61.2	59.0	61.2	63.0
826	2018/11/15	07:30:59	62.8	59.7	54.1	51.7	52.0
831	2018/11/15	07:31:04	51.7	53.1	52.8	55.0	55.4
836	2018/11/15	07:31:09	55.6	58.3	60.6	61.9	62.2
841	2018/11/15	07:31:14	63.4	62.2	61.4	61.5	60.0
846	2018/11/15	07:31:19	58.0	57.9	58.7	58.8	58.1
851	2018/11/15	07:31:24	59.9	59.3	59.0	59.4	61.0
856	2018/11/15	07:31:29	61.3	61.2	56.9	54.6	55.0
861	2018/11/15	07:31:34	58.7	56.0	63.2	58.5	66.7
866	2018/11/15	07:31:39	67.6	63.6	59.5	59.8	62.0
871	2018/11/15	07:31:44	61.7	63.6	63.1	64.1	66.9
876	2018/11/15	07:31:49	64.5	62.0	59.7	57.2	57.5
881	2018/11/15	07:31:54	58.4	59.5	63.3	62.4	59.8
886	2018/11/15	07:31:59	62.2	60.8	59.0	55.6	55.8
891	2018/11/15	07:32:04	54.3	55.6	52.2	56.8	51.6
896	2018/11/15	07:32:09	52.2	57.7	57.9	60.0	59.2

Freq Weight : A
 Time Weight : FAST
 Level Range : 40-100
 Max dB : 65.4 - 2018/11/15 16: 35: 37
 Level Range : 40-100
 SEL : 75.5
 Leq : 46.0

No. s	Date Time	(dB)					
1	2018/11/15 16: 23: 22	36.5	41.3	40.2	44.4	40.7	
6	2018/11/15 16: 23: 27	46.1	44.5	41.7	41.1	40.5	
11	2018/11/15 16: 23: 32	39.3	40.3	39.2	39.1	41.6	
16	2018/11/15 16: 23: 37	39.1	38.3	39.7	37.2	38.3	
21	2018/11/15 16: 23: 42	36.7	37.5	41.7	41.4	41.2	
26	2018/11/15 16: 23: 47	36.1	37.7	36.3	35.7	35.3	
31	2018/11/15 16: 23: 52	35.6	37.9	37.5	38.6	39.4	
36	2018/11/15 16: 23: 57	37.2	37.9	38.1	39.1	39.3	
41	2018/11/15 16: 24: 02	38.7	38.6	38.4	40.8	39.0	
46	2018/11/15 16: 24: 07	39.9	40.9	42.3	43.2	46.6	
51	2018/11/15 16: 24: 12	49.0	52.3	52.8	47.8	43.9	
56	2018/11/15 16: 24: 17	41.9	41.3	40.0	37.2	37.8	
61	2018/11/15 16: 24: 22	38.9	38.9	36.3	35.6	36.4	
66	2018/11/15 16: 24: 27	38.2	38.4	36.3	36.5	35.6	
71	2018/11/15 16: 24: 32	38.5	37.0	36.5	37.1	36.5	
76	2018/11/15 16: 24: 37	36.5	35.8	36.7	36.4	35.6	
81	2018/11/15 16: 24: 42	36.3	35.4	35.4	35.2	36.3	
86	2018/11/15 16: 24: 47	36.2	35.8	35.0	35.1	35.7	
91	2018/11/15 16: 24: 52	36.0	36.4	42.1	36.0	36.0	
96	2018/11/15 16: 24: 57	36.1	35.7	36.3	37.8	35.9	
101	2018/11/15 16: 25: 02	36.3	37.8	36.0	35.3	35.8	
106	2018/11/15 16: 25: 07	35.6	36.2	36.1	36.9	35.7	
111	2018/11/15 16: 25: 12	37.1	37.8	35.6	35.8	36.0	
116	2018/11/15 16: 25: 17	36.1	36.0	36.2	35.8	36.3	
121	2018/11/15 16: 25: 22	37.0	38.7	37.6	38.9	39.1	
126	2018/11/15 16: 25: 27	39.9	44.3	41.9	40.1	39.6	
131	2018/11/15 16: 25: 32	38.8	39.4	41.1	43.2	44.8	
136	2018/11/15 16: 25: 37	46.3	49.5	51.6	54.5	61.1	
141	2018/11/15 16: 25: 42	62.9	59.1	52.4	47.3	42.4	
146	2018/11/15 16: 25: 47	41.0	41.3	41.8	45.0	49.2	
151	2018/11/15 16: 25: 52	47.7	46.9	48.6	48.1	44.5	
156	2018/11/15 16: 25: 57	41.5	40.2	39.3	38.0	36.4	
161	2018/11/15 16: 26: 02	37.8	37.7	35.6	37.2	36.1	
166	2018/11/15 16: 26: 07	36.6	36.7	37.3	36.4	36.8	
171	2018/11/15 16: 26: 12	37.2	39.0	39.1	39.1	40.1	
176	2018/11/15 16: 26: 17	45.1	48.8	48.3	44.6	42.4	
181	2018/11/15 16: 26: 22	40.7	38.2	38.4	37.1	37.1	
186	2018/11/15 16: 26: 27	35.4	35.9	37.7	53.5	48.1	
191	2018/11/15 16: 26: 32	37.0	40.7	37.9	39.2	39.2	
196	2018/11/15 16: 26: 37	45.2	40.8	43.8	37.9	38.1	
201	2018/11/15 16: 26: 42	38.3	37.1	36.8	40.6	38.6	
206	2018/11/15 16: 26: 47	37.5	37.9	39.0	38.4	39.7	
211	2018/11/15 16: 26: 52	41.5	36.5	36.8	39.0	38.9	
216	2018/11/15 16: 26: 57	39.9	38.8	39.0	39.8	37.8	
221	2018/11/15 16: 27: 02	42.2	42.4	40.8	38.8	41.0	
226	2018/11/15 16: 27: 07	41.1	42.2	42.3	40.9	39.0	
231	2018/11/15 16: 27: 12	37.4	39.2	36.0	36.0	36.3	
236	2018/11/15 16: 27: 17	37.5	41.2	37.5	42.1	47.7	
241	2018/11/15 16: 27: 22	43.0	36.5	44.8	52.0	44.4	
246	2018/11/15 16: 27: 27	45.5	38.3	48.6	41.8	47.2	
251	2018/11/15 16: 27: 32	52.0	49.7	54.1	52.9	53.9	
256	2018/11/15 16: 27: 37	55.3	55.0	49.5	46.6	45.3	
261	2018/11/15 16: 27: 42	43.0	42.7	40.9	42.7	39.2	
266	2018/11/15 16: 27: 47	42.6	38.8	41.0	43.7	48.4	
271	2018/11/15 16: 27: 52	38.0	39.6	37.0	41.4	43.2	
276	2018/11/15 16: 27: 57	43.2	37.4	36.9	40.2	43.3	
281	2018/11/15 16: 28: 02	37.0	37.9	43.7	39.2	46.0	
286	2018/11/15 16: 28: 07	55.2	39.9	52.4	47.6	48.7	
291	2018/11/15 16: 28: 12	37.2	46.8	40.4	44.7	49.7	
296	2018/11/15 16: 28: 17	48.3	48.6	38.5	46.5	36.1	
301	2018/11/15 16: 28: 22	43.6	49.1	39.1	38.2	35.8	
306	2018/11/15 16: 28: 27	41.3	39.8	48.9	36.8	38.9	
311	2018/11/15 16: 28: 32	36.9	36.6	48.3	50.5	47.5	
316	2018/11/15 16: 28: 37	48.6	42.3	48.9	52.1	40.6	
321	2018/11/15 16: 28: 42	52.2	38.4	55.7	46.2	42.0	
326	2018/11/15 16: 28: 47	40.5	45.2	43.1	38.0	53.4	
331	2018/11/15 16: 28: 52	39.4	49.9	41.3	36.0	39.1	
336	2018/11/15 16: 28: 57	38.3	41.6	44.3	49.0	53.9	
341	2018/11/15 16: 29: 02	58.4	61.1	57.7	52.4	50.5	
346	2018/11/15 16: 29: 07	48.8	44.5	48.1	49.8	54.2	
351	2018/11/15 16: 29: 12	45.3	48.3	45.9	40.0	50.2	
356	2018/11/15 16: 29: 17	38.5	39.3	42.5	38.9	39.0	
361	2018/11/15 16: 29: 22	39.7	40.2	41.4	44.1	48.2	
366	2018/11/15 16: 29: 27	53.9	49.6	42.7	40.3	38.4	
371	2018/11/15 16: 29: 32	37.5	38.6	38.5	35.8	35.7	
376	2018/11/15 16: 29: 37	36.4	38.5	36.7	36.1	36.3	
381	2018/11/15 16: 29: 42	35.3	34.2	37.4	36.5	35.6	
386	2018/11/15 16: 29: 47	37.8	37.3	36.5	37.2	35.7	
391	2018/11/15 16: 29: 52	37.9	35.3	34.7	35.6	37.3	
396	2018/11/15 16: 29: 57	39.2	35.0	34.8	34.8	35.9	
401	2018/11/15 16: 30: 02	36.4	37.6	37.1	38.1	40.3	
406	2018/11/15 16: 30: 07	42.0	40.1	40.7	40.3	40.7	
411	2018/11/15 16: 30: 12	40.4	40.3	40.4	40.4	38.4	
416	2018/11/15 16: 30: 17	39.5	41.8	44.5	45.8	44.9	
421	2018/11/15 16: 30: 22	40.9	39.6	39.2	37.9	38.9	

426	2018/11/15	16:30:27	37.9	38.7	37.3	44.2
431	2018/11/15	16:30:32	39.3	38.0	38.2	38.5
436	2018/11/15	16:30:37	39.2	40.3	37.9	37.6
441	2018/11/15	16:30:42	35.7	35.5	36.8	36.8
446	2018/11/15	16:30:47	38.8	41.5	42.0	40.4
451	2018/11/15	16:30:52	37.5	40.9	37.6	40.9
456	2018/11/15	16:30:57	39.4	39.0	39.3	38.0
461	2018/11/15	16:31:02	42.4	40.3	41.8	38.5
466	2018/11/15	16:31:07	36.4	36.1	36.3	35.9
471	2018/11/15	16:31:12	38.2	36.3	37.1	37.1
476	2018/11/15	16:31:17	37.5	36.7	37.4	37.2
481	2018/11/15	16:31:22	43.3	48.0	46.5	43.2
486	2018/11/15	16:31:27	38.3	37.2	36.8	36.4
491	2018/11/15	16:31:32	37.0	37.5	37.9	36.5
496	2018/11/15	16:31:37	37.1	36.0	36.2	34.7
501	2018/11/15	16:31:42	36.6	35.3	35.3	35.2
506	2018/11/15	16:31:47	35.9	35.6	35.6	35.9
511	2018/11/15	16:31:52	34.9	35.6	35.5	34.8
516	2018/11/15	16:31:57	35.1	35.0	35.7	34.3
521	2018/11/15	16:32:02	36.1	36.9	37.8	34.7
526	2018/11/15	16:32:07	35.6	35.0	35.5	36.7
531	2018/11/15	16:32:12	37.2	38.5	36.3	36.5
536	2018/11/15	16:32:17	35.9	34.8	33.8	35.3
541	2018/11/15	16:32:22	34.0	34.7	35.4	35.4
546	2018/11/15	16:32:27	35.6	35.0	35.8	35.6
551	2018/11/15	16:32:32	35.9	37.5	37.1	38.6
556	2018/11/15	16:32:37	41.1	42.3	44.9	48.4
561	2018/11/15	16:32:42	51.7	45.6	41.8	38.3
566	2018/11/15	16:32:47	35.8	35.5	36.3	35.1
571	2018/11/15	16:32:52	35.7	38.2	35.4	35.5
576	2018/11/15	16:32:57	35.9	35.3	34.8	35.5
581	2018/11/15	16:33:02	35.6	35.1	36.2	36.6
586	2018/11/15	16:33:07	36.2	35.3	36.5	36.1
591	2018/11/15	16:33:12	36.5	36.5	40.4	36.3
596	2018/11/15	16:33:17	38.5	35.4	35.0	37.1
601	2018/11/15	16:33:22	39.8	35.6	34.7	48.0
606	2018/11/15	16:33:27	38.2	38.3	39.2	37.5
611	2018/11/15	16:33:32	35.0	34.9	34.9	37.0
616	2018/11/15	16:33:37	35.3	36.3	35.7	38.1
621	2018/11/15	16:33:42	35.9	34.9	34.9	37.9
626	2018/11/15	16:33:47	34.0	34.2	34.0	34.2
631	2018/11/15	16:33:52	34.8	34.9	36.0	35.3
636	2018/11/15	16:33:57	35.5	34.2	34.6	36.3
641	2018/11/15	16:34:02	34.9	35.8	34.6	35.8
646	2018/11/15	16:34:07	36.1	36.3	35.6	35.8
651	2018/11/15	16:34:12	35.5	36.6	38.6	35.8
656	2018/11/15	16:34:17	37.8	36.5	36.3	35.9
661	2018/11/15	16:34:22	34.9	35.4	38.9	35.1
666	2018/11/15	16:34:27	36.1	35.7	36.6	36.4
671	2018/11/15	16:34:32	36.9	36.4	38.9	38.8
676	2018/11/15	16:34:37	40.1	43.2	47.1	51.4
681	2018/11/15	16:34:42	42.7	40.1	39.6	38.1
686	2018/11/15	16:34:47	37.4	40.2	41.2	37.5
691	2018/11/15	16:34:52	39.0	37.3	36.9	38.0
696	2018/11/15	16:34:57	36.1	34.6	34.8	35.0
701	2018/11/15	16:35:02	36.2	36.6	38.2	36.4
706	2018/11/15	16:35:07	38.6	38.3	36.5	38.2
711	2018/11/15	16:35:12	37.2	39.3	37.0	38.5
716	2018/11/15	16:35:17	37.9	38.8	38.6	39.2
721	2018/11/15	16:35:22	41.7	40.2	40.1	38.6
726	2018/11/15	16:35:27	43.5	45.4	45.5	47.6
731	2018/11/15	16:35:32	52.5	55.2	55.9	60.8
736	2018/11/15	16:35:37	57.1	58.0	55.1	59.1
741	2018/11/15	16:35:42	56.9	56.9	54.9	56.3
746	2018/11/15	16:35:47	57.5	55.3	56.5	56.9
751	2018/11/15	16:35:52	37.6	48.8	41.1	40.8
756	2018/11/15	16:35:57	41.0	41.6	41.2	43.3
761	2018/11/15	16:36:02	45.1	48.9	42.3	40.0
766	2018/11/15	16:36:07	50.3	40.4	47.5	42.1
771	2018/11/15	16:36:12	47.6	41.6	39.3	37.5
776	2018/11/15	16:36:17	55.8	44.7	47.0	40.6
781	2018/11/15	16:36:22	43.0	39.4	42.4	43.2
786	2018/11/15	16:36:27	44.2	41.3	39.3	38.2
791	2018/11/15	16:36:32	41.6	38.1	36.5	37.3
796	2018/11/15	16:36:37	41.7	38.3	39.3	53.9
801	2018/11/15	16:36:42	42.4	40.5	39.8	42.8
806	2018/11/15	16:36:47	43.9	36.8	42.4	43.2
811	2018/11/15	16:36:52	41.1	40.1	45.7	44.1
816	2018/11/15	16:36:57	37.3	49.7	44.3	37.3
821	2018/11/15	16:37:02	52.9	37.0	38.8	40.2
826	2018/11/15	16:37:07	37.2	41.4	39.6	37.4
831	2018/11/15	16:37:12	43.4	45.2	36.3	48.8
836	2018/11/15	16:37:17	37.0	39.2	43.2	53.0
841	2018/11/15	16:37:22	44.5	49.1	47.3	35.8
846	2018/11/15	16:37:27	38.7	41.6	52.9	37.8
851	2018/11/15	16:37:32	41.0	44.6	41.7	38.0
856	2018/11/15	16:37:37	38.8	37.8	43.9	41.0
861	2018/11/15	16:37:42	46.8	51.2	54.8	48.2
866	2018/11/15	16:37:47	44.1	43.9	40.5	44.4
871	2018/11/15	16:37:52	43.1	43.6	38.0	39.1
876	2018/11/15	16:37:57	40.5	46.7	45.4	40.3
881	2018/11/15	16:38:02	36.8	40.8	40.1	35.9
886	2018/11/15	16:38:07	38.0	49.5	46.6	37.2
891	2018/11/15	16:38:12	35.8	36.7	37.8	37.2
896	2018/11/15	16:38:17	40.8	37.0	40.4	43.8

Freq Weight : A
 Time Weight : FAST
 Level Range : 40-100
 Max dB : 75.2 - 2018/11/15 07: 57: 16
 Level Range : 40-100
 SEL : 88.8
 Leq : 59.3

No. s	Date Time	(dB)				
1	2018/11/15 07: 43: 58	56.3	57.0	55.9	55.5	56.8
6	2018/11/15 07: 44: 03	55.7	54.3	56.9	56.1	53.8
11	2018/11/15 07: 44: 08	56.0	55.0	55.2	55.4	54.7
16	2018/11/15 07: 44: 13	55.3	56.6	57.0	57.9	57.6
21	2018/11/15 07: 44: 18	56.3	56.2	57.0	57.4	56.2
26	2018/11/15 07: 44: 23	56.4	57.1	56.7	56.9	59.9
31	2018/11/15 07: 44: 28	59.3	60.9	59.5	59.5	58.8
36	2018/11/15 07: 44: 33	58.8	59.0	60.3	60.6	60.1
41	2018/11/15 07: 44: 38	59.8	59.3	59.5	60.0	60.1
46	2018/11/15 07: 44: 43	59.4	59.5	57.6	58.1	58.3
51	2018/11/15 07: 44: 48	58.1	57.6	57.6	58.0	58.3
56	2018/11/15 07: 44: 53	59.1	59.2	59.3	58.5	58.5
61	2018/11/15 07: 44: 58	58.3	57.9	59.0	59.3	59.9
66	2018/11/15 07: 45: 03	60.5	61.5	59.6	59.6	58.9
71	2018/11/15 07: 45: 08	57.3	56.2	56.2	56.2	58.6
76	2018/11/15 07: 45: 13	57.0	57.3	57.0	57.3	55.7
81	2018/11/15 07: 45: 18	57.9	55.4	54.0	55.3	55.6
86	2018/11/15 07: 45: 23	54.4	57.0	53.7	54.8	54.3
91	2018/11/15 07: 45: 28	52.9	52.5	51.9	53.3	52.8
96	2018/11/15 07: 45: 33	53.9	54.5	54.8	53.6	53.0
101	2018/11/15 07: 45: 38	54.9	56.6	59.0	63.4	60.4
106	2018/11/15 07: 45: 43	57.9	57.5	57.0	58.2	60.4
111	2018/11/15 07: 45: 48	58.1	56.9	59.2	57.1	57.6
116	2018/11/15 07: 45: 53	58.4	58.1	58.8	58.7	59.8
121	2018/11/15 07: 45: 58	58.9	59.7	58.8	58.6	58.6
126	2018/11/15 07: 46: 03	58.8	60.0	59.2	60.2	60.7
131	2018/11/15 07: 46: 08	60.4	60.0	61.6	59.8	61.2
136	2018/11/15 07: 46: 13	61.4	63.1	64.0	64.4	62.7
141	2018/11/15 07: 46: 18	61.0	62.8	61.2	61.5	61.8
146	2018/11/15 07: 46: 23	61.2	60.5	58.4	58.7	57.7
151	2018/11/15 07: 46: 28	57.0	57.7	56.9	56.6	56.4
156	2018/11/15 07: 46: 33	54.5	53.5	53.5	53.3	53.5
161	2018/11/15 07: 46: 38	53.8	49.3	51.1	55.4	49.1
166	2018/11/15 07: 46: 43	52.6	56.7	50.3	51.6	52.1
171	2018/11/15 07: 46: 48	52.2	52.8	51.1	51.2	51.8
176	2018/11/15 07: 46: 53	50.9	52.1	51.7	54.9	56.5
181	2018/11/15 07: 46: 58	55.6	57.0	57.2	58.6	59.0
186	2018/11/15 07: 47: 03	58.6	57.9	57.9	57.8	60.3
191	2018/11/15 07: 47: 08	57.4	56.8	57.8	57.6	59.7
196	2018/11/15 07: 47: 13	60.5	61.4	60.8	60.8	59.9
201	2018/11/15 07: 47: 18	59.0	59.1	58.7	58.6	59.7
206	2018/11/15 07: 47: 23	57.4	58.9	57.4	56.8	57.0
211	2018/11/15 07: 47: 28	58.2	58.0	57.7	58.4	57.1
216	2018/11/15 07: 47: 33	55.6	56.5	56.5	57.1	58.7
221	2018/11/15 07: 47: 38	55.8	56.4	58.1	55.3	54.0
226	2018/11/15 07: 47: 43	55.6	53.6	52.1	53.1	53.9
231	2018/11/15 07: 47: 48	52.6	53.8	52.8	51.5	51.4
236	2018/11/15 07: 47: 53	52.5	53.7	55.3	57.5	58.5
241	2018/11/15 07: 47: 58	56.8	56.4	57.9	56.8	57.5
246	2018/11/15 07: 48: 03	57.2	55.3	53.9	54.9	54.5
251	2018/11/15 07: 48: 08	54.8	55.8	57.0	57.1	56.8
256	2018/11/15 07: 48: 13	57.6	58.3	59.3	61.8	62.3
261	2018/11/15 07: 48: 18	62.9	62.7	63.1	63.4	64.4
266	2018/11/15 07: 48: 23	61.7	62.0	63.3	61.4	61.8
271	2018/11/15 07: 48: 28	62.2	62.2	63.9	65.3	66.1
276	2018/11/15 07: 48: 33	64.0	62.5	64.0	60.5	61.0
281	2018/11/15 07: 48: 38	60.3	60.3	59.6	59.9	60.5
286	2018/11/15 07: 48: 43	59.3	59.7	60.5	57.3	57.4
291	2018/11/15 07: 48: 48	56.1	56.1	56.1	55.5	57.0
296	2018/11/15 07: 48: 53	57.5	56.2	58.5	56.5	60.7
301	2018/11/15 07: 48: 58	58.3	59.1	57.2	58.9	58.6
306	2018/11/15 07: 49: 03	56.4	58.0	57.1	59.4	60.4
311	2018/11/15 07: 49: 08	59.5	59.3	57.7	56.5	58.1
316	2018/11/15 07: 49: 13	55.2	54.4	56.4	57.1	56.9
321	2018/11/15 07: 49: 18	54.8	56.3	55.8	56.6	52.6
326	2018/11/15 07: 49: 23	52.0	51.1	56.3	52.1	55.7
331	2018/11/15 07: 49: 28	55.7	54.0	54.0	53.1	52.2
336	2018/11/15 07: 49: 33	51.4	51.6	51.3	54.7	56.4
341	2018/11/15 07: 49: 38	55.0	55.5	57.1	56.2	57.0
346	2018/11/15 07: 49: 43	58.1	57.0	58.7	59.5	60.1
351	2018/11/15 07: 49: 48	57.1	59.7	57.3	58.1	58.0
356	2018/11/15 07: 49: 53	57.2	56.8	58.3	57.2	58.0
361	2018/11/15 07: 49: 58	57.9	58.3	57.5	57.3	57.8
366	2018/11/15 07: 50: 03	58.3	56.8	58.4	57.5	58.7
371	2018/11/15 07: 50: 08	58.8	56.5	58.0	57.4	56.3
376	2018/11/15 07: 50: 13	55.1	57.1	56.7	58.3	54.5
381	2018/11/15 07: 50: 18	55.2	57.0	56.2	56.3	57.6
386	2018/11/15 07: 50: 23	57.8	55.9	56.2	57.0	55.6
391	2018/11/15 07: 50: 28	58.1	55.8	56.4	55.9	56.9
396	2018/11/15 07: 50: 33	53.0	54.9	51.8	55.9	52.4
401	2018/11/15 07: 50: 38	53.3	52.6	54.5	55.6	56.2
406	2018/11/15 07: 50: 43	57.5	58.5	59.5	60.0	59.2
411	2018/11/15 07: 50: 48	61.4	56.7	57.0	57.9	58.9
416	2018/11/15 07: 50: 53	58.8	57.9	57.5	59.0	58.6
421	2018/11/15 07: 50: 58	57.1	59.4	57.3	58.9	58.4

426	2018/11/15	07:51:03	57.9	58.1	59.7	58.5	58.9
431	2018/11/15	07:51:08	58.2	59.2	58.3	59.1	59.7
436	2018/11/15	07:51:13	60.2	62.0	60.4	59.3	60.5
441	2018/11/15	07:51:18	60.3	58.8	60.0	59.1	58.1
446	2018/11/15	07:51:23	58.5	57.8	57.2	56.0	56.5
451	2018/11/15	07:51:28	57.0	54.9	54.5	59.5	54.7
456	2018/11/15	07:51:33	52.8	53.3	53.8	56.3	53.2
461	2018/11/15	07:51:38	53.9	52.1	51.3	51.5	52.6
466	2018/11/15	07:51:43	52.2	53.5	52.4	52.5	51.1
471	2018/11/15	07:51:48	53.2	52.4	52.0	52.2	53.8
476	2018/11/15	07:51:53	55.1	54.4	54.5	55.2	55.8
481	2018/11/15	07:51:58	55.7	57.5	58.6	58.9	60.1
486	2018/11/15	07:52:03	60.8	59.3	60.4	59.1	59.4
491	2018/11/15	07:52:08	60.0	61.5	60.1	61.7	65.4
496	2018/11/15	07:52:13	66.2	63.8	62.6	62.9	62.1
501	2018/11/15	07:52:18	62.7	61.8	61.6	62.3	61.0
506	2018/11/15	07:52:23	60.9	59.6	59.6	58.4	58.8
511	2018/11/15	07:52:28	59.5	59.7	59.7	61.8	60.8
516	2018/11/15	07:52:33	60.7	61.1	61.2	60.9	61.6
521	2018/11/15	07:52:38	60.7	60.7	59.6	60.0	57.8
526	2018/11/15	07:52:43	58.6	57.9	58.0	57.7	55.8
531	2018/11/15	07:52:48	54.9	55.1	54.5	53.0	53.3
536	2018/11/15	07:52:53	54.6	53.3	52.0	51.6	51.9
541	2018/11/15	07:52:58	51.3	51.1	51.7	52.8	53.4
546	2018/11/15	07:53:03	54.4	53.8	53.7	53.7	56.6
551	2018/11/15	07:53:08	53.5	52.4	54.0	53.5	55.7
556	2018/11/15	07:53:13	56.9	59.7	60.3	62.2	60.1
561	2018/11/15	07:53:18	59.7	61.4	58.3	58.1	59.6
566	2018/11/15	07:53:23	59.5	59.9	60.8	61.5	60.7
571	2018/11/15	07:53:28	62.1	63.1	61.4	62.8	65.7
576	2018/11/15	07:53:33	65.6	64.7	64.4	67.4	64.9
581	2018/11/15	07:53:38	64.0	62.9	61.7	60.4	60.5
586	2018/11/15	07:53:43	60.4	61.1	58.3	58.2	58.0
591	2018/11/15	07:53:48	57.4	56.3	58.3	59.3	58.9
596	2018/11/15	07:53:53	59.2	58.0	57.6	58.6	57.6
601	2018/11/15	07:53:58	56.9	57.5	56.9	57.2	55.3
606	2018/11/15	07:54:03	53.7	54.7	56.7	57.5	54.4
611	2018/11/15	07:54:08	54.5	54.1	54.0	53.2	52.5
616	2018/11/15	07:54:13	53.5	54.2	53.7	52.8	52.8
621	2018/11/15	07:54:18	52.4	51.7	52.0	52.6	52.3
626	2018/11/15	07:54:23	53.4	56.3	55.3	55.0	56.4
631	2018/11/15	07:54:28	57.2	57.2	58.2	59.6	58.6
636	2018/11/15	07:54:33	59.9	60.6	59.4	60.6	60.8
641	2018/11/15	07:54:38	60.4	61.5	61.4	60.3	60.5
646	2018/11/15	07:54:43	60.2	60.1	60.5	59.3	59.4
651	2018/11/15	07:54:48	60.3	60.3	61.2	62.5	64.1
656	2018/11/15	07:54:53	64.3	65.1	63.3	60.9	61.0
661	2018/11/15	07:54:58	61.6	61.3	62.4	61.2	61.7
666	2018/11/15	07:55:03	61.9	61.4	59.8	59.8	60.6
671	2018/11/15	07:55:08	59.7	59.8	59.2	60.4	59.6
676	2018/11/15	07:55:13	59.1	60.3	57.6	55.9	56.1
681	2018/11/15	07:55:18	56.1	56.3	56.8	55.9	56.6
686	2018/11/15	07:55:23	57.4	55.6	57.1	54.4	53.0
691	2018/11/15	07:55:28	54.0	53.4	52.8	54.9	57.5
696	2018/11/15	07:55:33	52.5	51.3	51.1	51.2	53.5
701	2018/11/15	07:55:38	57.4	57.6	57.4	56.5	59.5
706	2018/11/15	07:55:43	59.1	60.1	61.4	62.6	58.8
711	2018/11/15	07:55:48	58.4	58.3	58.0	56.7	56.3
716	2018/11/15	07:55:53	57.2	59.6	57.6	59.3	59.3
721	2018/11/15	07:55:58	61.2	61.6	62.4	61.8	61.9
726	2018/11/15	07:56:03	60.5	60.6	59.8	59.9	58.1
731	2018/11/15	07:56:08	59.0	58.6	59.5	59.2	58.9
736	2018/11/15	07:56:13	58.6	59.2	58.6	59.1	60.0
741	2018/11/15	07:56:18	60.3	62.6	60.1	60.2	60.3
746	2018/11/15	07:56:23	60.5	60.0	60.8	58.8	59.3
751	2018/11/15	07:56:28	57.1	57.5	58.0	55.1	54.1
756	2018/11/15	07:56:33	55.8	55.9	56.4	57.5	57.7
761	2018/11/15	07:56:38	57.1	59.8	56.6	61.5	61.4
766	2018/11/15	07:56:43	60.7	60.4	57.7	57.9	58.4
771	2018/11/15	07:56:48	58.0	57.5	57.6	57.2	58.7
776	2018/11/15	07:56:53	59.4	59.4	57.8	56.8	56.3
781	2018/11/15	07:56:58	58.6	59.2	60.5	62.0	60.5
786	2018/11/15	07:57:03	59.3	60.4	57.3	57.3	58.2
791	2018/11/15	07:57:08	60.1	60.2	60.9	60.9	60.0
796	2018/11/15	07:57:13	61.6	64.0	64.3	72.9	66.0
801	2018/11/15	07:57:18	65.8	65.6	64.3	63.8	62.9
806	2018/11/15	07:57:23	61.8	62.4	62.6	63.4	63.8
811	2018/11/15	07:57:28	63.4	63.5	64.5	65.4	65.4
816	2018/11/15	07:57:33	63.4	61.4	60.1	59.7	59.9
821	2018/11/15	07:57:38	60.7	61.5	60.7	60.7	58.3
826	2018/11/15	07:57:43	57.2	57.3	57.8	57.3	56.3
831	2018/11/15	07:57:48	56.5	56.9	58.2	55.4	56.2
836	2018/11/15	07:57:53	57.1	55.9	56.5	55.9	55.6
841	2018/11/15	07:57:58	56.1	56.7	56.2	56.1	54.1
846	2018/11/15	07:58:03	52.8	52.3	51.6	51.6	51.3
851	2018/11/15	07:58:08	52.6	53.3	54.9	56.9	58.5
856	2018/11/15	07:58:13	60.9	60.3	61.8	61.8	61.4
861	2018/11/15	07:58:18	63.2	61.8	62.5	62.2	62.9
866	2018/11/15	07:58:23	62.1	60.2	60.1	59.8	59.7
871	2018/11/15	07:58:28	60.9	61.4	61.1	62.6	62.5
876	2018/11/15	07:58:33	60.7	62.5	63.4	65.1	66.4
881	2018/11/15	07:58:38	65.8	64.0	64.6	64.7	65.8
886	2018/11/15	07:58:43	68.0	65.6	66.6	64.8	63.0
891	2018/11/15	07:58:48	63.8	62.2	60.9	60.1	60.0
896	2018/11/15	07:58:53	60.8	58.8	58.2	56.7	54.1

Freq Weight : A
 Time Weight : FAST
 Level Range : 40-100
 Max dB : 74.7 - 2018/11/15 16: 57: 09
 Level Range : 40-100
 SEL : 87.5
 Leq : 58.0

No. s	Date Time	(dB)				
1	2018/11/15 16: 47: 07	46.6	46.6	47.3	47.7	47.0
6	2018/11/15 16: 47: 12	47.3	49.6	46.7	46.0	46.5
11	2018/11/15 16: 47: 17	46.2	46.5	47.0	47.0	48.0
16	2018/11/15 16: 47: 22	48.1	47.3	49.4	51.4	52.3
21	2018/11/15 16: 47: 27	55.7	58.2	59.9	61.4	64.7
26	2018/11/15 16: 47: 32	67.6	60.7	55.2	51.6	52.5
31	2018/11/15 16: 47: 37	51.7	53.2	47.5	46.7	46.1
36	2018/11/15 16: 47: 42	48.0	47.2	46.6	48.4	48.3
41	2018/11/15 16: 47: 47	50.9	52.9	55.5	62.1	68.6
46	2018/11/15 16: 47: 52	59.9	59.7	56.6	53.0	52.2
51	2018/11/15 16: 47: 57	50.1	51.7	53.8	56.2	58.4
56	2018/11/15 16: 48: 02	59.8	63.7	65.6	58.0	53.9
61	2018/11/15 16: 48: 07	50.9	49.4	51.2	48.7	50.4
66	2018/11/15 16: 48: 12	51.9	54.3	55.1	55.9	57.4
71	2018/11/15 16: 48: 17	63.6	63.9	58.0	53.5	50.7
76	2018/11/15 16: 48: 22	50.0	50.6	52.8	51.1	50.5
81	2018/11/15 16: 48: 27	50.9	50.1	49.8	49.6	51.0
86	2018/11/15 16: 48: 32	53.7	60.1	64.4	58.7	55.9
91	2018/11/15 16: 48: 37	55.7	53.6	51.4	50.9	50.4
96	2018/11/15 16: 48: 42	49.3	48.8	47.9	47.1	47.2
101	2018/11/15 16: 48: 47	47.6	47.6	49.7	50.6	53.0
106	2018/11/15 16: 48: 52	55.0	59.8	67.2	64.5	58.7
111	2018/11/15 16: 48: 57	57.0	55.7	52.8	50.6	50.0
116	2018/11/15 16: 49: 02	50.1	49.8	51.1	51.0	52.2
121	2018/11/15 16: 49: 07	51.4	51.8	51.8	51.0	49.3
126	2018/11/15 16: 49: 12	51.3	48.7	46.8	47.3	47.1
131	2018/11/15 16: 49: 17	47.2	47.3	47.9	47.3	48.2
136	2018/11/15 16: 49: 22	49.7	51.8	54.8	56.5	57.9
141	2018/11/15 16: 49: 27	59.8	66.0	63.1	55.9	52.2
146	2018/11/15 16: 49: 32	49.5	48.8	47.7	48.5	48.8
151	2018/11/15 16: 49: 37	49.8	52.9	54.9	59.1	58.5
156	2018/11/15 16: 49: 42	61.6	67.7	62.3	56.4	53.3
161	2018/11/15 16: 49: 47	49.9	51.6	55.2	56.7	58.4
166	2018/11/15 16: 49: 52	61.3	68.8	61.8	60.4	58.7
171	2018/11/15 16: 49: 57	55.6	53.6	52.3	50.1	49.2
176	2018/11/15 16: 50: 02	49.8	49.3	50.0	52.5	54.6
181	2018/11/15 16: 50: 07	56.3	58.2	59.4	60.2	64.4
186	2018/11/15 16: 50: 12	64.4	58.6	57.3	56.9	62.9
191	2018/11/15 16: 50: 17	61.4	57.2	55.7	59.7	67.8
196	2018/11/15 16: 50: 22	64.9	60.2	58.3	55.6	53.9
201	2018/11/15 16: 50: 27	50.8	49.6	48.8	48.6	48.4
206	2018/11/15 16: 50: 32	48.5	48.2	47.8	49.7	50.1
211	2018/11/15 16: 50: 37	51.9	54.7	57.2	60.5	60.5
216	2018/11/15 16: 50: 42	61.9	69.2	65.8	60.0	55.7
221	2018/11/15 16: 50: 47	52.5	50.6	50.1	49.7	49.8
226	2018/11/15 16: 50: 52	50.7	51.1	53.0	56.3	59.0
231	2018/11/15 16: 50: 57	59.4	61.7	67.5	62.6	58.5
236	2018/11/15 16: 51: 02	57.2	58.5	62.4	67.3	64.9
241	2018/11/15 16: 51: 07	61.9	59.8	60.7	63.7	64.8
246	2018/11/15 16: 51: 12	58.3	53.8	52.1	51.7	50.3
251	2018/11/15 16: 51: 17	49.6	50.0	49.6	50.8	54.1
256	2018/11/15 16: 51: 22	53.0	56.6	61.0	68.8	60.9
261	2018/11/15 16: 51: 27	59.3	57.6	57.9	57.0	58.3
266	2018/11/15 16: 51: 32	61.3	66.3	62.0	55.1	51.4
271	2018/11/15 16: 51: 37	49.8	48.9	48.1	47.8	48.9
276	2018/11/15 16: 51: 42	50.1	50.8	52.3	55.1	58.2
281	2018/11/15 16: 51: 47	58.3	60.7	67.2	61.6	56.0
286	2018/11/15 16: 51: 52	51.2	48.1	46.9	47.4	47.2
291	2018/11/15 16: 51: 57	47.1	46.5	47.0	46.7	48.0
296	2018/11/15 16: 52: 02	47.3	46.5	47.2	46.8	47.0
301	2018/11/15 16: 52: 07	47.1	47.2	47.8	47.7	48.6
306	2018/11/15 16: 52: 12	49.7	50.7	53.0	55.8	58.7
311	2018/11/15 16: 52: 17	59.7	60.2	66.5	67.2	69.0
316	2018/11/15 16: 52: 22	62.6	60.2	57.1	53.7	52.1
321	2018/11/15 16: 52: 27	51.2	51.0	53.5	55.6	57.2
326	2018/11/15 16: 52: 32	57.9	59.0	63.0	67.1	60.2
331	2018/11/15 16: 52: 37	54.8	51.1	48.5	46.9	46.4
336	2018/11/15 16: 52: 42	47.6	48.1	48.6	49.1	48.7
341	2018/11/15 16: 52: 47	49.3	48.9	48.4	48.5	47.8
346	2018/11/15 16: 52: 52	46.2	46.5	46.5	46.8	46.4
351	2018/11/15 16: 52: 57	47.0	47.7	48.5	50.3	51.5
356	2018/11/15 16: 53: 02	54.5	60.8	68.3	60.8	58.9
361	2018/11/15 16: 53: 07	57.1	55.1	51.9	49.8	49.3
366	2018/11/15 16: 53: 12	48.6	48.6	48.7	49.2	49.3
371	2018/11/15 16: 53: 17	49.5	48.9	48.5	48.9	49.5
376	2018/11/15 16: 53: 22	48.6	48.9	49.4	51.2	53.8
381	2018/11/15 16: 53: 27	57.8	65.9	69.2	60.0	58.2
386	2018/11/15 16: 53: 32	55.7	54.5	51.6	54.2	54.9
391	2018/11/15 16: 53: 37	52.5	50.4	49.3	47.8	48.0
396	2018/11/15 16: 53: 42	47.9	47.0	46.9	48.6	49.0
401	2018/11/15 16: 53: 47	48.3	49.0	49.0	49.4	49.0
406	2018/11/15 16: 53: 52	49.3	48.4	47.7	48.0	46.2
411	2018/11/15 16: 53: 57	48.0	45.8	46.9	46.7	46.5
416	2018/11/15 16: 54: 02	46.9	46.5	46.8	47.8	48.6
421	2018/11/15 16: 54: 07	48.2	49.2	48.9	48.9	47.3

426	2018/11/15	16:54:12	47.1	47.2	47.0	46.9	47.7
431	2018/11/15	16:54:17	48.7	48.4	49.3	49.3	49.3
436	2018/11/15	16:54:22	49.2	49.4	49.2	47.9	46.4
441	2018/11/15	16:54:27	46.6	47.3	47.5	46.7	47.0
446	2018/11/15	16:54:32	48.0	48.0	49.6	50.6	51.7
451	2018/11/15	16:54:37	53.5	54.7	56.6	55.5	55.0
456	2018/11/15	16:54:42	52.2	51.9	54.4	53.7	51.8
461	2018/11/15	16:54:47	47.7	48.2	50.0	49.0	49.7
466	2018/11/15	16:54:52	50.7	49.5	48.8	49.4	48.6
471	2018/11/15	16:54:57	46.2	46.6	47.0	47.9	48.3
476	2018/11/15	16:55:02	47.7	47.1	47.1	46.6	46.5
481	2018/11/15	16:55:07	46.0	46.7	46.4	46.6	46.0
486	2018/11/15	16:55:12	47.4	48.0	46.8	46.3	46.9
491	2018/11/15	16:55:17	47.2	48.4	48.8	49.3	48.7
496	2018/11/15	16:55:22	49.1	48.7	49.4	49.4	47.9
501	2018/11/15	16:55:27	46.7	47.0	47.1	46.9	49.1
506	2018/11/15	16:55:32	52.6	53.7	57.2	63.8	70.3
511	2018/11/15	16:55:37	61.7	60.1	57.9	55.2	52.5
516	2018/11/15	16:55:42	51.4	49.7	48.0	48.9	48.6
521	2018/11/15	16:55:47	49.7	50.5	50.7	50.5	53.1
526	2018/11/15	16:55:52	54.5	55.4	56.2	57.7	63.3
531	2018/11/15	16:55:57	62.1	56.3	53.2	49.4	47.7
536	2018/11/15	16:56:02	48.1	47.3	47.4	47.0	47.8
541	2018/11/15	16:56:07	48.5	50.1	53.0	55.2	57.1
546	2018/11/15	16:56:12	62.0	70.4	64.7	62.3	59.9
551	2018/11/15	16:56:17	55.6	54.8	58.2	60.8	60.6
556	2018/11/15	16:56:22	61.0	63.8	68.6	62.1	57.2
561	2018/11/15	16:56:27	53.3	51.3	49.8	49.8	50.1
566	2018/11/15	16:56:32	51.0	52.7	53.8	55.7	53.7
571	2018/11/15	16:56:37	51.8	50.9	49.6	48.8	49.5
576	2018/11/15	16:56:42	50.2	52.2	50.9	50.7	51.4
581	2018/11/15	16:56:47	51.2	48.5	47.2	48.4	48.6
586	2018/11/15	16:56:52	49.6	49.7	51.4	52.1	53.5
591	2018/11/15	16:56:57	54.6	55.8	56.6	58.9	62.9
596	2018/11/15	16:57:02	59.7	54.7	54.9	57.3	59.4
601	2018/11/15	16:57:07	62.3	72.3	69.4	68.7	64.2
606	2018/11/15	16:57:12	59.6	56.9	53.6	50.9	50.4
611	2018/11/15	16:57:17	47.9	47.3	47.0	46.6	48.6
616	2018/11/15	16:57:22	48.6	48.1	49.2	48.4	48.7
621	2018/11/15	16:57:27	48.4	48.0	47.1	46.8	47.4
626	2018/11/15	16:57:32	47.7	48.9	49.5	50.4	52.8
631	2018/11/15	16:57:37	54.5	55.4	57.4	60.5	65.4
636	2018/11/15	16:57:42	66.5	64.9	65.8	60.6	56.1
641	2018/11/15	16:57:47	52.8	50.2	49.5	51.5	53.4
646	2018/11/15	16:57:52	54.3	57.1	58.7	60.5	62.4
651	2018/11/15	16:57:57	68.2	64.2	56.6	53.0	51.0
656	2018/11/15	16:58:02	49.3	47.1	46.9	45.7	46.0
661	2018/11/15	16:58:07	46.4	46.4	47.6	46.6	49.8
666	2018/11/15	16:58:12	48.3	50.4	48.4	51.3	49.9
671	2018/11/15	16:58:17	48.6	49.0	49.6	48.1	49.7
676	2018/11/15	16:58:22	48.7	50.8	50.1	49.5	49.1
681	2018/11/15	16:58:27	49.4	50.8	49.0	51.5	50.8
686	2018/11/15	16:58:32	48.7	52.0	54.2	50.0	50.9
691	2018/11/15	16:58:37	52.7	57.1	64.1	64.7	57.9
696	2018/11/15	16:58:42	56.1	53.7	52.8	53.8	56.7
701	2018/11/15	16:58:47	58.2	60.8	68.9	66.0	57.0
706	2018/11/15	16:58:52	53.6	54.0	59.1	65.5	58.4
711	2018/11/15	16:58:57	56.2	55.9	55.3	56.2	56.1
716	2018/11/15	16:59:02	58.0	64.2	61.3	55.0	51.7
721	2018/11/15	16:59:07	49.3	48.7	48.3	48.2	48.0
726	2018/11/15	16:59:12	48.2	48.5	48.7	48.7	49.1
731	2018/11/15	16:59:17	48.9	49.5	51.7	54.5	56.0
736	2018/11/15	16:59:22	55.7	56.9	58.9	62.2	60.6
741	2018/11/15	16:59:27	56.1	53.8	54.4	56.4	59.1
746	2018/11/15	16:59:32	61.1	62.7	69.9	65.1	58.0
751	2018/11/15	16:59:37	52.5	50.4	51.3	53.9	58.3
756	2018/11/15	16:59:42	65.7	63.1	58.9	57.3	57.5
761	2018/11/15	16:59:47	61.9	68.7	62.5	60.4	57.9
766	2018/11/15	16:59:52	55.3	56.8	59.7	66.4	68.1
771	2018/11/15	16:59:57	65.9	68.4	61.8	56.5	55.7
776	2018/11/15	17:00:02	58.4	56.0	54.9	53.6	51.3
781	2018/11/15	17:00:07	48.5	49.9	50.3	51.4	50.4
786	2018/11/15	17:00:12	49.4	49.0	48.8	48.2	48.3
791	2018/11/15	17:00:17	48.3	47.4	52.8	45.8	45.8
796	2018/11/15	17:00:22	46.3	46.3	46.5	46.0	46.1
801	2018/11/15	17:00:27	46.5	47.4	47.4	47.8	48.3
806	2018/11/15	17:00:32	48.3	48.8	48.0	47.8	46.9
811	2018/11/15	17:00:37	46.8	46.4	46.4	48.1	49.9
816	2018/11/15	17:00:42	48.8	48.1	47.6	48.0	48.9
821	2018/11/15	17:00:47	49.3	48.7	47.5	49.3	47.2
826	2018/11/15	17:00:52	46.6	47.9	47.8	47.9	47.8
831	2018/11/15	17:00:57	48.5	48.9	48.9	48.3	48.2
836	2018/11/15	17:01:02	48.5	47.3	45.8	46.2	45.9
841	2018/11/15	17:01:07	46.0	47.0	46.6	47.6	49.4
846	2018/11/15	17:01:12	48.3	47.9	47.8	47.6	48.1
851	2018/11/15	17:01:17	48.9	47.6	47.5	47.7	47.6
856	2018/11/15	17:01:22	47.2	46.7	46.6	47.3	46.9
861	2018/11/15	17:01:27	48.3	48.1	48.4	48.4	48.6
866	2018/11/15	17:01:32	50.6	48.8	54.2	48.0	47.3
871	2018/11/15	17:01:37	46.1	52.7	47.5	48.9	51.1
876	2018/11/15	17:01:42	50.7	51.5	52.7	53.7	53.9
881	2018/11/15	17:01:47	55.3	58.2	63.0	60.5	56.1
886	2018/11/15	17:01:52	54.4	59.0	52.5	52.5	51.3
891	2018/11/15	17:01:57	57.2	53.6	59.3	63.8	60.2
896	2018/11/15	17:02:02	56.7	55.5	54.2	52.1	50.2

Freq Weight : A
 Time Weight : FAST
 Level Range : 40-100
 Max dB : 84.3 - 2018/11/15 08: 18: 31
 Level Range : 40-100
 SEL : 99.5
 Leq : 70.0

No. s	Date Time	(dB)				
1	2018/11/15 08:07:51	64.7	66.5	67.6	67.6	66.1
6	2018/11/15 08:07:56	65.0	64.0	61.4	58.5	57.3
11	2018/11/15 08:08:01	59.2	60.5	63.4	65.6	65.6
16	2018/11/15 08:08:06	66.4	65.0	66.1	66.6	66.3
21	2018/11/15 08:08:11	64.0	68.4	67.3	67.6	69.6
26	2018/11/15 08:08:16	69.5	70.0	70.9	72.6	73.3
31	2018/11/15 08:08:21	72.1	70.3	72.1	71.4	69.4
36	2018/11/15 08:08:26	66.3	65.8	67.6	69.7	70.7
41	2018/11/15 08:08:31	69.0	70.2	68.6	66.0	67.5
46	2018/11/15 08:08:36	68.9	68.3	66.2	64.1	61.2
51	2018/11/15 08:08:41	59.4	58.6	61.1	64.5	70.2
56	2018/11/15 08:08:46	70.1	66.0	60.7	58.6	58.4
61	2018/11/15 08:08:51	61.0	65.6	70.9	75.6	71.2
66	2018/11/15 08:08:56	73.7	72.8	65.4	60.6	55.9
71	2018/11/15 08:09:01	55.1	54.3	59.4	61.3	63.7
76	2018/11/15 08:09:06	64.5	63.5	58.2	55.9	54.4
81	2018/11/15 08:09:11	53.7	54.0	54.0	57.2	58.9
86	2018/11/15 08:09:16	63.4	66.0	69.7	71.1	67.6
91	2018/11/15 08:09:21	63.1	60.8	59.0	58.0	55.1
96	2018/11/15 08:09:26	53.4	54.8	56.2	59.4	62.3
101	2018/11/15 08:09:31	66.0	65.0	64.6	63.7	65.7
106	2018/11/15 08:09:36	70.4	70.5	69.3	70.3	74.2
111	2018/11/15 08:09:41	71.3	67.2	67.4	66.8	68.1
116	2018/11/15 08:09:46	67.8	67.8	68.4	68.9	69.9
121	2018/11/15 08:09:51	69.8	71.8	70.6	69.7	69.1
126	2018/11/15 08:09:56	74.4	72.0	66.0	65.4	68.7
131	2018/11/15 08:10:01	73.1	66.9	61.3	58.4	56.9
136	2018/11/15 08:10:06	59.4	62.5	66.6	73.2	76.8
141	2018/11/15 08:10:11	71.8	73.8	74.5	67.0	63.3
146	2018/11/15 08:10:16	63.8	69.1	75.7	71.7	69.9
151	2018/11/15 08:10:21	73.8	69.4	64.8	59.3	57.6
156	2018/11/15 08:10:26	59.2	63.0	68.7	69.1	66.5
161	2018/11/15 08:10:31	69.2	69.4	67.2	67.4	65.3
166	2018/11/15 08:10:36	67.7	66.8	61.1	58.2	54.3
171	2018/11/15 08:10:41	52.7	51.5	52.6	54.7	61.5
176	2018/11/15 08:10:46	61.8	65.9	67.9	65.6	62.0
181	2018/11/15 08:10:51	60.0	59.1	60.6	63.0	66.1
186	2018/11/15 08:10:56	70.7	73.3	72.2	69.0	69.7
191	2018/11/15 08:11:01	73.5	79.2	74.7	73.6	71.8
196	2018/11/15 08:11:06	69.8	67.8	66.8	67.2	71.8
201	2018/11/15 08:11:11	71.8	67.6	69.3	70.5	75.1
206	2018/11/15 08:11:16	76.2	68.9	64.6	63.3	61.8
211	2018/11/15 08:11:21	65.4	68.5	73.6	71.1	68.4
216	2018/11/15 08:11:26	67.0	64.0	62.5	62.0	66.5
221	2018/11/15 08:11:31	72.7	71.6	66.0	62.0	58.4
226	2018/11/15 08:11:36	60.9	64.3	66.6	70.6	69.9
231	2018/11/15 08:11:41	66.3	62.4	61.5	63.1	68.4
236	2018/11/15 08:11:46	71.9	67.7	62.5	58.7	54.3
241	2018/11/15 08:11:51	52.0	50.3	50.6	49.3	50.1
246	2018/11/15 08:11:56	54.3	57.0	57.6	61.1	64.7
251	2018/11/15 08:12:01	67.5	67.7	66.8	70.0	73.0
256	2018/11/15 08:12:06	69.0	69.3	72.2	66.0	61.3
261	2018/11/15 08:12:11	57.1	54.4	54.3	49.3	48.5
266	2018/11/15 08:12:16	47.3	47.5	48.2	48.3	49.4
271	2018/11/15 08:12:21	52.6	55.6	58.5	67.8	72.2
276	2018/11/15 08:12:26	70.4	62.1	58.6	56.0	57.6
281	2018/11/15 08:12:31	62.1	65.6	71.1	67.6	61.9
286	2018/11/15 08:12:36	57.8	54.9	52.2	50.5	49.8
291	2018/11/15 08:12:41	49.5	52.3	53.0	55.9	60.4
296	2018/11/15 08:12:46	67.3	71.2	72.7	66.7	63.4
301	2018/11/15 08:12:51	67.2	70.4	74.2	68.6	64.1
306	2018/11/15 08:12:56	64.9	69.0	71.9	72.1	70.0
311	2018/11/15 08:13:01	72.9	70.9	72.2	78.5	77.5
316	2018/11/15 08:13:06	71.7	71.5	72.1	69.4	72.7
321	2018/11/15 08:13:11	80.5	76.3	72.9	69.7	67.8
326	2018/11/15 08:13:16	70.9	74.1	70.4	70.1	72.0
331	2018/11/15 08:13:21	77.3	74.9	69.0	68.5	72.6
336	2018/11/15 08:13:26	70.8	74.1	72.5	65.3	62.2
341	2018/11/15 08:13:31	59.8	59.9	61.4	68.1	72.2
346	2018/11/15 08:13:36	74.6	69.4	71.3	68.1	64.1
351	2018/11/15 08:13:41	64.0	66.0	70.2	72.1	69.0
356	2018/11/15 08:13:46	66.0	62.5	60.9	59.8	63.3
361	2018/11/15 08:13:51	67.3	72.9	72.3	66.9	63.1
366	2018/11/15 08:13:56	59.0	55.5	52.6	50.8	51.4
371	2018/11/15 08:14:01	50.6	52.3	53.3	54.8	58.4
376	2018/11/15 08:14:06	59.8	62.0	63.6	64.7	69.3
381	2018/11/15 08:14:11	69.9	72.0	69.1	71.7	69.6
386	2018/11/15 08:14:16	64.1	60.8	62.0	60.8	58.0
391	2018/11/15 08:14:21	60.1	61.7	66.7	73.1	73.4
396	2018/11/15 08:14:26	70.0	70.3	65.7	61.3	58.8
401	2018/11/15 08:14:31	58.0	60.9	62.9	67.8	74.7
406	2018/11/15 08:14:36	72.4	67.5	66.0	69.8	70.1
411	2018/11/15 08:14:41	64.7	60.5	61.3	64.0	70.1
416	2018/11/15 08:14:46	66.5	61.9	60.9	63.6	67.1
421	2018/11/15 08:14:51	72.3	73.2	67.5	65.0	64.5

426	2018/11/15	08:14:56	65.8	68.1	67.9	67.4	66.1
431	2018/11/15	08:15:01	66.6	65.2	66.3	67.7	69.4
436	2018/11/15	08:15:06	72.1	73.9	70.9	68.9	71.6
441	2018/11/15	08:15:11	70.3	66.3	62.5	62.1	64.4
446	2018/11/15	08:15:16	68.7	72.4	67.3	61.4	58.1
451	2018/11/15	08:15:21	54.9	54.2	51.5	51.4	49.4
456	2018/11/15	08:15:26	50.1	53.3	54.6	55.8	58.7
461	2018/11/15	08:15:31	61.6	64.1	68.3	66.9	65.5
466	2018/11/15	08:15:36	61.1	59.1	62.0	64.5	68.1
471	2018/11/15	08:15:41	70.6	73.0	74.8	68.7	68.5
476	2018/11/15	08:15:46	67.6	66.0	62.5	60.1	57.5
481	2018/11/15	08:15:51	58.3	60.5	64.2	67.8	71.1
486	2018/11/15	08:15:56	69.2	64.1	60.7	58.5	57.4
491	2018/11/15	08:16:01	55.4	54.6	51.7	50.9	51.5
496	2018/11/15	08:16:06	52.4	54.5	57.5	61.0	63.6
501	2018/11/15	08:16:11	67.6	67.3	67.5	67.7	69.6
506	2018/11/15	08:16:16	68.0	65.9	67.9	66.1	63.5
511	2018/11/15	08:16:21	65.0	67.9	67.4	66.9	69.3
516	2018/11/15	08:16:26	73.9	72.5	69.2	64.5	60.9
521	2018/11/15	08:16:31	59.3	58.2	57.0	59.8	61.4
526	2018/11/15	08:16:36	66.6	66.4	63.9	60.0	57.0
531	2018/11/15	08:16:41	55.7	54.8	60.2	65.2	68.4
536	2018/11/15	08:16:46	72.2	70.3	65.2	60.1	58.7
541	2018/11/15	08:16:51	57.2	57.8	61.4	65.1	69.6
546	2018/11/15	08:16:56	73.4	72.2	66.7	62.7	59.1
551	2018/11/15	08:17:01	59.1	60.7	62.4	66.1	66.1
556	2018/11/15	08:17:06	64.6	63.7	65.0	69.2	68.4
561	2018/11/15	08:17:11	66.7	66.7	65.1	63.2	62.8
566	2018/11/15	08:17:16	64.7	69.1	75.0	70.8	65.0
571	2018/11/15	08:17:21	62.1	58.7	59.4	63.0	65.1
576	2018/11/15	08:17:26	68.2	68.4	65.0	64.3	65.9
581	2018/11/15	08:17:31	70.7	70.4	71.1	69.3	67.6
586	2018/11/15	08:17:36	64.7	61.5	60.1	58.5	60.1
591	2018/11/15	08:17:41	63.3	66.6	69.1	68.6	69.8
596	2018/11/15	08:17:46	68.2	63.4	59.7	57.2	58.0
601	2018/11/15	08:17:51	59.2	60.8	61.9	63.7	64.5
606	2018/11/15	08:17:56	64.2	60.1	58.0	60.9	64.1
611	2018/11/15	08:18:01	67.7	71.6	68.6	63.7	60.7
616	2018/11/15	08:18:06	58.5	57.3	57.7	60.6	63.5
621	2018/11/15	08:18:11	68.8	71.0	64.8	62.1	67.4
626	2018/11/15	08:18:16	71.9	75.6	68.5	66.1	66.4
631	2018/11/15	08:18:21	67.9	67.5	68.7	67.8	64.9
636	2018/11/15	08:18:26	63.8	66.0	69.1	74.9	82.3
641	2018/11/15	08:18:31	81.4	75.5	69.7	67.9	66.2
646	2018/11/15	08:18:36	66.9	71.2	66.3	62.4	59.4
651	2018/11/15	08:18:41	58.3	59.7	60.1	63.0	67.1
656	2018/11/15	08:18:46	71.1	73.9	69.2	68.9	71.9
661	2018/11/15	08:18:51	70.2	73.2	76.4	72.2	69.5
666	2018/11/15	08:18:56	69.3	71.9	70.7	65.5	61.6
671	2018/11/15	08:19:01	60.6	59.3	60.1	56.8	56.3
676	2018/11/15	08:19:06	56.9	58.0	58.3	60.3	62.3
681	2018/11/15	08:19:11	65.5	65.0	64.1	60.1	59.1
686	2018/11/15	08:19:16	58.4	60.1	63.4	65.4	66.1
691	2018/11/15	08:19:21	69.2	66.5	64.8	60.4	58.2
696	2018/11/15	08:19:26	57.6	56.5	54.1	53.3	52.0
701	2018/11/15	08:19:31	51.3	50.7	49.0	49.7	49.9
706	2018/11/15	08:19:36	48.8	57.8	49.8	50.9	52.7
711	2018/11/15	08:19:41	55.2	59.2	60.6	63.6	67.5
716	2018/11/15	08:19:46	66.8	66.8	70.2	69.7	68.6
721	2018/11/15	08:19:51	70.7	67.3	65.1	68.8	73.2
726	2018/11/15	08:19:56	71.0	68.9	66.4	70.3	68.7
731	2018/11/15	08:20:01	66.2	69.0	67.6	68.7	72.4
736	2018/11/15	08:20:06	67.1	62.4	63.9	66.7	72.2
741	2018/11/15	08:20:11	72.4	77.3	77.1	69.1	64.7
746	2018/11/15	08:20:16	62.8	61.4	62.4	61.2	60.7
751	2018/11/15	08:20:21	60.0	61.5	64.2	66.3	67.7
756	2018/11/15	08:20:26	68.3	70.0	71.0	66.6	63.2
761	2018/11/15	08:20:31	62.7	63.2	67.5	76.1	72.9
766	2018/11/15	08:20:36	71.1	68.4	64.2	61.1	59.3
771	2018/11/15	08:20:41	59.4	61.7	63.6	68.3	73.5
776	2018/11/15	08:20:46	76.3	75.3	69.7	68.3	68.3
781	2018/11/15	08:20:51	71.3	72.2	70.8	71.0	71.1
786	2018/11/15	08:20:56	69.5	72.4	74.2	75.3	68.8
791	2018/11/15	08:21:01	65.1	62.1	59.2	62.5	61.0
796	2018/11/15	08:21:06	62.9	60.9	63.7	67.4	70.3
801	2018/11/15	08:21:11	67.7	63.8	60.1	59.3	59.4
806	2018/11/15	08:21:16	60.3	61.0	63.6	67.3	68.5
811	2018/11/15	08:21:21	69.5	73.3	68.3	66.5	69.2
816	2018/11/15	08:21:26	75.6	81.9	80.2	73.1	68.5
821	2018/11/15	08:21:31	66.2	63.0	62.2	66.6	72.9
826	2018/11/15	08:21:36	69.7	64.4	64.1	65.7	69.9
831	2018/11/15	08:21:41	72.4	70.5	73.2	70.9	70.1
836	2018/11/15	08:21:46	66.5	63.6	66.6	65.7	63.5
841	2018/11/15	08:21:51	59.9	57.8	56.8	55.4	55.7
846	2018/11/15	08:21:56	56.8	58.8	61.0	64.7	70.4
851	2018/11/15	08:22:01	70.7	66.9	66.2	66.0	63.4
856	2018/11/15	08:22:06	61.6	64.1	66.4	69.1	64.1
861	2018/11/15	08:22:11	64.1	67.2	65.4	64.8	62.9
866	2018/11/15	08:22:16	64.5	69.1	76.9	77.3	71.1
871	2018/11/15	08:22:21	68.5	68.8	67.7	64.2	62.8
876	2018/11/15	08:22:26	63.5	64.7	64.4	61.2	61.1
881	2018/11/15	08:22:31	61.7	64.3	68.1	70.1	68.7
886	2018/11/15	08:22:36	66.2	64.9	67.3	68.6	65.6
891	2018/11/15	08:22:41	65.5	69.5	73.4	69.2	62.3
896	2018/11/15	08:22:46	58.0	54.9	53.4	53.1	53.1

Freq Weight : A
 Time Weight : FAST
 Level Range : 40-100
 Max dB : 71.1 - 2018/11/15 17: 15: 07
 Level Range : 40-100
 SEL : 76.4
 Leq : 46.9

No. s	Date Time	(dB)				
1	2018/11/15 17: 08: 52	38.8	37.8	39.2	41.5	41.0
6	2018/11/15 17: 08: 57	43.7	42.4	39.9	46.1	41.3
11	2018/11/15 17: 09: 02	40.3	39.5	46.6	38.6	37.8
16	2018/11/15 17: 09: 07	38.1	38.3	38.5	38.8	38.0
21	2018/11/15 17: 09: 12	38.0	39.3	38.5	39.2	38.0
26	2018/11/15 17: 09: 17	39.3	41.1	38.7	39.1	41.6
31	2018/11/15 17: 09: 22	42.1	40.9	43.8	43.0	40.2
36	2018/11/15 17: 09: 27	39.5	41.1	41.2	44.2	43.4
41	2018/11/15 17: 09: 32	41.0	43.6	43.7	43.4	43.5
46	2018/11/15 17: 09: 37	44.4	52.9	43.9	43.3	44.1
51	2018/11/15 17: 09: 42	45.6	44.0	45.4	44.1	44.3
56	2018/11/15 17: 09: 47	44.5	45.9	45.0	44.9	44.7
61	2018/11/15 17: 09: 52	47.6	46.5	46.3	48.8	49.7
66	2018/11/15 17: 09: 57	49.1	47.9	51.3	48.8	50.0
71	2018/11/15 17: 10: 02	48.0	50.7	48.5	49.8	49.8
76	2018/11/15 17: 10: 07	49.0	49.5	49.4	51.1	52.2
81	2018/11/15 17: 10: 12	50.2	48.8	50.7	51.7	49.6
86	2018/11/15 17: 10: 17	51.5	50.4	50.0	51.4	53.5
91	2018/11/15 17: 10: 22	52.4	52.2	52.8	51.1	49.5
96	2018/11/15 17: 10: 27	49.5	50.5	50.7	51.8	51.2
101	2018/11/15 17: 10: 32	53.1	53.4	49.9	45.9	45.0
106	2018/11/15 17: 10: 37	44.1	44.1	44.9	44.4	45.2
111	2018/11/15 17: 10: 42	44.0	48.5	44.6	46.0	47.2
116	2018/11/15 17: 10: 47	43.7	44.5	45.7	44.5	46.2
121	2018/11/15 17: 10: 52	47.1	46.9	48.2	50.4	59.0
126	2018/11/15 17: 10: 57	55.0	57.1	55.5	55.3	50.4
131	2018/11/15 17: 11: 02	48.1	46.8	44.1	42.3	43.0
136	2018/11/15 17: 11: 07	42.0	42.4	42.7	43.7	43.5
141	2018/11/15 17: 11: 12	43.8	43.2	45.3	42.9	47.0
146	2018/11/15 17: 11: 17	45.9	41.5	41.7	40.3	39.8
151	2018/11/15 17: 11: 22	39.0	38.6	39.8	38.1	38.9
156	2018/11/15 17: 11: 27	37.0	36.1	36.8	36.7	37.1
161	2018/11/15 17: 11: 32	37.1	43.5	36.1	38.1	36.7
166	2018/11/15 17: 11: 37	36.1	41.9	36.6	37.7	37.4
171	2018/11/15 17: 11: 42	40.9	37.3	35.8	35.8	37.2
176	2018/11/15 17: 11: 47	36.0	36.1	37.1	37.7	37.5
181	2018/11/15 17: 11: 52	37.7	40.9	35.7	37.1	35.4
186	2018/11/15 17: 11: 57	36.0	34.9	35.4	34.9	35.3
191	2018/11/15 17: 12: 02	34.4	36.7	37.0	35.7	35.6
196	2018/11/15 17: 12: 07	39.0	35.2	38.1	36.1	35.9
201	2018/11/15 17: 12: 12	34.8	35.6	35.5	35.1	34.7
206	2018/11/15 17: 12: 17	34.5	35.0	36.0	35.8	35.7
211	2018/11/15 17: 12: 22	37.6	35.6	35.4	37.7	38.7
216	2018/11/15 17: 12: 27	37.4	37.7	39.2	38.9	38.5
221	2018/11/15 17: 12: 32	37.8	41.8	39.8	38.9	39.0
226	2018/11/15 17: 12: 37	39.2	39.3	46.2	38.1	37.7
231	2018/11/15 17: 12: 42	39.7	38.3	42.4	39.0	38.3
236	2018/11/15 17: 12: 47	38.4	38.4	40.1	42.1	45.0
241	2018/11/15 17: 12: 52	48.2	53.6	59.1	56.2	54.0
246	2018/11/15 17: 12: 57	50.8	46.8	46.3	45.9	43.3
251	2018/11/15 17: 13: 02	40.4	37.5	35.9	41.5	35.3
256	2018/11/15 17: 13: 07	35.0	36.3	37.6	36.3	36.1
261	2018/11/15 17: 13: 12	36.5	38.4	35.6	38.3	36.6
266	2018/11/15 17: 13: 17	37.5	36.0	37.7	37.2	37.9
271	2018/11/15 17: 13: 22	39.8	39.7	40.0	38.9	38.4
276	2018/11/15 17: 13: 27	36.9	39.3	38.4	37.7	37.0
281	2018/11/15 17: 13: 32	36.1	36.0	35.7	35.2	36.4
286	2018/11/15 17: 13: 37	37.4	36.0	36.4	37.2	36.4
291	2018/11/15 17: 13: 42	36.8	35.9	38.3	38.2	37.3
296	2018/11/15 17: 13: 47	36.3	36.3	37.6	37.2	37.6
301	2018/11/15 17: 13: 52	36.2	36.3	36.7	36.6	36.8
306	2018/11/15 17: 13: 57	37.1	37.2	36.5	37.4	37.7
311	2018/11/15 17: 14: 02	37.5	37.6	37.9	38.2	38.1
316	2018/11/15 17: 14: 07	37.5	36.6	37.5	38.3	39.5
321	2018/11/15 17: 14: 12	40.6	39.1	39.5	41.0	38.4
326	2018/11/15 17: 14: 17	39.9	40.2	40.2	40.3	43.5
331	2018/11/15 17: 14: 22	40.0	39.4	40.7	40.0	39.6
336	2018/11/15 17: 14: 27	38.6	40.0	41.7	40.0	40.2
341	2018/11/15 17: 14: 32	40.8	40.1	40.5	38.3	40.8
346	2018/11/15 17: 14: 37	40.8	40.3	39.8	39.3	38.7
351	2018/11/15 17: 14: 42	38.2	38.6	38.0	38.3	38.6
356	2018/11/15 17: 14: 47	40.1	39.4	39.1	39.3	40.2
361	2018/11/15 17: 14: 52	39.4	40.1	39.5	39.4	40.4
366	2018/11/15 17: 14: 57	38.6	39.8	39.0	42.2	43.2
371	2018/11/15 17: 15: 02	48.9	52.6	56.6	60.2	64.7
376	2018/11/15 17: 15: 07	70.1	65.7	55.9	54.0	51.5
381	2018/11/15 17: 15: 12	48.7	47.4	44.7	45.9	44.0
386	2018/11/15 17: 15: 17	42.1	40.6	38.8	38.9	39.2
391	2018/11/15 17: 15: 22	38.7	38.0	37.4	37.0	40.2
396	2018/11/15 17: 15: 27	36.6	37.1	37.5	36.6	35.7
401	2018/11/15 17: 15: 32	37.4	37.3	37.0	37.2	39.7
406	2018/11/15 17: 15: 37	37.1	36.7	36.5	36.3	35.8
411	2018/11/15 17: 15: 42	36.6	36.6	36.0	37.5	36.5
416	2018/11/15 17: 15: 47	36.7	36.1	36.4	36.2	36.5
421	2018/11/15 17: 15: 52	35.8	35.6	35.4	35.6	39.7

426	2018/11/15	17:15:57	37.1	36.1	35.3	35.9	40.5
431	2018/11/15	17:16:02	37.2	37.8	39.8	36.7	39.1
436	2018/11/15	17:16:07	36.5	37.0	36.6	37.8	36.7
441	2018/11/15	17:16:12	35.6	35.4	36.0	36.5	36.6
446	2018/11/15	17:16:17	36.8	36.7	36.3	36.9	41.6
451	2018/11/15	17:16:22	40.2	37.4	37.0	37.9	36.8
456	2018/11/15	17:16:27	37.1	38.1	37.2	36.1	37.2
461	2018/11/15	17:16:32	36.4	37.5	38.2	38.4	38.7
466	2018/11/15	17:16:37	39.7	43.1	38.4	38.4	38.7
471	2018/11/15	17:16:42	40.3	38.4	38.1	39.2	39.8
476	2018/11/15	17:16:47	37.5	37.3	39.1	37.5	37.9
481	2018/11/15	17:16:52	38.2	38.6	36.7	37.9	38.2
486	2018/11/15	17:16:57	37.8	38.2	37.6	36.9	44.3
491	2018/11/15	17:17:02	37.1	37.5	37.3	37.9	36.7
496	2018/11/15	17:17:07	44.1	36.3	36.3	36.9	42.8
501	2018/11/15	17:17:12	37.1	35.9	36.0	37.2	35.6
506	2018/11/15	17:17:17	35.4	35.1	44.7	37.0	35.8
511	2018/11/15	17:17:22	36.9	44.4	37.7	37.4	37.5
516	2018/11/15	17:17:27	41.1	37.6	35.8	36.2	36.5
521	2018/11/15	17:17:32	39.0	37.1	38.2	38.1	41.9
526	2018/11/15	17:17:37	38.1	38.1	38.0	44.6	40.8
531	2018/11/15	17:17:42	38.7	39.3	38.9	39.3	37.6
536	2018/11/15	17:17:47	37.3	41.7	37.8	36.8	38.0
541	2018/11/15	17:17:52	40.3	38.0	40.5	42.1	39.6
546	2018/11/15	17:17:57	40.0	43.6	38.4	38.6	38.6
551	2018/11/15	17:18:02	42.6	39.1	39.4	40.9	40.2
556	2018/11/15	17:18:07	38.2	41.0	38.1	40.9	36.3
561	2018/11/15	17:18:12	36.8	37.5	36.2	37.5	36.5
566	2018/11/15	17:18:17	36.5	36.0	39.3	34.9	35.9
571	2018/11/15	17:18:22	40.6	37.5	39.9	36.4	38.5
576	2018/11/15	17:18:27	44.0	41.3	42.4	44.3	46.8
581	2018/11/15	17:18:32	49.8	51.3	54.0	56.3	58.7
586	2018/11/15	17:18:37	62.4	59.0	54.1	51.8	46.3
591	2018/11/15	17:18:42	43.2	41.2	43.1	40.4	40.9
596	2018/11/15	17:18:47	38.8	39.4	38.1	37.2	35.8
601	2018/11/15	17:18:52	40.9	38.3	35.2	36.5	37.0
606	2018/11/15	17:18:57	36.0	36.2	38.8	36.9	35.8
611	2018/11/15	17:19:02	35.0	36.9	35.9	34.8	35.9
616	2018/11/15	17:19:07	37.5	39.5	39.5	35.9	36.4
621	2018/11/15	17:19:12	40.4	36.2	36.1	36.0	35.4
626	2018/11/15	17:19:17	42.4	36.4	35.4	35.6	36.2
631	2018/11/15	17:19:22	39.3	38.4	36.4	35.4	40.1
636	2018/11/15	17:19:27	37.1	34.7	35.7	41.5	36.8
641	2018/11/15	17:19:32	36.4	41.6	40.6	39.8	53.8
646	2018/11/15	17:19:37	40.3	40.5	35.8	40.2	41.6
651	2018/11/15	17:19:42	35.0	46.5	48.4	46.8	46.6
656	2018/11/15	17:19:47	37.6	34.2	38.7	46.5	47.0
661	2018/11/15	17:19:52	47.6	42.7	38.5	43.7	45.0
666	2018/11/15	17:19:57	36.0	44.2	40.7	38.6	39.3
671	2018/11/15	17:20:02	37.0	34.8	35.6	44.9	47.7
676	2018/11/15	17:20:07	43.2	43.7	44.1	44.5	42.4
681	2018/11/15	17:20:12	46.8	43.3	43.7	42.3	46.2
686	2018/11/15	17:20:17	44.4	39.4	40.5	43.7	44.0
691	2018/11/15	17:20:22	42.7	46.0	45.5	42.0	45.0
696	2018/11/15	17:20:27	37.2	37.7	40.3	39.0	36.0
701	2018/11/15	17:20:32	35.6	39.0	37.4	35.4	39.8
706	2018/11/15	17:20:37	35.1	36.6	36.9	34.9	38.5
711	2018/11/15	17:20:42	36.1	35.3	40.4	39.3	36.4
716	2018/11/15	17:20:47	35.3	39.6	36.4	35.6	36.0
721	2018/11/15	17:20:52	40.2	35.0	38.5	36.7	36.2
726	2018/11/15	17:20:57	42.4	38.3	40.1	38.1	37.0
731	2018/11/15	17:21:02	36.8	37.5	36.9	36.9	40.0
736	2018/11/15	17:21:07	37.8	38.2	37.6	39.2	37.3
741	2018/11/15	17:21:12	38.1	37.3	39.9	37.2	37.0
746	2018/11/15	17:21:17	36.5	40.8	38.4	36.8	38.4
751	2018/11/15	17:21:22	41.2	38.4	38.1	36.9	39.4
756	2018/11/15	17:21:27	40.5	42.4	48.4	48.7	51.5
761	2018/11/15	17:21:32	54.0	55.4	57.3	61.8	62.6
766	2018/11/15	17:21:37	58.7	54.5	49.7	47.4	44.8
771	2018/11/15	17:21:42	43.8	43.0	41.7	42.7	41.4
776	2018/11/15	17:21:47	41.1	40.0	42.2	41.9	40.4
781	2018/11/15	17:21:52	39.7	40.6	41.3	40.4	40.9
786	2018/11/15	17:21:57	41.1	41.4	41.3	42.5	43.6
791	2018/11/15	17:22:02	42.6	42.0	41.9	44.6	41.8
796	2018/11/15	17:22:07	42.2	43.1	40.6	38.1	38.0
801	2018/11/15	17:22:12	37.9	37.1	38.9	38.5	38.5
806	2018/11/15	17:22:17	37.9	39.2	38.0	38.0	39.3
811	2018/11/15	17:22:22	38.2	39.7	38.8	37.1	37.6
816	2018/11/15	17:22:27	38.6	37.9	37.5	38.2	39.6
821	2018/11/15	17:22:32	39.0	38.5	39.6	38.6	39.3
826	2018/11/15	17:22:37	37.6	37.0	38.2	37.8	37.2
831	2018/11/15	17:22:42	36.2	41.7	36.4	37.1	36.4
836	2018/11/15	17:22:47	37.2	38.2	39.3	37.4	37.6
841	2018/11/15	17:22:52	38.7	39.1	38.9	39.4	40.4
846	2018/11/15	17:22:57	39.4	39.6	38.9	38.9	38.4
851	2018/11/15	17:23:02	38.1	38.2	38.1	38.3	39.5
856	2018/11/15	17:23:07	39.1	37.6	40.5	40.4	41.0
861	2018/11/15	17:23:12	42.8	40.6	40.1	39.4	39.5
866	2018/11/15	17:23:17	38.1	38.4	37.5	36.7	37.2
871	2018/11/15	17:23:22	38.4	38.7	38.6	39.4	39.3
876	2018/11/15	17:23:27	40.1	40.3	41.6	40.3	39.1
881	2018/11/15	17:23:32	39.9	39.8	41.8	40.1	40.6
886	2018/11/15	17:23:37	39.2	37.9	38.9	38.2	38.2
891	2018/11/15	17:23:42	37.5	39.0	38.5	38.5	38.2
896	2018/11/15	17:23:47	39.0	38.6	37.4	38.7	39.4

Freq Weight : A
 Time Weight : FAST
 Level Range : 40-100
 Max dB : 77.9 - 2018/11/15 08:32:18
 Level Range : 40-100
 SEL : 90.9
 Leq : 61.4

No. s	Date Time	(dB)				
1	2018/11/15 08:32:17	75.4	72.4	64.6	62.4	61.8
6	2018/11/15 08:32:22	58.6	57.8	54.6	51.6	48.7
11	2018/11/15 08:32:27	49.1	50.7	46.1	45.8	51.9
16	2018/11/15 08:32:32	45.6	45.4	49.2	44.6	42.1
21	2018/11/15 08:32:37	43.3	41.4	40.6	42.8	41.8
26	2018/11/15 08:32:42	38.8	38.6	39.7	38.4	38.3
31	2018/11/15 08:32:47	39.0	37.7	37.5	37.6	37.2
36	2018/11/15 08:32:52	36.8	36.1	36.8	36.6	36.5
41	2018/11/15 08:32:57	36.0	36.0	36.2	36.0	38.0
46	2018/11/15 08:33:02	36.3	36.6	36.5	35.9	36.6
51	2018/11/15 08:33:07	37.0	37.0	36.7	37.2	37.3
56	2018/11/15 08:33:12	39.1	38.9	38.4	39.6	38.7
61	2018/11/15 08:33:17	37.4	36.3	35.5	34.9	35.4
66	2018/11/15 08:33:22	35.5	35.3	35.4	35.3	35.6
71	2018/11/15 08:33:27	39.5	42.6	46.8	47.5	53.3
76	2018/11/15 08:33:32	56.6	61.5	64.5	63.9	59.6
81	2018/11/15 08:33:37	56.3	49.0	46.6	44.1	43.2
86	2018/11/15 08:33:42	44.4	47.3	54.6	59.5	66.0
91	2018/11/15 08:33:47	70.1	64.9	58.6	54.4	52.1
96	2018/11/15 08:33:52	50.7	45.7	43.6	41.6	41.4
101	2018/11/15 08:33:57	41.9	41.6	41.1	39.6	39.8
106	2018/11/15 08:34:02	40.9	39.7	40.0	40.0	39.1
111	2018/11/15 08:34:07	38.2	38.5	38.9	39.7	40.2
116	2018/11/15 08:34:12	39.6	40.9	40.1	40.7	40.0
121	2018/11/15 08:34:17	40.5	41.8	43.2	44.2	46.1
126	2018/11/15 08:34:22	48.5	49.2	51.9	55.7	57.1
131	2018/11/15 08:34:27	63.1	64.7	72.7	76.1	77.0
136	2018/11/15 08:34:32	70.9	69.0	71.4	68.9	62.1
141	2018/11/15 08:34:37	58.0	59.6	61.6	64.4	70.5
146	2018/11/15 08:34:42	71.4	67.2	59.7	53.3	51.0
151	2018/11/15 08:34:47	50.6	44.9	42.8	40.1	37.6
156	2018/11/15 08:34:52	37.2	36.9	36.0	35.8	35.1
161	2018/11/15 08:34:57	36.1	35.6	36.0	35.2	36.0
166	2018/11/15 08:35:02	34.9	35.1	35.9	35.3	37.8
171	2018/11/15 08:35:07	35.0	34.1	34.3	34.1	34.1
176	2018/11/15 08:35:12	34.1	35.0	35.1	34.5	35.1
181	2018/11/15 08:35:17	34.1	34.1	34.4	34.6	35.6
186	2018/11/15 08:35:22	35.9	36.7	37.8	38.9	41.8
191	2018/11/15 08:35:27	42.7	44.7	49.8	51.0	61.7
196	2018/11/15 08:35:32	65.4	67.5	61.4	56.3	51.7
201	2018/11/15 08:35:37	49.2	48.1	45.1	42.4	39.2
206	2018/11/15 08:35:42	38.3	38.3	38.5	39.1	38.9
211	2018/11/15 08:35:47	39.1	39.4	40.9	43.3	46.4
216	2018/11/15 08:35:52	51.1	52.4	56.2	60.4	62.1
221	2018/11/15 08:35:57	68.2	74.7	73.1	67.2	57.8
226	2018/11/15 08:36:02	53.5	53.3	55.2	54.5	60.1
231	2018/11/15 08:36:07	63.9	71.1	69.1	62.9	56.8
236	2018/11/15 08:36:12	55.4	61.9	67.6	65.9	59.4
241	2018/11/15 08:36:17	51.9	48.8	48.0	44.9	43.0
246	2018/11/15 08:36:22	40.9	39.6	39.2	38.6	38.5
251	2018/11/15 08:36:27	37.6	37.6	37.4	37.6	37.9
256	2018/11/15 08:36:32	38.0	37.8	38.9	39.1	39.5
261	2018/11/15 08:36:37	40.7	44.2	45.8	49.3	51.6
266	2018/11/15 08:36:42	54.8	60.6	67.8	70.5	67.1
271	2018/11/15 08:36:47	60.6	53.6	50.9	47.0	44.5
276	2018/11/15 08:36:52	44.0	44.6	49.5	51.5	53.8
281	2018/11/15 08:36:57	56.8	60.7	68.3	70.0	67.8
286	2018/11/15 08:37:02	65.1	58.3	58.0	62.7	65.8
291	2018/11/15 08:37:07	68.5	66.6	69.5	71.4	70.7
296	2018/11/15 08:37:12	66.8	62.2	57.4	54.4	51.4
301	2018/11/15 08:37:17	51.8	55.1	61.9	66.8	68.0
306	2018/11/15 08:37:22	64.3	59.1	55.1	53.4	51.6
311	2018/11/15 08:37:27	44.1	43.1	40.2	38.5	38.0
316	2018/11/15 08:37:32	38.9	39.3	40.1	40.8	42.9
321	2018/11/15 08:37:37	46.8	49.6	52.9	55.4	63.8
326	2018/11/15 08:37:42	70.4	66.2	60.0	53.1	50.8
331	2018/11/15 08:37:47	46.8	43.8	41.6	39.9	40.4
336	2018/11/15 08:37:52	42.8	44.2	45.3	47.1	52.2
341	2018/11/15 08:37:57	55.5	56.3	58.7	65.4	69.7
346	2018/11/15 08:38:02	69.4	64.4	58.3	56.6	54.7
351	2018/11/15 08:38:07	48.6	44.4	44.4	44.3	44.7
356	2018/11/15 08:38:12	46.1	49.6	50.7	52.4	54.0
361	2018/11/15 08:38:17	55.1	59.3	64.0	69.2	70.0
366	2018/11/15 08:38:22	65.2	59.5	55.4	53.1	49.2
371	2018/11/15 08:38:27	45.2	43.3	41.1	40.7	40.2
376	2018/11/15 08:38:32	39.9	40.2	40.4	40.9	40.9
381	2018/11/15 08:38:37	41.0	40.9	42.0	43.2	43.6
386	2018/11/15 08:38:42	44.5	47.0	49.1	55.0	58.4
391	2018/11/15 08:38:47	61.1	65.9	71.0	72.7	72.3
396	2018/11/15 08:38:52	71.3	67.7	61.4	55.2	51.3
401	2018/11/15 08:38:57	47.4	43.9	42.8	42.3	40.7
406	2018/11/15 08:39:02	39.6	37.7	38.0	35.7	35.7
411	2018/11/15 08:39:07	35.8	35.8	36.5	37.3	38.0
416	2018/11/15 08:39:12	38.7	40.0	41.8	43.1	45.2
421	2018/11/15 08:39:17	48.5	50.5	52.4	59.5	63.6

426	2018/11/15	08:39:22	65.8	64.0	60.7	58.7	55.7
431	2018/11/15	08:39:27	55.7	57.3	64.2	67.8	69.6
436	2018/11/15	08:39:32	65.7	61.5	55.0	50.4	48.0
441	2018/11/15	08:39:37	44.7	43.4	42.9	42.6	42.4
446	2018/11/15	08:39:42	42.6	43.4	43.5	45.1	47.4
451	2018/11/15	08:39:47	49.7	52.8	58.0	63.5	68.9
456	2018/11/15	08:39:52	69.1	65.8	61.6	57.0	51.6
461	2018/11/15	08:39:57	47.2	44.3	43.1	42.4	42.3
466	2018/11/15	08:40:02	40.5	38.1	37.7	37.1	36.8
471	2018/11/15	08:40:07	37.9	38.1	39.2	39.5	40.7
476	2018/11/15	08:40:12	41.4	44.9	47.7	52.4	54.8
481	2018/11/15	08:40:17	64.4	69.3	71.4	64.9	57.8
486	2018/11/15	08:40:22	53.8	46.8	43.8	40.9	38.6
491	2018/11/15	08:40:27	36.1	35.8	35.2	35.1	35.1
496	2018/11/15	08:40:32	34.5	33.6	33.7	33.9	35.1
501	2018/11/15	08:40:37	34.6	34.2	35.3	36.7	39.2
506	2018/11/15	08:40:42	40.0	42.0	44.3	49.3	55.0
511	2018/11/15	08:40:47	58.1	62.9	67.9	70.4	67.5
516	2018/11/15	08:40:52	64.1	56.8	50.4	45.5	41.0
521	2018/11/15	08:40:57	39.0	36.9	34.1	33.0	33.2
526	2018/11/15	08:41:02	33.3	31.4	32.5	32.7	32.5
531	2018/11/15	08:41:07	30.9	31.8	33.7	33.7	34.3
536	2018/11/15	08:41:12	32.9	32.5	33.6	34.8	35.9
541	2018/11/15	08:41:17	37.9	37.8	41.0	42.1	46.5
546	2018/11/15	08:41:22	52.3	61.4	65.2	67.9	64.3
551	2018/11/15	08:41:27	57.3	53.9	51.4	47.6	43.6
556	2018/11/15	08:41:32	41.1	41.4	40.9	42.1	41.6
561	2018/11/15	08:41:37	42.2	43.6	47.0	50.0	52.6
566	2018/11/15	08:41:42	60.7	64.3	66.5	62.9	61.5
571	2018/11/15	08:41:47	68.8	72.0	67.6	60.4	53.0
576	2018/11/15	08:41:52	49.5	46.9	46.7	45.6	47.1
581	2018/11/15	08:41:57	50.1	53.6	61.0	68.4	70.2
586	2018/11/15	08:42:02	63.9	60.8	66.8	68.0	66.2
591	2018/11/15	08:42:07	62.9	60.7	61.1	65.6	70.4
596	2018/11/15	08:42:12	70.2	63.4	57.1	51.5	48.8
601	2018/11/15	08:42:17	47.8	46.4	45.6	48.4	50.7
606	2018/11/15	08:42:22	51.6	54.4	53.6	56.5	61.8
611	2018/11/15	08:42:27	66.6	68.6	64.3	59.4	58.7
616	2018/11/15	08:42:32	61.7	65.6	70.9	70.5	70.0
621	2018/11/15	08:42:37	67.2	62.8	58.3	52.8	48.9
626	2018/11/15	08:42:42	44.1	42.8	41.6	40.3	39.5
631	2018/11/15	08:42:47	38.4	37.7	36.3	35.0	34.3
636	2018/11/15	08:42:52	35.0	34.2	33.3	33.8	32.7
641	2018/11/15	08:42:57	32.1	33.0	33.2	32.8	33.7
646	2018/11/15	08:43:02	33.6	33.0	33.3	32.6	31.5
651	2018/11/15	08:43:07	33.0	33.2	31.7	31.8	31.7
656	2018/11/15	08:43:12	31.9	32.7	32.5	31.9	31.4
661	2018/11/15	08:43:17	31.7	31.8	31.9	31.5	32.6
666	2018/11/15	08:43:22	31.6	31.6	31.7	31.8	31.7
671	2018/11/15	08:43:27	31.7	31.0	31.9	31.0	31.8
676	2018/11/15	08:43:32	32.2	31.8	32.3	32.6	31.8
681	2018/11/15	08:43:37	34.1	33.7	33.9	36.0	37.1
686	2018/11/15	08:43:42	38.6	41.3	44.5	50.7	59.9
691	2018/11/15	08:43:47	69.2	68.0	60.7	55.6	51.3
696	2018/11/15	08:43:52	51.0	47.2	46.8	52.6	59.1
701	2018/11/15	08:43:57	67.3	69.9	64.1	56.0	55.0
706	2018/11/15	08:44:02	58.8	53.8	50.7	48.2	46.2
711	2018/11/15	08:44:07	45.6	42.8	43.0	42.2	42.0
716	2018/11/15	08:44:12	41.6	46.0	46.1	46.4	51.5
721	2018/11/15	08:44:17	55.5	60.2	62.9	61.0	66.2
726	2018/11/15	08:44:22	71.3	71.6	66.6	67.5	73.9
731	2018/11/15	08:44:27	69.3	59.2	54.3	53.2	54.7
736	2018/11/15	08:44:32	49.8	48.3	48.5	51.5	52.9
741	2018/11/15	08:44:37	61.8	59.3	61.3	66.4	70.6
746	2018/11/15	08:44:42	67.5	61.3	53.0	48.9	46.2
751	2018/11/15	08:44:47	41.2	40.0	38.6	35.8	35.3
756	2018/11/15	08:44:52	34.5	34.9	35.7	34.3	34.1
761	2018/11/15	08:44:57	34.9	34.1	34.5	35.1	37.6
766	2018/11/15	08:45:02	38.6	37.8	43.8	38.6	38.3
771	2018/11/15	08:45:07	36.2	40.9	42.5	39.8	43.1
776	2018/11/15	08:45:12	46.1	48.0	52.4	55.3	59.8
781	2018/11/15	08:45:17	60.5	68.6	70.7	66.0	58.8
786	2018/11/15	08:45:22	50.6	45.3	41.2	39.4	37.0
791	2018/11/15	08:45:27	34.6	34.2	33.0	32.7	32.3
796	2018/11/15	08:45:32	31.9	31.3	31.0	30.9	30.7
801	2018/11/15	08:45:37	30.8	31.3	30.7	30.9	31.5
806	2018/11/15	08:45:42	30.9	31.2	32.0	32.6	33.8
811	2018/11/15	08:45:47	35.5	37.4	39.8	40.8	41.3
816	2018/11/15	08:45:52	44.6	51.9	59.3	69.8	70.8
821	2018/11/15	08:45:57	67.3	60.4	56.7	53.4	49.3
826	2018/11/15	08:46:02	45.6	42.2	41.1	43.3	42.1
831	2018/11/15	08:46:07	39.2	38.1	38.0	35.2	36.4
836	2018/11/15	08:46:12	36.0	36.9	37.5	38.4	37.4
841	2018/11/15	08:46:17	37.4	35.5	36.8	36.3	35.2
846	2018/11/15	08:46:22	34.9	33.8	37.0	33.7	33.2
851	2018/11/15	08:46:27	36.6	36.4	37.3	35.8	32.4
856	2018/11/15	08:46:32	36.5	31.3	32.6	34.1	32.9
861	2018/11/15	08:46:37	34.4	34.8	33.9	36.4	34.3
866	2018/11/15	08:46:42	35.5	36.8	32.6	34.5	37.8
871	2018/11/15	08:46:47	35.9	36.4	39.4	40.4	40.0
876	2018/11/15	08:46:52	43.5	46.7	53.0	62.9	69.3
881	2018/11/15	08:46:57	69.9	71.6	68.3	61.9	59.1
886	2018/11/15	08:47:02	56.2	56.4	50.4	47.7	44.4
891	2018/11/15	08:47:07	43.9	42.9	40.6	39.8	40.1
896	2018/11/15	08:47:12	40.2	39.9	39.3	39.0	37.5

Freq Weight : A
 Time Weight : FAST
 Level Range : 30-90
 Max dB : 65.2 - 2018/11/15 16:09:23
 Level Range : 30-90
 SEL : 69.4
 Leq : 39.9

No. s	Date Time	(dB)				
1	2018/11/15 15:56:30	37.1	42.1	37.2	42.2	40.0
6	2018/11/15 15:56:35	42.6	41.5	44.8	50.6	44.2
11	2018/11/15 15:56:40	39.6	39.6	39.7	39.6	39.0
16	2018/11/15 15:56:45	37.8	38.1	37.3	36.0	39.0
21	2018/11/15 15:56:50	38.5	40.1	40.8	41.0	39.3
26	2018/11/15 15:56:55	39.9	40.7	40.8	49.5	44.7
31	2018/11/15 15:57:00	40.4	36.7	37.4	36.8	36.8
36	2018/11/15 15:57:05	35.0	37.4	35.5	35.3	37.1
41	2018/11/15 15:57:10	43.3	43.1	35.5	41.6	38.6
46	2018/11/15 15:57:15	35.4	35.6	35.3	34.4	35.5
51	2018/11/15 15:57:20	34.7	36.3	39.4	35.9	38.3
56	2018/11/15 15:57:25	37.3	34.4	36.3	34.1	34.1
61	2018/11/15 15:57:30	35.0	34.2	34.2	33.5	33.8
66	2018/11/15 15:57:35	33.6	33.8	34.0	34.8	34.1
71	2018/11/15 15:57:40	34.5	34.3	33.4	33.5	34.5
76	2018/11/15 15:57:45	33.8	33.5	33.7	35.9	33.8
81	2018/11/15 15:57:50	35.0	35.6	35.0	34.4	33.9
86	2018/11/15 15:57:55	34.7	33.5	42.9	38.8	39.5
91	2018/11/15 15:58:00	38.5	54.8	36.5	43.2	37.2
96	2018/11/15 15:58:05	35.6	38.2	35.3	37.8	38.2
101	2018/11/15 15:58:10	36.0	35.2	41.7	37.3	35.0
106	2018/11/15 15:58:15	35.5	38.5	34.4	34.9	36.2
111	2018/11/15 15:58:20	34.5	34.2	36.5	35.4	38.0
116	2018/11/15 15:58:25	34.5	34.3	34.2	33.9	34.0
121	2018/11/15 15:58:30	34.1	34.0	35.1	34.2	34.4
126	2018/11/15 15:58:35	35.2	39.3	35.7	36.2	35.5
131	2018/11/15 15:58:40	35.5	34.9	37.6	35.7	37.0
136	2018/11/15 15:58:45	40.3	34.8	36.8	36.7	37.0
141	2018/11/15 15:58:50	35.3	34.0	34.2	34.3	34.7
146	2018/11/15 15:58:55	35.0	33.4	33.8	34.2	34.0
151	2018/11/15 15:59:00	33.9	34.3	33.7	33.9	34.1
156	2018/11/15 15:59:05	37.6	35.2	35.4	34.4	34.0
161	2018/11/15 15:59:10	34.1	34.7	34.9	34.4	34.1
166	2018/11/15 15:59:15	34.5	34.1	34.1	34.0	33.7
171	2018/11/15 15:59:20	33.9	33.8	40.5	34.1	34.7
176	2018/11/15 15:59:25	34.3	40.5	33.9	35.0	34.2
181	2018/11/15 15:59:30	34.7	34.7	34.6	35.7	33.5
186	2018/11/15 15:59:35	36.1	40.0	33.7	34.3	35.5
191	2018/11/15 15:59:40	33.6	34.1	34.3	33.8	35.6
196	2018/11/15 15:59:45	34.4	34.3	34.4	34.0	34.7
201	2018/11/15 15:59:50	35.7	34.9	35.0	34.7	34.3
206	2018/11/15 15:59:55	34.1	35.1	35.1	35.8	34.6
211	2018/11/15 16:00:00	36.2	35.9	34.6	34.4	35.3
216	2018/11/15 16:00:05	36.4	35.2	37.2	36.8	34.3
221	2018/11/15 16:00:10	36.2	36.2	35.9	35.7	36.5
226	2018/11/15 16:00:15	36.0	34.9	36.6	36.3	35.1
231	2018/11/15 16:00:20	35.5	35.8	38.0	38.4	37.6
236	2018/11/15 16:00:25	38.5	38.2	38.7	40.8	38.1
241	2018/11/15 16:00:30	36.4	36.6	36.5	37.6	36.9
246	2018/11/15 16:00:35	35.7	36.6	36.0	36.9	35.7
251	2018/11/15 16:00:40	35.7	34.8	36.1	34.6	34.5
256	2018/11/15 16:00:45	35.5	35.0	34.5	35.6	35.6
261	2018/11/15 16:00:50	34.1	34.5	34.5	36.0	36.4
266	2018/11/15 16:00:55	37.5	35.6	34.3	34.0	34.3
271	2018/11/15 16:01:00	35.0	35.9	35.0	34.7	35.3
276	2018/11/15 16:01:05	35.2	36.8	34.8	34.5	34.8
281	2018/11/15 16:01:10	35.1	34.6	34.7	35.2	34.4
286	2018/11/15 16:01:15	34.3	34.4	35.1	34.9	35.2
291	2018/11/15 16:01:20	35.4	36.7	35.7	34.7	35.2
296	2018/11/15 16:01:25	36.4	34.2	36.1	34.1	35.3
301	2018/11/15 16:01:30	35.5	35.8	38.1	39.3	37.1
306	2018/11/15 16:01:35	35.6	38.3	38.6	36.7	35.2
311	2018/11/15 16:01:40	37.5	37.9	38.0	40.2	42.5
316	2018/11/15 16:01:45	40.6	40.4	41.3	40.6	39.7
321	2018/11/15 16:01:50	40.3	38.3	40.0	38.8	38.7
326	2018/11/15 16:01:55	38.9	39.6	40.1	41.2	39.5
331	2018/11/15 16:02:00	38.3	37.7	38.5	39.5	40.4
336	2018/11/15 16:02:05	42.5	44.7	45.6	45.3	44.0
341	2018/11/15 16:02:10	45.2	49.5	42.6	42.6	41.9
346	2018/11/15 16:02:15	44.5	44.6	43.9	45.0	42.9
351	2018/11/15 16:02:20	43.2	42.2	42.5	43.1	42.4
356	2018/11/15 16:02:25	42.6	43.3	41.2	46.5	39.6
361	2018/11/15 16:02:30	41.4	41.0	45.8	41.0	38.5
366	2018/11/15 16:02:35	39.4	38.5	41.5	41.1	39.3
371	2018/11/15 16:02:40	39.1	37.4	43.6	39.8	39.7
376	2018/11/15 16:02:45	40.6	38.4	41.0	38.4	38.0
381	2018/11/15 16:02:50	37.4	37.9	37.7	40.7	37.1
386	2018/11/15 16:02:55	36.4	35.9	41.9	36.9	41.7
391	2018/11/15 16:03:00	41.1	35.0	37.3	50.3	35.6
396	2018/11/15 16:03:05	35.0	35.9	35.6	44.1	36.3
401	2018/11/15 16:03:10	38.2	49.4	35.1	36.4	37.0
406	2018/11/15 16:03:15	34.1	34.9	36.5	34.1	35.5
411	2018/11/15 16:03:20	34.3	45.6	35.6	45.6	36.3
416	2018/11/15 16:03:25	36.3	36.1	34.2	35.9	35.8
421	2018/11/15 16:03:30	35.5	39.6	35.0	36.0	37.4

426	2018/11/15	16:03:35	39.9	35.9	35.8	37.1	36.3
431	2018/11/15	16:03:40	35.2	35.1	35.0	35.5	34.9
436	2018/11/15	16:03:45	36.2	36.5	36.8	35.4	40.2
441	2018/11/15	16:03:50	36.3	35.4	36.6	36.2	34.5
446	2018/11/15	16:03:55	39.0	34.5	35.7	35.4	41.6
451	2018/11/15	16:04:00	36.1	35.6	35.9	42.5	36.9
456	2018/11/15	16:04:05	35.6	34.3	35.1	35.3	38.5
461	2018/11/15	16:04:10	35.2	35.0	38.1	36.4	36.1
466	2018/11/15	16:04:15	35.6	43.4	35.3	34.8	45.2
471	2018/11/15	16:04:20	36.1	43.2	36.3	36.1	37.5
476	2018/11/15	16:04:25	37.3	37.3	36.4	41.5	37.9
481	2018/11/15	16:04:30	37.2	41.2	37.7	35.8	38.7
486	2018/11/15	16:04:35	39.9	45.4	36.8	38.3	37.7
491	2018/11/15	16:04:40	37.5	37.5	37.8	38.6	39.3
496	2018/11/15	16:04:45	37.8	39.6	37.3	39.5	38.5
501	2018/11/15	16:04:50	40.6	40.5	38.5	39.7	43.4
506	2018/11/15	16:04:55	39.4	40.7	41.7	39.8	41.0
511	2018/11/15	16:05:00	41.1	44.2	41.4	42.2	40.6
516	2018/11/15	16:05:05	37.6	43.2	39.7	37.9	38.8
521	2018/11/15	16:05:10	39.3	41.0	37.8	40.1	43.0
526	2018/11/15	16:05:15	40.1	42.5	45.2	43.3	44.8
531	2018/11/15	16:05:20	45.4	50.0	47.9	46.3	48.5
536	2018/11/15	16:05:25	40.6	43.0	44.9	43.9	45.8
541	2018/11/15	16:05:30	45.2	41.6	41.3	43.2	41.7
546	2018/11/15	16:05:35	41.0	42.8	40.1	40.4	41.4
551	2018/11/15	16:05:40	42.4	40.8	42.9	45.0	40.8
556	2018/11/15	16:05:45	41.1	41.5	42.6	43.6	42.1
561	2018/11/15	16:05:50	39.3	42.8	40.4	40.0	44.3
566	2018/11/15	16:05:55	39.7	43.0	45.6	39.8	40.8
571	2018/11/15	16:06:00	42.0	41.1	44.7	39.4	41.7
576	2018/11/15	16:06:05	36.8	38.4	38.0	39.6	42.2
581	2018/11/15	16:06:10	39.8	41.1	40.1	41.6	39.0
586	2018/11/15	16:06:15	41.4	44.4	41.4	37.9	36.5
591	2018/11/15	16:06:20	36.3	35.8	37.0	35.7	35.1
596	2018/11/15	16:06:25	35.5	36.3	36.6	36.4	37.5
601	2018/11/15	16:06:30	37.3	36.9	36.6	36.6	36.6
606	2018/11/15	16:06:35	36.2	37.5	37.8	38.0	41.6
611	2018/11/15	16:06:40	36.5	36.5	38.0	39.4	40.0
616	2018/11/15	16:06:45	37.5	38.4	38.7	41.6	38.1
621	2018/11/15	16:06:50	36.7	40.3	36.1	35.8	36.8
626	2018/11/15	16:06:55	35.7	37.2	36.3	37.9	36.0
631	2018/11/15	16:07:00	38.2	34.8	35.5	35.0	34.5
636	2018/11/15	16:07:05	34.6	37.0	34.0	36.7	38.1
641	2018/11/15	16:07:10	39.5	36.3	37.1	41.5	41.1
646	2018/11/15	16:07:15	36.2	44.7	35.4	36.5	39.7
651	2018/11/15	16:07:20	35.9	38.4	35.3	35.7	34.5
656	2018/11/15	16:07:25	40.1	39.9	35.3	35.8	41.1
661	2018/11/15	16:07:30	34.5	37.8	35.9	35.9	35.7
666	2018/11/15	16:07:35	36.1	37.4	35.3	38.0	36.7
671	2018/11/15	16:07:40	37.1	36.3	38.0	34.8	38.7
676	2018/11/15	16:07:45	35.4	37.6	36.5	38.2	34.9
681	2018/11/15	16:07:50	35.2	37.0	36.2	35.1	36.3
686	2018/11/15	16:07:55	36.7	34.8	34.7	38.1	35.8
691	2018/11/15	16:08:00	36.3	36.5	36.5	37.2	42.3
696	2018/11/15	16:08:05	37.6	36.7	36.1	36.0	36.5
701	2018/11/15	16:08:10	36.3	35.8	35.6	35.8	35.8
706	2018/11/15	16:08:15	35.6	36.9	37.1	36.8	37.6
711	2018/11/15	16:08:20	37.9	38.6	39.1	41.8	41.5
716	2018/11/15	16:08:25	41.8	41.0	40.5	42.8	39.5
721	2018/11/15	16:08:30	38.7	38.0	37.1	37.9	37.3
726	2018/11/15	16:08:35	37.7	37.0	37.0	36.5	35.1
731	2018/11/15	16:08:40	35.4	34.9	35.7	34.9	35.4
736	2018/11/15	16:08:45	36.8	35.4	35.5	34.6	35.5
741	2018/11/15	16:08:50	34.6	37.1	36.5	35.5	37.0
746	2018/11/15	16:08:55	36.0	35.0	37.6	35.1	36.5
751	2018/11/15	16:09:00	34.4	34.4	34.5	35.3	35.4
756	2018/11/15	16:09:05	43.4	38.9	38.3	37.5	37.7
761	2018/11/15	16:09:10	38.3	36.8	36.9	37.0	36.8
766	2018/11/15	16:09:15	37.9	35.4	34.7	34.8	36.4
771	2018/11/15	16:09:20	37.4	35.4	35.1	58.2	40.6
776	2018/11/15	16:09:25	37.1	36.8	36.6	61.2	48.8
781	2018/11/15	16:09:30	36.3	39.6	36.4	40.2	43.9
786	2018/11/15	16:09:35	42.1	38.0	52.4	41.5	44.6
791	2018/11/15	16:09:40	38.6	40.8	35.6	43.0	39.3
796	2018/11/15	16:09:45	42.3	44.6	37.2	36.9	37.3
801	2018/11/15	16:09:50	41.6	40.8	33.9	35.1	39.8
806	2018/11/15	16:09:55	35.7	34.4	36.6	37.1	35.0
811	2018/11/15	16:10:00	34.5	40.7	35.2	38.8	40.0
816	2018/11/15	16:10:05	39.1	34.2	34.2	35.2	39.9
821	2018/11/15	16:10:10	34.3	33.9	39.5	35.6	37.4
826	2018/11/15	16:10:15	37.1	37.4	41.9	35.5	37.4
831	2018/11/15	16:10:20	35.3	34.4	39.2	49.9	35.1
836	2018/11/15	16:10:25	34.2	34.2	37.2	41.5	36.2
841	2018/11/15	16:10:30	36.9	38.2	35.5	34.8	35.1
846	2018/11/15	16:10:35	36.5	35.0	37.2	38.1	41.4
851	2018/11/15	16:10:40	40.0	40.0	35.9	35.7	37.9
856	2018/11/15	16:10:45	36.9	34.3	35.6	33.6	34.8
861	2018/11/15	16:10:50	34.5	35.1	34.3	35.3	36.8
866	2018/11/15	16:10:55	33.7	36.0	34.9	36.4	37.2
871	2018/11/15	16:11:00	35.5	39.6	39.4	36.3	34.7
876	2018/11/15	16:11:05	35.0	35.0	35.1	36.2	36.3
881	2018/11/15	16:11:10	37.7	39.3	38.4	35.6	36.5
886	2018/11/15	16:11:15	35.5	44.6	34.4	35.4	34.2
891	2018/11/15	16:11:20	34.6	34.9	36.3	36.2	40.0
896	2018/11/15	16:11:25	40.4	36.4	34.5	35.1	36.7

Appendix E

Roadway Construction Noise Model Worksheets

Pipelines - Site Preparation
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 11/19/2018
Case Description: Site Preparation

**** Receptor #1 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residences (N Montgomery)	Residential	57.2	45.0	45.0

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Grader	No	40	85.0		30.0	0.0
Backhoe	No	40		77.6	30.0	0.0

Results

Noise Limit Exceedance (dBA)					Noise Limits (dBA)				
Night	Day	Calculated (dBA)			Day Night	Evening			Lmax
		Lmax	Leq	Leq		Lmax	Leq	Lmax	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Grader	N/A	N/A	89.4	85.5	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	82.0	78.0	N/A	N/A	N/A	N/A	N/A
		Total	89.4	86.2	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Mati Iija Jr High/Ojai Valley School	Commercial	58.3	45.0	45.0

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Grader	No	40	85.0		50.0	0.0
Backhoe	No	40		77.6	50.0	0.0

Results

Pipelines - Site Preparation

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Night		Calculated (dBA)			Day Night		Evening		
		Day	Evening						
Equipment	Leq	Lmax	Leq	Lmax	Lmax	Leq	Lmax	Leq	Lmax
Grader	N/A	N/A	85.0	81.0	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	77.6	73.6	N/A	N/A	N/A	N/A	N/A
		Total	85.0	81.7	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A			

Pipeline - Trenching
 Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 11/19/2018
 Case Description: Pipeline - Trenching

**** Receptor #1 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residences (N Montgomery)	Residential	57.2	45.0	45.0

Description	Impact Device	Usage (%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	30.0	0.0
Backhoe	No	40		77.6	30.0	0.0

Results

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Night	Calculated (dBA)				Day Night		Evening			
	Day	Evening	Day	Night	Evening	Night	Evening	Night	Day	
Equipment	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator				85.1	81.2	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe				82.0	78.0	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Total	85.1	82.9	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Mati Iija Jr High/Ojai Valley School	Commercial	58.3	45.0	45.0

Description	Impact Device	Usage (%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0

Results

Pipeli nes - Trenchi ng

Noi se Li mi t Exceedance (dBA)

Noi se Li mi ts (dBA)

Ni ght		Cal cul ated (dBA)			Day Ni ght		Eveni ng			
		Day	Eveni ng							
Equi pment	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	N/A	N/A	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A
		Total	80.7	78.4	N/A	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Pipelines - Pipeline Installation
 Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 11/19/2018
 Case Description: Pipelines - Pipeline Installation

**** Receptor #1 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residences (N Montgomery)	Residential	57.2	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	30.0	0.0
Man Lift	No	20		74.7	30.0	0.0
Man Lift	No	20		74.7	30.0	0.0
Compactor (ground)	No	20		83.2	30.0	0.0
Backhoe	No	40		77.6	30.0	0.0
Backhoe	No	40		77.6	30.0	0.0
Dozer	No	40		81.7	30.0	0.0

Results

Noise Limit Exceedance (dBA) Noise Limits (dBA)

Equipment	Calculated (dBA)				Day		Evening		
	Leq	Lmax	Leq	Lmax	Day	Night	Lmax	Leq	Lmax
Crane									
N/A	N/A	N/A	85.0	77.0	N/A	N/A	N/A	N/A	N/A
Man Lift									
N/A	N/A	N/A	79.1	72.1	N/A	N/A	N/A	N/A	N/A
Man Lift									
N/A	N/A	N/A	79.1	72.1	N/A	N/A	N/A	N/A	N/A
Compactor (ground)									
N/A	N/A	N/A	87.7	80.7	N/A	N/A	N/A	N/A	N/A
Backhoe									
N/A	N/A	N/A	82.0	78.0	N/A	N/A	N/A	N/A	N/A
Backhoe									
N/A	N/A	N/A	82.0	78.0	N/A	N/A	N/A	N/A	N/A
Dozer									
N/A	N/A	N/A	86.1	82.1	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	Total	87.7	86.9	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Page 1				

Pipelines - Pipeline Installation

 Matilija Jr High/Ojai Valley School Commercial 58.3 45.0 45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	50.0	0.0
Man Lift	No	20		74.7	50.0	0.0
Man Lift	No	20		74.7	50.0	0.0
Compactor (ground)	No	20		83.2	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0
Dozer	No	40		81.7	50.0	0.0

Results

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Night	Calculated (dBA)				Day		Evening		
	Day		Evening		Night				
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Crane	N/A	N/A	80.6	72.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	N/A	N/A	74.7	67.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	N/A	N/A	74.7	67.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	N/A	N/A	83.2	76.2	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	77.6	73.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	77.6	73.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	N/A	N/A	81.7	77.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	Total	83.2	82.5	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Pipelines - Paving

Matilija Jr High/Ojai Valley School Commercial 58.3 45.0 45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	50.0	0.0
Concrete Mixer Truck	No	40		78.8	50.0	0.0
Concrete Mixer Truck	No	40		78.8	50.0	0.0
Concrete Mixer Truck	No	40		78.8	50.0	0.0
Paver	No	50		77.2	50.0	0.0
Roller	No	20		80.0	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0

Results

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Night	Day		Calculated (dBA) Evening		Day Night		Evening		
	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Concrete Mixer Truck	N/A	N/A	78.8	74.8	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	N/A	N/A	78.8	74.8	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	N/A	N/A	78.8	74.8	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	N/A	N/A	77.2	74.2	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	N/A	N/A	80.0	73.0	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	77.6	73.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	Total	80.0	82.8	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Pipelines - Architectural Coating
 Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 11/19/2018
 Case Description: Pipelines - Architectural Coating

**** Receptor #1 ****

Description	Land Use	Baselines (dBA)		Night
		Daytime	Evening	
Residences (N Montgomery)	Residential	57.2	45.0	45.0

Equipment						
Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	30.0	0.0

Results

Noise Limit Exceedance (dBA) Noise Limits (dBA)

Night	Day	Calculated (dBA)			Day Night		Evening		
		Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Equipment									
Compressor (air)			82.1	78.1	N/A	N/A	N/A	N/A	N/A
N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	Total	N/A	82.1	78.1	N/A	N/A	N/A	N/A	N/A
N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA)		Night
		Daytime	Evening	
Mati Iija Jr High/Ojai Valley School	Commercial	58.3	45.0	45.0

Equipment						
Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	50.0	0.0

Results

Noise Limit Exceedance (dBA) Noise Limits (dBA)

Pipelines - Architectural Coating

Night	Day		Calculated (dBA) Evening		Day Night		Evening		
	Leq	Lmax	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	N/A	N/A	77.7	73.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Total	77.7	73.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Well Construction - Site Preparation
 Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 11/19/2018
 Case Description: Well Construction - Site Preparation

**** Receptor #1 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residence North of Grand	Residential	55.7	45.0	45.0

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Grader	No	40	85.0		250.0	0.0
Backhoe	No	40		77.6	250.0	0.0

Results

Noise Limit Exceedance (dBA)					Noise Limits (dBA)				
Night	Day	Calculated (dBA)			Day Night	Evening			Lmax
		Lmax	Leq	Leq		Lmax	Leq	Lmax	
Equipment									
Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Grader	N/A	N/A	71.0	67.0	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	63.6	59.6	N/A	N/A	N/A	N/A	N/A
		Total	71.0	67.8	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residence South of Grand	Residential	59.3	45.0	45.0

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Grader	No	40	85.0		490.0	0.0
Backhoe	No	40		77.6	490.0	0.0

Results

Well Construction - Site Preparation
 Noise Limit Exceedance (dBA) Noise Limits (dBA)

Night		Calculated (dBA)				Day		Evening		
		Day		Evening		Night				
Equipment	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Grader	N/A	N/A	N/A	65.2	61.2	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	N/A	57.7	53.8	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	Total	65.2	61.9	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Well Construction - Well Drilling
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 11/19/2018
Case Description: Well Construction - Well Drilling

**** Receptor #1 ****

Description	Land Use	Baselines (dBA)		Night
		Daytime	Evening	
Residence North of Grand	Residential	55.7	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Generator	No	50		80.6	250.0	0.0
Drill Rig Truck	No	20		79.1	250.0	0.0
Flat Bed Truck	No	40		74.3	250.0	0.0
Flat Bed Truck	No	40		74.3	250.0	0.0
Backhoe	No	40		77.6	250.0	0.0

Results

Noise Limit Exceedance (dBA) Noise Limits (dBA)

Night	Day	Calculated (dBA)		Day Night		Evening		Lmax
		Lmax	Leq	Lmax	Leq	Lmax	Leq	
Generator		66.7	63.6	N/A	N/A	N/A	N/A	N/A
N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drill Rig Truck		65.2	58.2	N/A	N/A	N/A	N/A	N/A
N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flat Bed Truck		60.3	56.3	N/A	N/A	N/A	N/A	N/A
N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flat Bed Truck		60.3	56.3	N/A	N/A	N/A	N/A	N/A
N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		63.6	59.6	N/A	N/A	N/A	N/A	N/A
N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	66.7	66.8	N/A	N/A	N/A	N/A	N/A
N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA)		Night
		Daytime	Evening	
Residence South of Grand	Residential	59.3	45.0	45.0

Equipment

Spec	Actual	Receptor	Estimated
Page 1			

Description	Impact Device	Well Construction - Well Usage (%)		Well Drilling		Shielding (dBA)
		Lmax (dBA)	Lmax (dBA)	Distance (feet)		
Generator	No	50		80.6	490.0	0.0
Drill Rig Truck	No	20		79.1	490.0	0.0
Flat Bed Truck	No	40		74.3	490.0	0.0
Flat Bed Truck	No	40		74.3	490.0	0.0
Backhoe	No	40		77.6	490.0	0.0

Results

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Night	Calculated (dBA)					Day Night		Evening		
	Day		Evening							
Equipment	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Generator	N/A	N/A	60.8	N/A	57.8	N/A	N/A	N/A	N/A	N/A
Drill Rig Truck	N/A	N/A	59.3	N/A	52.3	N/A	N/A	N/A	N/A	N/A
Flat Bed Truck	N/A	N/A	54.4	N/A	50.4	N/A	N/A	N/A	N/A	N/A
Flat Bed Truck	N/A	N/A	54.4	N/A	50.4	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	57.7	N/A	53.8	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	Total	60.8	60.9	N/A	N/A	N/A	N/A	N/A
	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A

Well Construction - Electrical Pump Installation
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 11/19/2018
Case Description: Well Construction - Electrical / Pump Installation

**** Receptor #1 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residence North of Grand	Residential	55.7	45.0	45.0

Description	Impact Device	Usage (%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	250.0	0.0
Man Lift	No	20		74.7	250.0	0.0
Man Lift	No	20		74.7	250.0	0.0
Backhoe	No	40		77.6	250.0	0.0
Backhoe	No	40		77.6	250.0	0.0

Results

Night	Noise Limit Exceedance (dBA)						Noise Limits (dBA)		
	Day		Calculated (dBA)		Day Night		Evening		
	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Crane	N/A	N/A	66.6	58.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	N/A	N/A	60.7	53.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	N/A	N/A	60.7	53.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	63.6	59.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	63.6	59.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	Total	66.6	64.8	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residence South of Grand	Residential	59.3	45.0	45.0

Spec	Equipment		
	Actual	Receptor	Estimated
	Page 1		

Well Construction - Electrical Pump Installation

Description	Impact Device	Usage (%)	Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Crane	No	16		80.6	490.0	0.0
Man Lift	No	20		74.7	490.0	0.0
Man Lift	No	20		74.7	490.0	0.0
Backhoe	No	40		77.6	490.0	0.0
Backhoe	No	40		77.6	490.0	0.0

Results

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Night	Calculated (dBA)				Day		Evening		
	Day		Evening		Night				
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Crane			60.7	52.8	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift			54.9	47.9	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift			54.9	47.9	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe			57.7	53.8	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe			57.7	53.8	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Total	60.7	59.0	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Tank Construction - Demolition
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 11/20/2018
Case Description: Tank Construction - Demolition

**** Receptor #1 ****

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
25 Feet	Residential	65.0	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	25.0	0.0
Dozer	No	40		81.7	25.0	0.0
Backhoe	No	40		77.6	25.0	0.0

Results

Noise Limit Exceedance (dBA) Noise Limits (dBA)

Night	Day	Calculated (dBA)				Day Night		Evening		
		Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Concrete Saw	N/A	95.6	88.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	N/A	87.7	83.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	83.6	79.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	95.6	90.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
100 Feet	Residential	65.0	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	100.0	0.0
Dozer	No	40		81.7	100.0	0.0
Backhoe	No	40		77.6	100.0	0.0

Tank Constructi on - Demol i ti on

Resul ts

Noi se Li mi t Exceedance (dBA)

Noi se Li mi ts (dBA)

Ni ght	Day	Cal cul ated (dBA)			Day		Eveni ng			
		Eveni ng			Ni ght					
Equi pment	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Concrete Saw	N/A	N/A	N/A	83.6	76.6	N/A	N/A	N/A	N/A	N/A
Dozer	N/A	N/A	N/A	75.6	71.7	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	N/A	71.5	67.6	N/A	N/A	N/A	N/A	N/A
			Total	83.6	78.2	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

Descri pti on	Land Use	Basel i nes (dBA)		
		Dayti me	Eveni ng	Ni ght
200 Feet	Resi denti al	65.0	45.0	45.0

Descri pti on	Impact Devi ce	Usage (%)	Equi pment		Receptor Di stance (feet)	Esti mated Shi el di ng (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Concrete Saw	No	20		89.6	200.0	0.0
Dozer	No	40		81.7	200.0	0.0
Backhoe	No	40		77.6	200.0	0.0

Resul ts

Noi se Li mi t Exceedance (dBA)

Noi se Li mi ts (dBA)

Ni ght	Day	Cal cul ated (dBA)			Day		Eveni ng			
		Eveni ng			Ni ght					
Equi pment	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Concrete Saw	N/A	N/A	N/A	77.5	70.5	N/A	N/A	N/A	N/A	N/A
Dozer	N/A	N/A	N/A	69.6	65.6	N/A	N/A	N/A	N/A	N/A

			Tank Construction - Demolition						
Backhoe			65.5	61.5	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Total	77.5	72.2	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Tank Construction - Site Preparation
 Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 11/20/2018
 Case Description: Tank Construction - Site Preparation

**** Receptor #1 ****

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
25 Feet	Residential	65.0	45.0	45.0

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Grader	No	40	85.0		25.0	0.0
Backhoe	No	40		77.6	25.0	0.0

Results

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Night	Calculated (dBA)				Day		Evening		
	Day		Evening		Night		Evening		
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Grader	N/A	N/A	91.0	87.0	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	83.6	79.6	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	91.0	87.8	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
100 Feet	Residential	65.0	45.0	45.0

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Grader	No	40	85.0		100.0	0.0
Backhoe	No	40		77.6	100.0	0.0

Results

Tank Construction - Site Preparation
 Noise Limit Exceedance (dBA) Noise Limits (dBA)

Night		Calculated (dBA)			Day Night		Evening			
		Day		Evening						
Equipment	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Grader	N/A	N/A	N/A	79.0	75.0	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	N/A	71.5	67.6	N/A	N/A	N/A	N/A	N/A
			Total	79.0	75.7	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

***** Receptor #3 *****

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
200 Feet	Residential	65.0	45.0	45.0

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Grader	No	40	85.0		200.0	0.0
Backhoe	No	40		77.6	200.0	0.0

Results

Noise Limit Exceedance (dBA) Noise Limits (dBA)

Night		Calculated (dBA)			Day Night		Evening			
		Day		Evening						
Equipment	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Grader	N/A	N/A	N/A	73.0	69.0	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	N/A	65.5	61.5	N/A	N/A	N/A	N/A	N/A
			Total	73.0	69.7	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Tank Construction - Grading
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 11/20/2018
Case Description: Tank Construction - Grading

**** Receptor #1 ****

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
25 Feet	Residential	65.0	45.0	45.0

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Excavator	No	40		80.7	25.0	0.0
Dozer	No	40		81.7	25.0	0.0
Backhoe	No	40		77.6	25.0	0.0
Concrete Saw	No	20		89.6	25.0	0.0

Results

		Noise Limit Exceedance (dBA)				Noise Limits (dBA)			
Night	Day	Calculated (dBA)		Day Night		Evening			
		Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator									
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer									
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe									
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw									
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total								
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
100 Feet	Residential	65.0	45.0	45.0

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		

Tank Construction - Grading					
Excavator	No	40	80.7	100.0	0.0
Dozer	No	40	81.7	100.0	0.0
Backhoe	No	40	77.6	100.0	0.0
Concrete Saw	No	20	89.6	100.0	0.0

Results

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Night	Day	Calculated (dBA)		Day Night		Evening		
		Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		74.7	70.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		75.6	71.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		71.5	67.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw		83.6	76.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	83.6	78.9	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
200 Feet	Residential	65.0	45.0	45.0

Equipment

Description	Impact Devi ce	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Di stance (feet)	Esti mated Shi el di ng (dBA)
Excavator	No	40		80.7	200.0	0.0
Dozer	No	40		81.7	200.0	0.0
Backhoe	No	40		77.6	200.0	0.0
Concrete Saw	No	20		89.6	200.0	0.0

Results

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Night	Day	Calculated (dBA)		Day Night		Evening		
		Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax

Leq	Lmax	Leq	Tank Construction - Grading						
			Lmax	Leq	Lmax	Leq			
Excavator			68.7	64.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Dozer			69.6	65.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Backhoe			65.5	61.5	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Concrete Saw			77.5	70.5	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A			
		Total	77.5	72.9	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A			

Tank Construction - Building Construction
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 11/20/2018
Case Description: Tank Construction - Building Construction

**** Receptor #1 ****

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
25 Feet	Residential	65.0	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compactor (ground)	No	20		83.2	25.0	0.0
Crane	No	16		80.6	25.0	0.0
Man Lift	No	20		74.7	25.0	0.0
Man Lift	No	20		74.7	25.0	0.0
Backhoe	No	40		77.6	25.0	0.0

Results

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Night	Day	Calculated (dBA)		Day		Evening		Lmax
		Lmax	Leq	Night	Evening	Lmax	Leq	
Equipment								
Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compactor (ground)	N/A	N/A	89.3	82.3	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	N/A	N/A	86.6	78.6	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	N/A	N/A	80.7	73.7	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	N/A	N/A	80.7	73.7	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	83.6	79.6	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	Total	89.3	85.8	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
100 Feet	Residential	65.0	45.0	45.0

Equipment

Spec Page 1	Actual	Receptor	Estimated
-------------	--------	----------	-----------

Description	Tank Construction - Building Construction					Shielding (dBA)
	Impact Device	Usage (%)	Lmax (dBA)	Lmax (dBA)	Distance (feet)	
Compactor (ground)	No	20		83.2	100.0	0.0
Crane	No	16		80.6	100.0	0.0
Man Lift	No	20		74.7	100.0	0.0
Man Lift	No	20		74.7	100.0	0.0
Backhoe	No	40		77.6	100.0	0.0

Results

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Night	Calculated (dBA)				Day		Evening		
	Day		Evening		Night				
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compactor (ground)			77.2	70.2	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane			74.5	66.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift			68.7	61.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift			68.7	61.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe			71.5	67.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Total	77.2	73.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
200 Feet	Residential	65.0	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	200.0	0.0
Man Lift	No	20		74.7	200.0	0.0
Man Lift	No	20		74.7	200.0	0.0
Backhoe	No	40		77.6	200.0	0.0

Results

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Tank Construction - Building Construction

Night	Day		Calculated (dBA) Evening		Day Night		Evening		Lmax
	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	
Equipment									
Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compactor (ground)	N/A	N/A	71.2	64.2	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	N/A	N/A	68.5	60.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	N/A	N/A	62.7	55.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	N/A	N/A	62.7	55.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	65.5	61.5	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	Total	71.2	67.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Tank Constructi on - Pavi ng
Roadway Constructi on Noi se Model (RCNM), Versi on 1. 1

Report date: 11/20/2018
Case Descri pti on: Tank Constructi on - Pavi ng

**** Receptor #1 ****

Descri pti on	Land Use	Dayti me	Basel i nes (dBA)	
			Eveni ng	Ni ght
25 Feet	Resi denti al	65. 0	45. 0	45. 0

Equi pment

Descri pti on	Impact Devi ce	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Di stance (feet)	Esti mated Shi el di ng (dBA)
Concrete Mi xer Truck	No	40		78. 8	25. 0	0. 0
Concrete Mi xer Truck	No	40		78. 8	25. 0	0. 0
Concrete Mi xer Truck	No	40		78. 8	25. 0	0. 0
Paver	No	50		77. 2	25. 0	0. 0
Ro l l er	No	20		80. 0	25. 0	0. 0
Backhoe	No	40		77. 6	25. 0	0. 0

Resul ts

Noi se Li mi t Exceedance (dBA) Noi se Li mi ts (dBA)

Ni ght	Cal cul ated (dBA)				Day Ni ght		Eveni ng		
	Day		Eveni ng		Day Ni ght		Eveni ng		
Equi pment	Leq	Lmax	Leq	Lmax	Lmax	Leq	Lmax	Leq	Lmax
Concrete Mi xer Truck	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mi xer Truck	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mi xer Truck	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mi xer Truck	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ro l l er	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	Total		N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Descri pti on	Land Use	Dayti me	Basel i nes (dBA)	
			Eveni ng	Ni ght

Tank Construction - Paving

 100 Feet Residential 65.0 45.0 45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	100.0	0.0
Concrete Mixer Truck	No	40		78.8	100.0	0.0
Concrete Mixer Truck	No	40		78.8	100.0	0.0
Concrete Mixer Truck	No	40		78.8	100.0	0.0
Paver	No	50		77.2	100.0	0.0
Roller	No	20		80.0	100.0	0.0
Backhoe	No	40		77.6	100.0	0.0

Results

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Night	Day		Calculated (dBA) Evening		Day Night		Evening		
	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Concrete Mixer Truck			72.8	68.8	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck			72.8	68.8	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck			72.8	68.8	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver			71.2	68.2	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller			74.0	67.0	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe			71.5	67.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Total	74.0	76.8	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

 Description Land Use Daytime Basel ines (dBA) Evening Night
 200 Feet Industrial 65.0 45.0 45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
-------------	---------------	-----------	-----------------	-------------------	--------------------------	---------------------------

			Tank Constructi on - Pavi ng				
Concrete Mi xer Truck	No	40	78.8	200.0	0.0		
Concrete Mi xer Truck	No	40	78.8	200.0	0.0		
Concrete Mi xer Truck	No	40	78.8	200.0	0.0		
Concrete Mi xer Truck	No	40	78.8	200.0	0.0		
Paver	No	50	77.2	200.0	0.0		
Ro l l er	No	20	80.0	200.0	0.0		
Backhoe	No	40	77.6	200.0	0.0		

Resul ts

Noi se Li mi t Exceedance (dBA)

Noi se Li mi ts (dBA)

Ni ght			Cal cul ated (dBA)		Day Ni ght		Eveni ng		
Day			Eveni ng						
Equi pment	Leq	Lmax	Leq	Lmax	Lmax	Leq	Lmax	Leq	Lmax
Concrete Mi xer Truck	N/A	N/A	66.8	62.8	N/A	N/A	N/A	N/A	N/A
Concrete Mi xer Truck	N/A	N/A	66.8	62.8	N/A	N/A	N/A	N/A	N/A
Concrete Mi xer Truck	N/A	N/A	66.8	62.8	N/A	N/A	N/A	N/A	N/A
Concrete Mi xer Truck	N/A	N/A	66.8	62.8	N/A	N/A	N/A	N/A	N/A
Paver	N/A	N/A	65.2	62.2	N/A	N/A	N/A	N/A	N/A
Ro l l er	N/A	N/A	68.0	61.0	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	65.5	61.5	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	68.0	70.8	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Tank Construction - Architectural Coating
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 11/20/2018
Case Description: Tank Construction - Architectural Coating

**** Receptor #1 ****

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
25 Feet	Residential	65.0	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	25.0	0.0

Results

Noise Limit Exceedance (dBA) Noise Limits (dBA)

Night	Calculated (dBA)				Day		Evening		
	Day		Evening		Night		Evening		
Equipment	Leq	Lmax	Leq	Lmax	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
100 Feet	Residential	65.0	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	100.0	0.0

Results

Noise Limit Exceedance (dBA) Noise Limits (dBA)

Tank Construction - Architectural Coating

Night	Day		Calculated (dBA) Evening		Day Night		Evening		
	Leq	Lmax	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	N/A	N/A	71.6	67.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	71.6	67.7	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
200 Feet	Residential	65.0	45.0	45.0

Description	Impact Device	Usage (%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	200.0	0.0

Results

Noise Limit Exceedance (dBA) Noise Limits (dBA)

Night	Day		Calculated (dBA) Evening		Day Night		Evening		
	Leq	Lmax	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	N/A	N/A	65.6	61.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	65.6	61.6	N/A	N/A	N/A	N/A	N/A

Appendix F

AB 52 Consultation Letter

RE: Assembly Bill 52 Consultation for Ojai Valley Water System Improvements Project, City of Ojai,
Ventura County, California

Dear _____ :

The Casitas Municipal Water District is preparing an Initial Study-Mitigated Negative Declaration for the proposed Ojai Valley Water System Improvements Project. The project primarily involves the replacement of segments of pipeline which are undersized and approaching the end of their service life. The general purpose of the proposed project is to improve fire flow and replace aging mains, not to increase pipeline capacity to serve additional customers. The proposed project would replace approximately eight miles of pipeline segments throughout the Ojai system service area. Additionally, the proposed project includes plans to rehabilitate three tanks and demolish one existing tank, rehabilitate two booster pump stations and update two additional pump stations, and rehabilitate the six active wells throughout the Ojai system. The proposed project also includes potential construction of a new well within the Ojai system for future use. The proposed project is subject to the California Environmental Quality Act (CEQA).

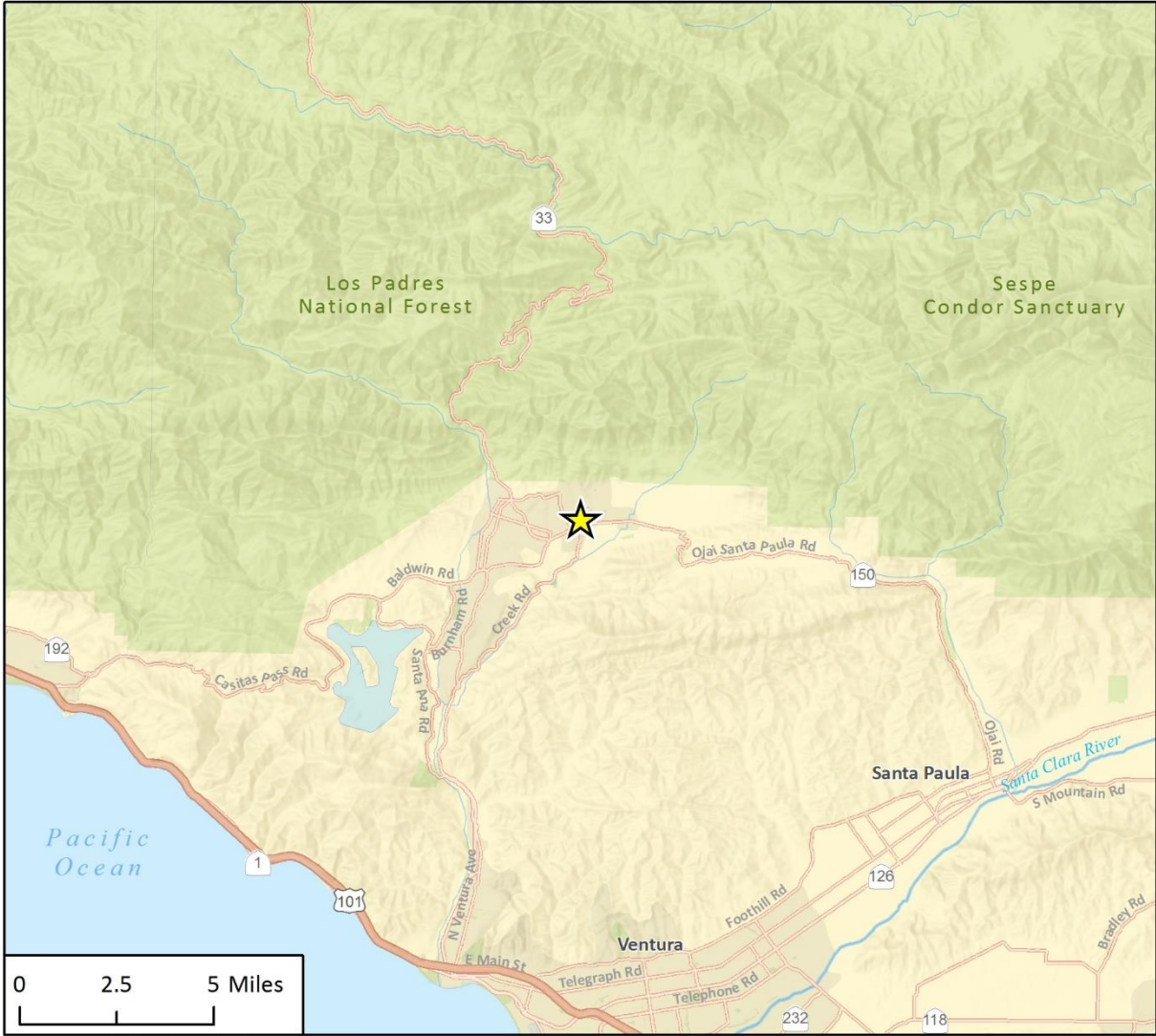
The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the _____ is important to the Casitas Municipal Water District's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me via e-mail at jaranda@casitaswater.com. Thank you for your assistance.

Sincerely,

Julia Aranda
Engineering Manager
Casitas Municipal Water District

Enclosure: Project Location Maps



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 Project Location
 

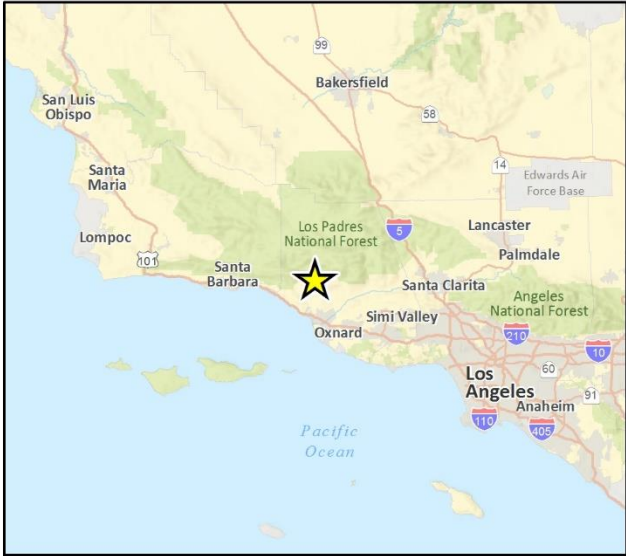
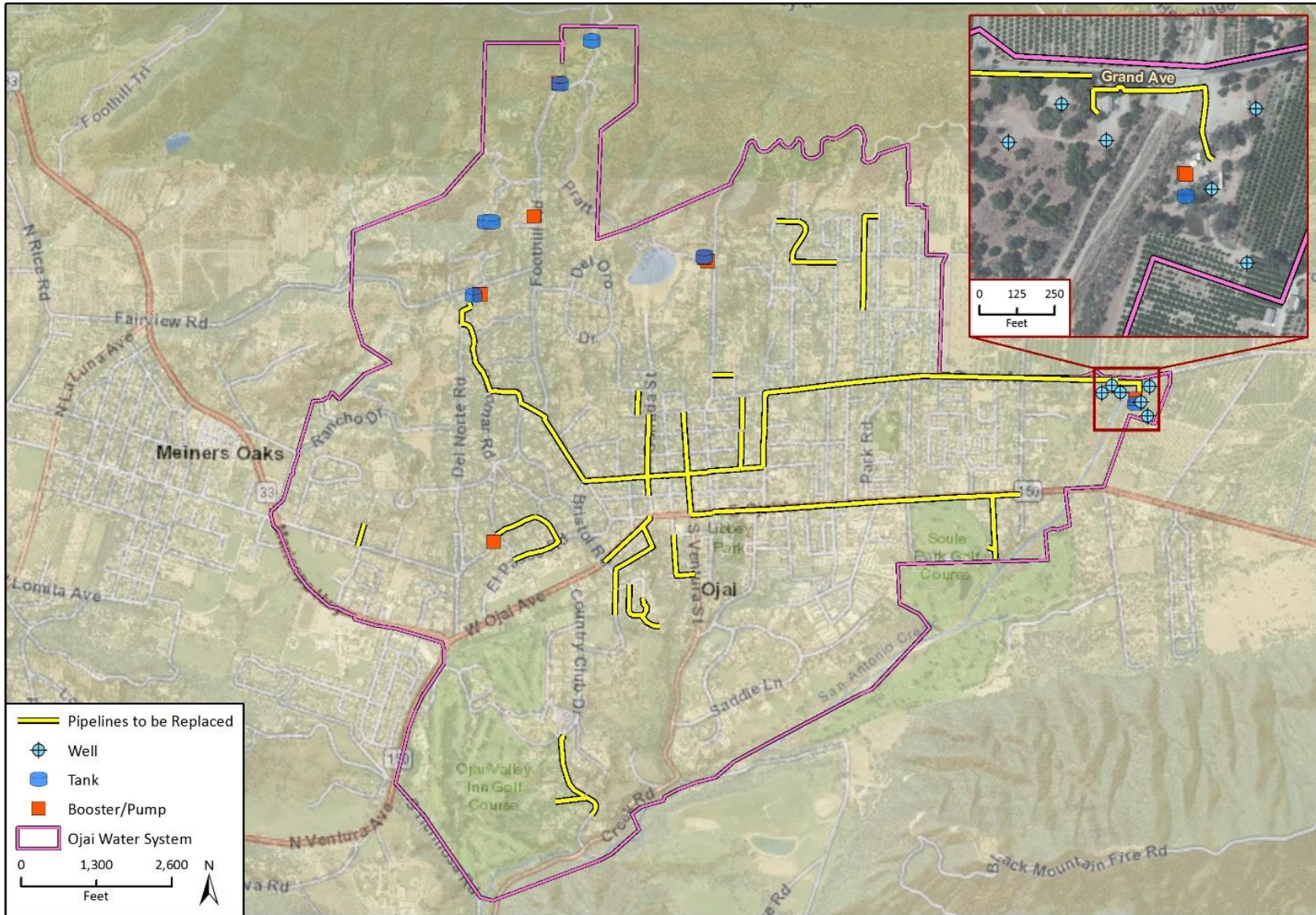


Fig. 3 Regional Location



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 CMWD, 2018.

Fig. 2. Project Location

Appendix G

Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program

This document is the Mitigation Monitoring and Reporting Program (MMRP) for the Ojai Water System Improvements Project proposed by the Casitas Municipal Water District. CEQA requires a reporting or monitoring program be adopted for the conditions of project approval which are necessary to mitigate or avoid significant effects on the environment (Public Resources Code 21081.6). This mitigation monitoring and reporting program is designed to ensure compliance with adopted mitigation measures during project implementation. For each mitigation measure recommended in the Final Initial Study-Mitigated Negative Declaration (Final IS-MND), specifications are made herein which identify the action required and the monitoring which must occur, and the agency or department responsible for oversight.

In addition to ensuring implementation of mitigation measures, the MMRP provides feedback to agency staff and decision-makers during project implementation, and identifies the need for enforcement action before irreversible environmental damage occurs.

The following table identifies each mitigation measure included in the Final IS-MND, the action required for the measure to be implemented, the time at which the monitoring is to occur, the monitoring frequency, and the agency or party responsible for ensuring the monitoring is performed. In addition, the table includes columns for compliance verification. These columns will be filled out by the monitoring agency or party and would document monitoring compliance. Where an impact was identified to be less than significant, no mitigation measures were required.

Casitas Municipal Water District
Ojai Water System Improvements Project

Mitigation Measure/ Condition of Approval	Action Required	Monitoring Timing	Responsible Agency	Compliance Verification		
				Initial	Date	Comments
Biological Resources						
BIO-1: Avoid Work above San Antonio Creek during the Rainy Season						
<p>Project activities associated with pipe replacement on the bridge above San Antonio Creek shall not occur during the rainy season (November 15 to April 15), to avoid work when higher flows and steelhead could be present. If activities at this location must occur during the rainy season, a pre-activity survey shall be conducted by a qualified fisheries biologist to determine if flow conditions are suitable for steelhead passage. If flow conditions are not suitable, pipeline replacement can proceed and the activity should be monitored by a qualified biologist, as needed, to confirm flow conditions do not change during the project activity. If flow conditions are suitable for steelhead passage, pipeline replacement shall be postponed until a qualified biologist determines the conditions are no longer suitable and the species is not likely to be present.</p>	<p>Avoid project activities associated with pipe replacement on the bridge above San Antonio Creek between November 15 and April 15.</p> <p>Retain a qualified fisheries biologist to conduct pre-activity surveys.</p>	<p>Avoid rainy season construction above San Antonio Creek throughout project construction.</p> <p>Retain a qualified fisheries biologist prior to any pipe replacement over San Antonio Creek between November 15 and April 15.</p>	<p>Casitas Municipal Water District</p>			
BIO-2: Worker Environmental Awareness Program						
<p>Prior to initiation of all construction activities (including staging and mobilization), all personnel associated with project construction shall attend a Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in recognizing special status biological resources potentially occurring in the project area. This training will include information about southern California steelhead, San Bernardino ringneck snake, coast patch-nosed snake, and hoary bat, as well as other special-status species with potential to occur in the project area.</p> <p>The specifics of this program shall include identification of special-status species and habitats, a description of the regulatory status and general</p>	<p>Retain a qualified biologist to conduct WEAP.</p> <p>Verify all employees have signed a form documenting attendance of the WEAP.</p>	<p>Retain a qualified biologist to conduct WEAP and document attendance prior to initiation of all construction activities.</p>	<p>Casitas Municipal Water District</p>			

Mitigation Measure/ Condition of Approval	Action Required	Monitoring Timing	Responsible Agency	Compliance Verification		
				Initial	Date	Comments
ecological characteristics of special-status resources, and review of the limits of construction and measures required to avoid and minimize impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employees, and other personnel involved with construction of the project. All employees shall sign a form provided by the trainer documenting they have attended the WEAP and understand the information presented to them. The crew foreman shall be responsible for ensuring crew members adhere to the guidelines and restrictions designed to avoid impacts to special-status species.						
BIO-3: Pre-Construction Wildlife Surveys						
<p>Within one week prior to the commencement of project activities, a qualified wildlife biologist shall conduct pre-construction surveys in portions of the access and construction area, particularly those containing natural vegetation. The surveys will be conducted within the project footprint locations specified below. A 50-foot buffer around the project footprint will be surveyed with inaccessible areas (i.e., private lands) surveyed with binoculars, as practicable.</p> <p>A qualified biologist will conduct a survey within the following locations of the project footprint: Heidelberger Tank, 100 feet east and west San Antonio Creek at Grand Avenue, adjacent to the daylighted portions of Fox Canyon Barranca and Stewart Canyon Creek, and within the disturbed oak woodland habitat in Unit B (if trenching is to occur in this area). The biologist will document existing conditions and search for special-status species (i.e., San Bernardino ringneck snake and coast patch-nosed snake). If San Bernardino ringneck snake and coast patch-nosed snake are found, individual animals shall</p>	<p>Retain a qualified wildlife biologist and verify that they have conducted a pre-construction survey in designated locations of project footprint.</p> <p>Verify protective measures (relocation) are adhered to if San Bernardino ringneck snake or coast patch-nosed snake are found.</p>	<p>Not more than one week prior to commencement of project activities, verify that qualified biologist has conducted surveys.</p> <p>Immediately following discovery of special-status species, verify that relocation measures take place.</p>	<p>Casitas Municipal Water District</p>			

Casitas Municipal Water District
Ojai Water System Improvements Project

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be relocated to similar habitat away from construction activities, at least 200 feet from any area of project construction.						
BIO-4: Night Construction Avoidance						
Night-time construction shall be avoided adjacent to San Antonio Creek, daylighted portions of Fox Canyon Barranca, and daylighted portions of Stewart Canyon Creek as practicable, to avoid impacts to special-status wildlife in and near these drainages.	Review project construction schedule to verify that nighttime construction is avoided adjacent to the designated barrancas and creeks.	Review construction schedule prior to commencement of construction activities.	Casitas Municipal Water District			
BIO-5: Night Lighting						
If construction must occur at night (between dusk and dawn), all lighting will be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties and to reduce impacts on local wildlife.	Verify through periodic site visits lighting is shielded and directed downward during any necessary night construction.	Verify lighting measures are adhered to during any night work throughout project construction.	Casitas Municipal Water District			
BIO-6: Nesting Bird Season Avoidance						
To avoid disturbance of nesting and special-status birds, including raptor species protected by the Migratory Bird Treaty Act and California Fish and Game Code 3503, activities related to the project including, but not limited to, vegetation removal, ground disturbance, and construction and demolition shall occur outside of the bird breeding season for migratory birds (February 1 through August 31), if practicable.	Review project construction schedule to verify that ground-disturbance, vegetation removal, and construction and demolition are avoided between February 1 and August 31 to the extent practicable.	Review project construction schedule prior to commencement of construction activities.	Casitas Municipal Water District			
BIO-7: Nesting Birds						
If construction must begin during the breeding season, then a pre-construction nesting bird survey shall be conducted no more than seven days prior to initiation of ground disturbance and vegetation removal activities. The nesting bird pre-construction	Limit all initial ground disturbing activities, including vegetation removal, to the time period between September 1 and January 31.	Verify performance of a nesting bird pre-construction survey no more than seven days prior to initial ground	Casitas Municipal Water District			

Mitigation Measure/ Condition of Approval	Action Required	Monitoring Timing	Responsible Agency	Compliance Verification		
				Initial	Date	Comments
<p>survey shall be conducted on foot inside the project footprint, including a 100-foot buffer (300-foot for raptors), and in inaccessible areas (e.g., private lands) from afar using binoculars to the extent practicable. The survey shall be conducted by a biologist familiar with the identification of avian species known to occur in southern California coastal communities. If nests are found, an avoidance buffer (dependent upon the species, the proposed work activity, and existing disturbances associated with land uses outside of the site) shall be determined and demarcated by the qualified biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No ground-disturbing activities shall occur inside this buffer until the avian biologist has confirmed breeding/nesting is completed, and the young have fledged the nest. Encroachment into the buffer shall occur only at the discretion of the qualified biologist.</p>	<p>Verify a qualified biologist has prepared a pre-construction nesting bird survey if initial site disturbance cannot be conducted during the time specified above.</p> <p>Verify the specified protective measures are in place to document compliance with applicable state and federal laws and MBTA and California Fish and Game Code requirements pertaining to protection of native birds.</p>	<p>disturbance and vegetation removal.</p> <p>Immediately following discovery of any active nests, verify that appropriate buffers have been established pursuant to the requirements of the mitigation measure.</p>				
BIO-8: Disturbance Area						
<p>Areas of temporary disturbance shall be minimized to the extent practicable.</p>	<p>Review all project construction plans to verify that temporary disturbance area is minimized to the extent practicable.</p>	<p>Review project construction plans prior to commencement of construction activities.</p>	<p>Casitas Municipal Water District</p>			
BIO-9: Staging Equipment						
<p>Staging and laydown areas shall be unvegetated areas and previously disturbed sites only.</p>	<p>Review project construction plans to verify that all staging areas are located in unvegetated and previously disturbed areas.</p>	<p>Review project construction plans prior to commencement of construction activities.</p>	<p>Casitas Municipal Water District</p>			

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Ojai Water System Improvements Project

Mitigation Measure/ Condition of Approval	Action Required	Monitoring Timing	Responsible Agency	Compliance Verification		
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BIO-10: Pollutant Management						
All vehicles and equipment shall be in good working condition and free of leaks. The contractor shall prevent oil, petroleum products, or any other pollutant from contaminating the soil or entering a watercourse (dry or otherwise). When vehicles or equipment are stationary, mats or drip pans shall be placed below vehicles to contain fluid leaks.	Verify through periodic site visits equipment is in good working condition and pollution prevention measures are implemented as specified in the mitigation measure.	Conduct periodic site visits continuously during construction activities.	Casitas Municipal Water District			
BIO-11: Material Storage						
Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage. Material storage shall be at least 100 feet from San Antonio Creek, and daylighted portions of Fox Canyon Barranca, and Stewart Canyon Creek. Any material/spoils from project activities shall be located and stored 100 feet from potential jurisdictional areas (San Antonio Creek, Fox Canyon Barranca, and Stewart Canyon Creek). Construction materials and spoils shall be protected from stormwater run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.	Verify through periodic site visits material storage measures, including use of temporary perimeter sediment barriers, have been implemented.	Conduct periodic site visits continuously during construction activities.	Casitas Municipal Water District			
BIO-12: Tracking Loose Material						
Implement Best Management Practices (BMPs) to prevent the off-site tracking of loose construction and landscape materials such as street sweeping, vacuuming, and rumble plates, as appropriate.	Verify through periodic site visits implementation of BMPs to prevent off-site tracking of loose material.	Conduct periodic site visits continuously during construction activities.	Casitas Municipal Water District			

Mitigation Measure/ Condition of Approval	Action Required	Monitoring Timing	Responsible Agency	Compliance Verification		
				Initial	Date	Comments
BIO-13: Pollution Prevention						
Prevent the discharge of silt or pollutants off of the site when working adjacent to potentially jurisdictional waters. Install BMPs (i.e., silt barriers, sand bags, straw bales) as appropriate.	Verify through periodic site visits implementation of BMPs to prevent discharge of silt or pollutants during construction adjacent to potentially jurisdictional waters.	Conduct periodic site visits continuously during construction activities.	Casitas Municipal Water District			
BIO-14: Site Materials and Refuse Management						
All food related trash shall be disposed of in closed containers and removed from the project area each day during the construction period. Construction personnel shall not feed or otherwise attract wildlife to the construction area. At project completion, all project-generated debris, vehicles, building materials, and rubbish shall be removed from the project footprint.	Verify through periodic site visits adherence to trash disposal and refuse management measures specified in the mitigation measure. Verify removal of all debris, vehicles, building materials, and rubbish from project footprint.	Conduct periodic site visits continuously during construction activities. Verify post-construction debris removal once, at project completion.	Casitas Municipal Water District			
BIO-15: Re-fueling and Maintenance						
All re-fueling, cleaning, and maintenance of equipment will occur at least 100 feet from San Antonio Creek and other potentially jurisdictional waters (Fox Canyon Barranca, Stewart Canyon Creek).	Verify through periodic site visits re-fueling, cleaning, and maintenance activities do not occur within 100 feet of potentially jurisdictional waters.	Continuously during construction activities.	Casitas Municipal Water District			
BIO-16: Responding to Spilled Materials						
Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned, and any contaminated materials properly disposed. For all spills, the project foreman or other designated liaison will notify CMWD immediately.	Identify designated liaison and review spill response procedures.	Prior to commencement of construction activities.	Casitas Municipal Water District			

Casitas Municipal Water District
Ojai Water System Improvements Project

Mitigation Measure/ Condition of Approval	Action Required	Monitoring Timing	Responsible Agency	Compliance Verification		
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BIO-17: Arborist Study						
<p>Prior to obtaining a permit from either jurisdiction, an Arborist Study shall be conducted within portions of the project footprint occurring within 20 feet of the canopy drip line of protected trees. The study shall plot the location of protected trees in this zone, identify each protected tree, and determine the jurisdiction of any trees to be impacted. An Arborist Report shall be prepared by a Certified Arborist in compliance with both the City of Ojai and County of Ventura ordinance guidelines. Specifically, the Arborist Report shall include, at minimum, the following:</p> <ul style="list-style-type: none"> ▪ An inventory of all trees containing a canopy drip line within 20 feet of the project footprint, as feasible without trespassing on private lands. Inventory data should record, at minimum: diameter at breast height (DBH), height, canopy cover information/mapping, health and vigor rating ▪ Representative photographs of each regulated tree proposed to be encroached upon within the disturbed oak woodland footprint ▪ Description of proposed site development activities including, but not limited to, excavation for trenching, any tree trimming for access, and construction access routes ▪ A project-specific Tree Protection Plan (TPP) shall be prepared which would at a minimum include site plans, protective tree fencing, the designated tree protection zone (identifying an area sufficiently large enough to protect the tree and its roots from disturbance), activities prohibited/permitted within the tree protective zone, encroachment boundaries, and potential transplanting or replacement tree plantings <p>The Arborist Report shall be submitted to the</p>	<p>Retain a Certified Arborist to complete an Arborist Study containing the requirements specified in the mitigation measure, including a project-specific TPP.</p> <p>Submit the Arborist Study to the appropriate department of the City of Ojai and County of Ventura in compliance with applicable tree permit application procedures.</p>	<p>Retain a Certified Arborist and complete and submit the Arborist Study to the applicable jurisdiction prior to commencement of any tree-disturbing activities.</p>	<p>Casitas Municipal Water District</p>			

Mitigation Measure/ Condition of Approval	Action Required	Monitoring Timing	Responsible Agency	Compliance Verification		
				Initial	Date	Comments
appropriate department of the City of Ojai or County of Ventura for approval prior to the start of any tree-disturbing construction activities, as necessary.						
Cultural Resources						
CUL-1: Archaeological Monitoring						
Ground-disturbing activities shall be monitored by a qualified archaeologist within the mapped boundary of P-56-000061, as well as within a 100-foot radius of the site. Additionally, archaeological monitoring shall be conducted for ground disturbance occurring within 100-feet of the mapped boundaries of P-56-000137, P-56-001779 and P-56-001151. The archaeological monitor shall work under the direction of an archaeologist meeting the Secretary of the Interior’s Professional Qualification Standards for archaeology (National Park Service 1983). If cultural resources are encountered during ground-disturbing activities, work in the immediate area shall halt and the find shall be evaluated for significance under CEQA.	Verify a qualified archaeologist has been obtained for the project. Verify work in the immediate area of any cultural resources discoveries has halted until the find has been evaluated.	Verify a qualified archaeologist has been obtained prior to commencement of ground-disturbing activities. Verify work has ceased in the immediate area of any finds immediately following discovery of any cultural resources, as needed.	Casitas Municipal Water District			
CUL-2: Native American Monitoring						
Ground-disturbing activities shall be observed by a Native American monitor within the mapped boundary of P-56-000061 as well as within a 100-foot radius of the site. Further, Native American monitoring shall be conducted within 100-feet of the mapped boundaries of P-56-000137 and P-56-001779. If cultural resources are encountered during ground-disturbing activities, work in the immediate area shall halt and the find shall be evaluated by an archaeologist meeting the Secretary of the Interior’s Professional Qualification Standards for archaeology (National Park Service 1983) for significance under CEQA.	Verify a Native American monitor has been obtained for the project. Verify that work in the immediate area of any cultural resources discoveries has halted until the find has been evaluated.	Verify a Native American monitor has been obtained prior to commencement of ground-disturbing activities. Verify work has ceased in the immediate area of any finds immediately following discovery of any cultural resources, as needed.	Casitas Municipal Water District			

Casitas Municipal Water District
Ojai Water System Improvements Project

Mitigation Measure/ Condition of Approval	Action Required	Monitoring Timing	Responsible Agency	Compliance Verification		
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CUL-3: Unanticipated Discovery of Cultural Resources						
<p>If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt, and an archaeologist meeting the Secretary of the Interior’s Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation, Native American consultation, and archaeological monitoring may be warranted to mitigate any significant impacts.</p>	<p>Verify a qualified archaeologist has been obtained for the project.</p> <p>Verify that work in the immediate area of any cultural resources discoveries has halted until the find has been evaluated.</p>	<p>Verify a qualified archaeologist has been obtained prior to commencement of ground-disturbing activities.</p> <p>Verify work has ceased in the immediate area of any finds immediately following discovery of any cultural resources, as needed.</p>	<p>Casitas Municipal Water District</p>			
Geology and Soils						
GEO-1: Paleontological Resources						
<p>Prior to the commencement of ground disturbing activities within previously undisturbed portions of the project area, a qualified professional paleontologist shall be retained to conduct paleontological monitoring during project ground disturbing activities. The Qualified Paleontologist (Principal Paleontologist) shall meet Ventura County’s (2010) Minimum Qualifications for Paleontological Consultants, including possession of at least Bachelor’s Degree or equivalent work experience in paleontology, knowledge of the local paleontology, and experience with paleontological procedures and techniques.</p> <p>Ground disturbing construction activities (including grading, trenching, drilling with an auger greater than three feet in diameter, and other excavation) within project areas with high paleontological sensitivity (i.e., Sespe Formation, Ts; Coldwater Sandstone, Tcw; and, Pleistocene alluvium, Qpa) shall be monitored</p>	<p>Verify that a qualified paleontologist meeting the standards specified in the mitigation measure has been obtained for the project.</p> <p>Verify that paleontological monitoring occurs in accordance with the recommendations of the qualified paleontologist.</p> <p>Verify work in the immediate vicinity of a paleontological resource discovery is halted and the qualified paleontologist is notified to evaluate the find.</p> <p>Verify proper curation of any significant paleontological resource discoveries.</p> <p>Obtain a final paleontological monitoring report and verify the</p>	<p>Verify a qualified paleontologist has been obtained prior to commencement of ground-disturbing activities.</p> <p>Verify paleontological monitoring throughout ground-disturbing activities.</p> <p>Verify work has halted immediately following discovery of a paleontological resource, as needed.</p> <p>Verify proper curation of a significant paleontological resource following</p>	<p>Casitas Municipal Water District</p>			

Mitigation Measure/ Condition of Approval	Action Required	Monitoring Timing	Responsible Agency	Compliance Verification		
				Initial	Date	Comments
<p>on a full-time basis. Spot-check monitoring is recommended for project areas underlain by geologic units with low paleontological sensitivity (i.e., Holocene alluvium; Qha, Qhf, Qw) to determine if underlying sensitive units are being impacted. Monitoring shall be supervised by the Qualified Paleontologist and shall be conducted by a qualified paleontological monitor, who is defined as an individual who meets the minimum qualifications per standards set forth by the Society of Vertebrate Paleontology (2010), which includes a B.S. or B.A. degree in geology or paleontology with one year of monitoring experience and knowledge of collection and salvage of paleontological resources.</p> <p>The duration and timing of the monitoring shall be determined by the Qualified Paleontologist. If the Qualified Paleontologist determines full-time monitoring is no longer warranted, he or she may recommend to reduce monitoring to periodic spot-checking or cease monitoring entirely. Monitoring would be reinstated if any new ground disturbances are required and reduction or suspension would need to be reconsidered by the Qualified Paleontologist.</p> <p>If a paleontological resource is discovered, the monitor shall have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected. If a paleontological resource is discovered during construction, construction activities must halt in the area of the discovery, the Qualified Paleontologist shall be notified, and a site evaluation shall be conducted as necessary to assess the site and determine further mitigation measures, as appropriate. Once salvaged, significant fossils shall be prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection (such as the LACM). Curation fees are the responsibility of the project</p>	<p>report is submitted to the designated museum repository.</p>	<p>evaluation by the qualified paleontologist, as needed.</p> <p>Obtain final report and verify submittal to designated repository once following project completion.</p>				

Casitas Municipal Water District
Ojai Water System Improvements Project

Mitigation Measure/ Condition of Approval	Action Required	Monitoring Timing	Responsible Agency	Compliance Verification		
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owner.						
A final report shall be prepared describing the results of the paleontological monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. The report shall be submitted to CMWD. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the designated museum repository.						
Hazards and Hazardous Materials						
HAZ-1: Hazardous Materials Management and Spill Control Plan						
Before construction begins, the construction contractor shall submit to CMWD for review and approval a Hazardous Materials Management and Spill Control Plan (HMMSCP) that includes a project-specific contingency plan for hazardous materials and waste operations. The HMMSCP shall establish policies and procedures consistent with applicable codes and regulations, including but not limited to the California Building and Fire Codes, as well United States Department of Labor OSHA and California OSHA regulations. The HMMSCP shall articulate hazardous materials handling practices to prevent the accidental spill or release of hazardous materials.	Verify completion of and review a Hazardous Materials Management and Spill Control Plan.	Obtain and review the HMMSCP prior to commencement of construction activities.	Casitas Municipal Water District			

Mitigation Measure/ Condition of Approval	Action Required	Monitoring Timing	Responsible Agency	Compliance Verification		
				Initial	Date	Comments
HAZ-2: Unanticipated Discovery of Contaminated Soil or Groundwater						
<p>In the event that unanticipated, existing soil or groundwater contamination is discovered during construction of the proposed project, the construction contractor shall implement appropriate procedures for the treatment, handling, and notification of unanticipated hazardous materials. The construction contractor shall promptly notify CMWD in writing regarding any material the construction contractor believes may be a hazardous waste. The construction contractor also shall promptly notify CMWD in writing regarding unknown physical conditions at the project site of any unusual nature, different materially from those ordinarily encountered. Upon such notification, CMWD shall promptly investigate the conditions at the project site. If the construction contractor encounters a hazardous environmental condition, the construction contractor shall immediately secure or otherwise isolate such condition, stop all work in connection with such condition and in any area affected thereby, and notify CMWD of the hazardous environmental condition. The construction contractor shall not be required to resume work in connection with such condition or in any affected area until after CMWD has obtained any required permits related thereto and delivered written notice to the construction contractor specifying that such condition and any affected area is or has been rendered safe for the resumption of work and specifying any special conditions under which such work may be resumed safely. The construction contractor is required to comply with all applicable laws related to the work performed, including laws governing hazardous materials treatment, handling, notification, transportation, and disposal of contaminated soil and import of clean fill.</p>	<p>Review contamination discovery procedures described in the mitigation measure with construction contractor, including written notification requirements.</p> <p>Verify any hazardous environmental condition has been secured or otherwise isolated and work has stopped in connection with the condition.</p> <p>Coordinate with applicable agency (e.g., Department of Toxic Substances Control) to obtain any required permits.</p> <p>Provide written notice to construction contractor specifying the hazardous environmental condition has been rendered safe for resumption of work.</p>	<p>Review procedures with contractor prior to commencement of construction activities.</p> <p>Verify securing or isolation of hazardous condition and work has stopped immediately upon notification of the condition.</p> <p>Coordinate with applicable agency to obtain required permits immediately following notification of a hazardous environmental condition.</p> <p>Provide written notification to contractor to resume work upon obtaining any required permits.</p>	<p>Casitas Municipal Water District</p>			

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Transportation and Traffic						
TRA-1: Traffic Control Plan						
To mitigate temporary traffic disruption and ensure public safety, the construction contractor shall prepare a traffic control plan for construction areas located in or near roadways whose traffic volumes exceed Ventura County Levels of Service or City of Ojai criteria. The construction contractors will be required to submit their traffic control plans to the City of Ojai, County of Ventura, and/or Caltrans, as necessary, prior to receiving an encroachment permit.	Obtain and review the traffic control plan. Submit traffic control plans to the City of Ojai, County of Ventura, and/or Caltrans, as necessary.	Review the plan prior to commencement of construction activities. Submit traffic control plans to the appropriate jurisdiction prior to receiving an encroachment permit.	Casitas Municipal Water District			
TRA-2: Emergency Service Providers						
The Project Manager shall notify emergency service providers (fire and police departments within a 0.5-mile radius of the alignment) with construction contact names, locations, schedules, and traffic plans, if applicable, prior to the start of construction.	Verify information specified in the mitigation measure has been provided to emergency service providers.	Verify emergency service providers have been notified prior to commencement of construction activities.	Casitas Municipal Water District			

Appendix H

Response to Comments on the Draft MND

Responses to Comments on the Draft MND

This section includes comments received during the circulation of the Draft Mitigated Negative Declaration (MND) prepared for the Ojai Water System Improvement Project (Project).

The Draft MND was circulated for a 30-day public review period which began on March 15, 2019 and ended on April 15, 2019. Casitas Municipal Water District received one comment letter on the Draft MND within the comment period. An additional six letters were received after the comment period ended. While these letters were not received within the 30-day public review period, responses to the comments provided are provided herein as a courtesy to the commenters.

The commenters and the page number on which each commenter's letter appear are listed below.

Letter No. and Commenter	Page No.
1 Stephen P. Henry, Field Supervisor, Ecological Services, Ventura Fish and Wildlife Office, United States Fish and Wildlife Service	H-2
2 Nicole Collazo, Planning Division, Ventura County Air Pollution Control District	H-6
3 Paolo Quinto, Ventura County Environmental Health Division, Resource Management Agency	H-9
4 Sergio Vargas, Deputy Director, Watershed Planning and Permits Division, County of Ventura Public Works Agency	H-12
5 Anitha Balan, Engineering Manager II, Traffic, Advance Planning & Permits Division, Transportation Department, County of Ventura Public Works Agency	H-18
6 Nikolas Storm, Scientific Aid, Division of Drinking Water, State Water Resources Control Board	H-24
7 Miya Edmonson, IGR/CEQA Branch Chief, State of California Department of Transportation District 7	H-27

The comment letters and responses follow. The comment letters have been numbered sequentially and each separate issue raised by the commenter, if more than one, has been assigned a number. The responses to each comment identify first the number of the comment letter, and then the number assigned to each issue (Response 1.1, for example, indicates the response is for the first issue raised in comment Letter 1).



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

Ecological Services
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003



IN REPLY REFER TO:
08EVEN00-2019-CPA-0055

April 9, 2019

Julia Aranda, Engineering Manager
Casitas Municipal Water District
1055 Ventura Avenue
Oak View, California 93022

Subject: Comments on Casitas Municipal Water District's Ojai Water System
Improvements Project, Ojai, California

Dear Ms. Aranda:

We have reviewed the Notice of Intent to Adopt a Mitigated Negative Declaration for the Ojai Water System Improvements Project (project). The Casitas Municipal Water District is proposing to upgrade water system infrastructure for the Ojai system service area. The proposed project would occur within and adjacent to the City of Ojai in Ventura County, California.

The mission of the U.S. Fish and Wildlife Service (Service) is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people. To assist in meeting this mandate, the Service provides comments on public notices issued for projects that may have an effect on those resources, especially federally listed plants and wildlife. The Service's responsibilities also include administering the Endangered Species Act of 1973, as amended (Act). Section 9 of the Act prohibits the taking of any federally listed endangered or threatened wildlife species. "Take" is defined at Section 3(19) of the Act to mean "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The Act provides for civil and criminal penalties for the unlawful taking of listed wildlife species. Such taking may be authorized by the Service in two ways: through interagency consultation for projects with Federal involvement pursuant to section 7, or through the issuance of an incidental take permit under section 10(a)(1)(B) of the Act.

Our review of the proposed project indicates that the affected area may support the threatened California red-legged frog (*Rana draytonii*). In particular, the California red-legged frog is known to occur within San Antonio Creek within 0.12 mile of the proposed pipeline replacement area near Country Club Drive and Oak Drive. Additionally, while California red-legged frogs are not known to occur near the proposed pipeline replacement area near San Antonio Creek, east of Soule Park Golf Course, the nearby reach of San Antonio Creek contains suitable habitat for the species. Thus, the species may also occur near this proposed pipeline replacement area. We

1.1

recommend that Casitas Municipal Water District schedule project activities near San Antonio Creek for the dry season (April 15 to November 15) when California red-legged frogs are less likely to occur in adjacent upland areas. If Casitas Municipal Water District detects the California red-legged frog or any other listed species in the project area, you should contact us to help determine what measures may be appropriate to conserve the species and their habitats. We can also provide guidance on the steps that may be needed to comply with the Act.

1.1
Cont.

If you have any questions, please contact Dou-Shuan Yang of my staff at (805) 677-3302, or by electronic mail at Dou-Shuan_Yang@fws.gov.

Sincerely,


Stephen P. Henry
Field Supervisor

Adding
for

Letter 1

COMMENTER: Stephen P. Henry, Field Supervisor, Ecological Services, Ventura Fish and Wildlife Office, United States Fish and Wildlife Service

DATE: April 9, 2019

Response 1.1

The commenter states the United States Fish and Wildlife Service (Service) reviewed the CEQA document for the project and provides a summary description of the project. The commenter goes on to describe the mission of the Service and a summary definition of “take” under the federal Endangered Species Act. The commenter then indicates the Service’s review identified the affected area may support the federally-listed as threatened California red-legged frog, which is known to occur within San Antonio Creek in proximity to the proposed pipeline replacement area near Country Club Drive and Oak Drive as well as other areas which are proximal to the project site. The commenter goes on to recommend activities near San Antonio Creek be scheduled for the dry season (April 15 to November 15) when California red-legged frogs are less likely to occur. Finally, the commenter recommends Casitas Municipal Water District contact the Service if any listed species are detected during project activities.

As documented in Appendix B of the IS-MND, no suitable habitat for California red-legged frog near permanent sources of water is present within the Biological Study Area for the proposed project. The species is associated with the Ventura River and San Antonio Creek, downstream of the project footprint; however, the species is not expected to be present or impacted by proposed project activities.

Mitigation measure BIO-1 (Avoid Work above San Antonio Creek during the Rainy Season) restricts activities during the rainy season in close proximity and above San Antonio Creek. The mitigation measure currently defines the rainy season to be December 1 to April 1. In consideration of this comment the following change to the mitigation measure has been made in the Final IS-MND:

BIO-1 Avoid Work above San Antonio Creek during the Rainy Season

Project activities associated with pipe replacement on the bridge above San Antonio Creek shall not occur during the rainy season (~~December 1~~ November 15 to April 15), to avoid work when higher flows and steelhead could be present. If activities at this location must occur during the rainy season, a pre-activity survey shall be conducted by a qualified fisheries biologist to determine if flow conditions are suitable for steelhead passage. If flow conditions are not suitable, pipeline replacement can proceed and the activity should be monitored by a qualified biologist, as needed, to confirm flow conditions do not change during the project activity. If flow conditions are suitable for steelhead passage, pipeline replacement shall be postponed until a qualified biologist determines the conditions are no longer suitable and the species is not likely to be present.

In addition, mitigation measure BIO-3 (Pre-construction Wildlife Surveys) requires a qualified biologist conduct pre-construction surveys one week prior to commencement of project activities in portions of the access and construction area containing natural vegetation. This includes areas 100 feet east and west of San Antonio Creek at Grand Avenue. While not anticipated to occur based on the lack of suitable habitat, if California red-legged frogs are identified during the pre-construction

surveys, suitable avoidance and minimization measures would be implemented and consultation with the Service would occur.



**VENTURA COUNTY
AIR POLLUTION CONTROL DISTRICT**
Memorandum

Letter 2

TO: Julia Aranda, Engineering Manager, CMWD
DATE: April 15, 2019
FROM: Nicole Collazo, Planning Division
SUBJECT: Request for Review of Draft Initial Study & Mitigated Negative Declaration (DIS-MND) for the Proposed Ojai Water System Improvements Project (RMA 19-005)

Air Pollution Control District (APCD) staff has reviewed the DIS-MND for the project referenced above. The proposed project is a construction project that involves the replacement of pipeline segments of the Ojai water system to improve fire flow and/or which are approaching the end of their service life. The project location is approximately eight miles of pipeline segments through the City of Ojai and some minor segments in the unincorporated areas north and south of the City of Ojai. The Lead Agency for the project is the Casitas Municipal Water District.

GENERAL COMMENTS

As a recommending agency for the CEQA review of the DIS-MND, APCD concurs with the Air Quality and Greenhouse Gas Emissions determinations provided in the draft document, with emphasis on that construction emissions are temporary per the District’s Air Quality Assessment Guidelines (AQAG, 2003) and that active construction will be occurring for 3 days at a time near a given sensitive receptors, based on construction of “200-300 linear feet of pipeline per day before moving to the next segment of pipeline” (DIS-MND, Page 35).

2.1

APCD would like to recommend mitigation measures for construction equipment beyond what is recommended in the AQAG, as it does not reflect the most current feasible emission control technology available. One such mitigation measure can be using Tier 3 or above for every off-road diesel equipment used. We note compliance with the Off-Road state regulation already prohibits use of Tier 0, 1, and Tier 2 additions for medium and large fleets and Tier 2 phase-outs by 2023 for smaller fleets. This recommended measure is quite feasible due to the compliance requirements of the state Off-Road Diesel-Fueled Regulation. The CARB has recommended a buffer distance of 500 feet between sensitive land uses and sources of TACs (CARB 2005 Land Use Handbook). The CalEEMod modeling program has a Construction Mitigation feature that includes changing selected off-road equipment to a specific Tier rating (Tier 3, Tier 4 Interim, Tier 4 Final); the model reports included in Appendix A did not have this feature selected. Selecting this construction mitigation for a default run using the “Other Asphalt Surfaces” land use type and 0.9 acres brought ozone precursor emissions down by 30% (Tier 3 ALL).

Another possible mitigation measure would be to perform the construction activities that are near the sensitive receptor schools mentioned in the DIS-MND during off-school hours or during the summer months while school is not in session or creating temporary vegetative barriers between the pollutant sources and the sensitive receptors if within 500 feet, including the hospital, convalescent homes and residences.

2.1
Cont.

Thank you for the opportunity to review this project's air quality impacts. If you have any questions, please call me at (805) 645-1426 or email nicole@vcapcd.org.

Letter 2

Comment Letter 2 was received after the close of the comment period. The response is being provided herein out of courtesy to the commenter.

COMMENTER: Nicole Collazo, Planning Division, Ventura County Air Pollution Control District

DATE: April 15, 2019

Response 2.1

The commenter states the Ventura County Air Pollution Control District (APCD) reviewed the CEQA document for the project and provides a summary description of the project. The commenter goes on to concur with the determinations provided in the Draft IS-MND. The commenter recommends additional mitigation measures for construction equipment be implemented as part of the proposed project beyond those included in the APCD's Air Quality Assessment Guidelines. Examples include use of Tier 3 or above for every off-road diesel equipment used, restricting construction activities in proximity to schools during off-school hours or during time periods when schools are not in session, and creating temporary vegetation barriers between pollutant sources and sensitive receptors if within 500 feet.

While not required to reduce impacts to a less-than-significant level, Casitas Municipal Water District will consider adding the recommended minimization measures into the Contractor's Specifications for the project.

Resource Management Agency

ENVIRONMENTAL HEALTH DIVISION

MEMORANDUM

DATE: April 15, 2019

TO: Casitas Municipal District

FROM: Paolo Quinto, Ventura County Environmental Health Division

SUBJECT: RMA Ref# 18-005; Ojai Water System Improvements Project

Environmental Health Division (Division) staff reviewed the information submitted for this project.

Proposed project includes the replacement of approximately eight miles of pipeline segments throughout the Casitas Municipal District, Ojai system service area where several closed Leaking Underground Storage Tank (LUST) and other cleanup sites for hazardous materials have been identified along East Ojai Avenue. This includes the following Geo Tracker case numbers:

- T0611100173
- T0611100380
- T0611100347
- T0611163807
- T0611100635
- T0611108203
- T0611100774
- T10000004544
- T0611100052
- T0611101233
- T0611100051

3.1

- T0611100267
- T0611101046
- T06111000167
- T0611101064
- T0611100898
- T0611100786
- T0611100202
- T0611100683
- T0611104172

3.1
Cont.

Based on the information given to the Division at the time of each LUST site investigation was closed, there are no known active hazardous materials sites in the project area. The information provided to the Division was accurate and were in compliance with the requirements of the Health and Safety Code (HSC) Section 25299.37, subdivisions (a) and (b) and with corrective action regulations adopted pursuant to HSC Section 25299.77. No further action related to hazardous materials at the above listed sites was required at that time. For more information regarding the status of the LUST cleanup sites, visit the State Waterboards Geotracker website at (<http://geotracker.waterboards.ca.gov>).

If the proposed project encounters the discovery of contaminated soil or groundwater during construction, please contact the Los Angeles Regional Water Quality Control Board, site clean-up program (https://www.waterboards.ca.gov/losangeles/water_issues/programs/index.html/).

Letter 3

Comment Letter 3 was received after the close of the comment period. The response is being provided herein out of courtesy to the commenter.

COMMENTER: Paolo Quinto, Ventura County Environmental Health Division, Resource Management Agency

DATE: April 15, 2019

Response 3.1

The commenter states the Environmental Health Division (EHD) reviewed the CEQA document for the project and notes several closed Leaking Underground Storage Tank (LUST) and other cleanup sites for hazardous materials have been identified along East Ojai Avenue. The commenter goes on to state there are no known active hazardous materials sites in the project area but if contaminated soil or groundwater are encountered during construction, Casitas Municipal Water District should contact the Los Angeles Regional Water Quality Control Board (RWQCB).

Casitas Municipal Water District appreciates the comment. In addition to contacting the RWQCB, mitigation measure HAZ-2 (Unanticipated Discovery of Contamination Soil or Groundwater) in the IS-MND requires the construction contractor implement appropriate procedures for the treatment, handling, and notification of unanticipated hazardous materials should soil or groundwater contamination be encountered during construction activities.



WATERSHED PROTECTION
WATERSHED PLANNING AND PERMITS DIVISION
800 South Victoria Avenue, Ventura, California 93009
Sergio Vargas, Deputy Director – (805) 650-4077

MEMORANDUM

DATE: April 15, 2019
TO: Anthony Ciuffetelli, RMA Planning County of Ventura
FROM: Sergio Vargas, Deputy Director *S.V.*
SUBJECT: RMA19-005 Ojai Water Systems Improvement Project
Zone 1
Watershed Protection Project No: WC2019-0024

Pursuant to your request dated March 18, 2019, this office has reviewed the submitted materials and provides the following comments.

PROJECT LOCATION:

City of Ojai and Unincorporated Ventura County

PROJECT DESCRIPTION:

The Ojai Water System Improvements Project (proposed project) involves the replacement of pipeline segments to improve fire flow and/or which are approaching the end of their service life. The proposed project replaces approximately eight miles of pipeline segments throughout the Ojai system service area, and includes plans to rehabilitate two tanks, demolish three existing tanks, and construct up to one new tank; rehabilitate one booster pump station, upgrade an additional pump station, demolish and construct two new pump stations, and abandon one pump station; and rehabilitate or replace six active wells in the Ojai system. The proposed project also includes potential construction of a new well in the Ojai system. Well rehabilitation or construction of a new well would restore groundwater production capacity lost due to aging infrastructure over time and would not increase pumping beyond the design capacity of wells in the Ojai Water System. The majority of the project alignment would be in the city of Ojai, with some pipeline, tank, well, and booster pump station improvements occurring in unincorporated portions of Ventura County north and south of the city of Ojai.

4.1

WATERSHED PROTECTION DISTRICT COMMENTS:

Flood Control Facilities / Watercourses – Ventura County Watershed Protection District

- 1. The Draft Initial Study Mitigated Negative Declaration (IS/MND) prepared by Casitas Municipal Water District dated March 2019 proposes a project that crosses or runs adjacent to Stewart Canyon, Fox Canyon Barranca, Storm drain East Ojai, East Ojai Drain, and San Antonio Creek, which are Ventura County Watershed Protection District (District) jurisdictional redline channels. The project proponent is hereby informed that it is the District's standard that a project cannot impair, divert, impede, or alter the characteristics of the flow of water running in any District jurisdictional redline channel. The IS/MND does not include a discussion of redline channels. Additionally, all proposed activities that are within, over, or under the bed or banks of a District jurisdictional channel require a Watercourse Permit under the requirements of Ordinance WP-2. An Encroachment Permit is required for any use of the District's Right of Way. 4.2
- 2. Table 1 of the IS/MND should list the Ventura County Watershed Protection District as a regulating agency. 4.3
- 3. Pump stations, wells, water storage tanks and other above ground features would be included in the proposed projects. Mitigation measures to address potential cumulative impacts due to potential increases in imperviousness should be addressed. It is the District's policy that Projects shall not increase storm runoff in all frequencies of storm events consistent with WP-2 Ordinance. 4.4
- 4. The Stewart Canyon Drainage Facility in the project vicinity consists of a ten-foot-wide concrete box within Canada Street adjacent to the proposed water project that was constructed in the 1960's. Please provide a cross section view to the project exhibit that displays the proposed horizontal separation between the drainage facility and the pipeline project. Also, discuss how construction related impacts on this aging facility would be mitigated. 4.5
- 5. The proposed crossing of the Stewart Canyon box will require a Section 408 permit from the U.S. Army Corps of Engineers (USACE) for modification to a federally-funded facility. Applying for a 408 permit from USACE should be coordinated through the District. 4.6
- 6. Trenchless construction is proposed as a possible method for construction of replacement pipelines. Directional drilling or jack and bore methods are listed as potential drilling options. The District is concerned about potential vibration-related impacts to District facilities resulting from horizontal directional drill (HDD) vibration (e.g., liquefaction). The District requires sufficient clearance beneath channel 4.7

flowlines to prevent damage to the facility, including but not limited to liquefaction, scour, and subsidence. | 4.7
cont.

7. All construction activities and staging within the District ROW shall be coordinated with the District Operations and Maintenance staff. At no time shall these activities obstruct access to District facilities during storm events. | 4.8

8. Correction to page 38; "Examples of ornamental species observed include Peruvian pepper tree (*Schinus molle*)..." | 4.9

END OF TEXT

Letter 4

Comment Letter 4 was received after the close of the comment period. The response is being provided herein out of courtesy to the commenter.

COMMENTER: Sergio Vargas, Deputy Director, Watershed Planning and Permits Division, County of Ventura Public Works Agency

DATE: April 15, 2019

Response 4.1

The commenter states Watershed Protection District (WPD) reviewed the CEQA document for the project and provides brief summary description of the project.

No response is required.

Response 4.2

The commenter states it is WPD's standard that a project cannot impair, divert, impede or alter the characteristics of the flow of water running in any WPD jurisdictional redline channel, of which there are several in the project area. The commenter also states proposed activities within, over or under the bed or banks of a WPD jurisdictional channel require a Watercourse Permit under Ordinance WP-2 and an Encroachment Permit is required for use of WPD right-of-way.

The proposed project does not include activities which would impair, divert, impede or alter the characteristics of the flow of water in any jurisdictional redline channel. All required permits for the proposed project would be received by Casitas Municipal Water District or its contractor prior to start of construction activities.

Response 4.3

The commenter requests WPD be added to the list of agencies whose approval may potentially be required included in Table 1 of the IS-MND.

The following text has been added to Table 1 in response to this comment.

Table 1 Summary of Potentially Required Approvals

Regulating Agency	Potential Permit/Approval	Reason for Permit/Approval
State Water Resources Control Board, Los Angeles Regional Water Quality Control Board	National Pollutant Discharge Elimination System (NPDES) Stormwater Construction General Permit, Clean Water Act Water Quality Certification	Construction activities resulting in ground disturbance exceeding one acre
Caltrans	Encroachment Permit	Pipeline replacement along Ojai Avenue (SR 150)
County of Ventura Department of Transportation	Encroachment Permit	Pipeline replacement in County rights-of-way, including along County-managed segments of Country Club Drive and Verano Drive
City of Ojai	Encroachment Permit	Pipeline replacement along roadway segments in the city of Ojai
Ventura County Air Pollution Control District	Authority to Construct and Permit to Operate	Ensure all replacements of and modifications to existing CMWD facilities comply with Ventura County Air Pollution Control District rules, as well as state and federal new source review requirements
<u>Ventura County Watershed Protection District</u>	<u>Encroachment Permit/Watercourse Permit</u>	<u>Required for activities in WPD right-of-way/Potentially required for potential activities within, over or under the bed or banks of a WPD jurisdictional channel</u>
State Water Resources Control Board Division of Drinking Water	Domestic Water Supply Permit/Permit Amendment	Potential new well construction and operation
California Department of Fish and Wildlife	Lake and Streambed Alteration Agreement	Potential disturbance of riparian habitat ¹

¹ As described in Section 3.4, *Biological Resources*, the California Native Diversity Database (CNDDDB) lists three sensitive plant communities in the nine quadrangles surrounding the BSA. One of these communities, southern California steelhead stream, is present in the BSA (i.e., San Antonio Creek). The other two communities, southern coast live oak riparian forest and southern sycamore alder riparian woodland, were not observed within the BSA.

Response 4.4

The commenter requests mitigation measures to address potential increases in impervious surface from aboveground facilities.

As described in Section 3.10, *Hydrology and Water Quality*, in answer to item b) and item c) the project would involve replacement, rehabilitation of, and upgrades to existing infrastructure used to extract, distribute, and store potable water sourced from the Ojai Valley Groundwater Basin and Lake Casitas. The project would not substantially increase impervious surface cover which could inhibit groundwater recharge, as most of the project would be constructed in existing roadways or on existing Casitas Municipal Water District facilities. In addition, well rehabilitation, replacement, or construction of a new well would restore groundwater production capacity lost due to aging infrastructure over time.

Also, as described in Section 3.10, aboveground facilities, such as tanks, pump stations, and well improvements would generally occur on sites with existing infrastructure and would not substantially change the drainage characteristics of these sites. After construction, the project area

would be restored to its original condition and any drainage pattern would be the same as it was prior to project construction activities. Therefore, the proposed project would not substantially alter the existing drainage pattern or the course of a stream or river and would not result in substantial erosion or siltation on or off site. Impacts would be less than significant, and no mitigation is required.

Response 4.5

The commenter requests a cross-section of the Stewart Canyon Drainage Facility displaying the proposed horizontal separation between the drainage facility and the proposed pipeline. The commenter also requests information on construction methodology for this portion of the project.

The information will be provided at such time as any required permits are sought from WPD.

Response 4.6

The commenter states the proposed crossing of the Stewart Canyon box will require a Section 408 permit from the United States Army Corps of Engineers and that application for a 408 permit should be coordinated through WPD.

This information is appreciated. All required permits for the proposed pipelines will be acquired prior to start of construction activities on individual pipeline segments.

Response 4.7

The commenter expresses concern over the use of trenchless techniques under WPD facilities and potential impacts associated with vibration. The commenter requests sufficient clearance be provided beneath channel flowlines to prevent damage to its facilities.

Coordination with WPD regarding clearance distance will occur at such time as engineering design reaches the appropriate level and permits from WPD are being sought.

Response 4.8

The commenter requests all construction activities and staging within WPD right-of-way be coordinated with WPD staff and that activities should not obstruct access to WPD facilities.

Coordination with WPD will occur for all construction activities and staging within WPD right-of-way, including obtaining any required encroachment permits.

Response 4.9

The commenter notes a minor typographical error on page 38 of the IS-MND.

This error has been corrected in the Final IS-MND.




Letter 5

County of Ventura
PUBLIC WORKS AGENCY
TRANSPORTATION DEPARTMENT
Traffic, Advance Planning & Permits Division

MEMORANDUM

DATE: 4/15/2019

TO: RMA Planning Division
Attention: Anthony Ciuffetelli

FROM: Anitha Balan, Engineering Manager II  For Anitha Balan

SUBJECT: REVIEW OF DOCUMENT 19-005 EIR
Project: **Ojai Water System Improvements Project**
Lead Agency: **Casitas Municipal Water District**
The Ojai Water System Improvements Project (proposed project) involves the replacement of pipeline segments to improve fire flow and/or pipeline segments approaching the end of their service life.

Pursuant to your request, the Public Works Agency - Transportation Department has reviewed the EIR for the Ojai Water System Improvements Project.

The Ojai Water System Improvements Project (proposed project) involves the replacement of pipeline segments to improve fire flow and/or pipeline segments approaching the end of their service life. The general purpose of the proposed project is to improve fire flow and replace aging mains, not to increase pipeline capacity to serve additional customers. The proposed project replaces approximately eight miles of pipeline segments throughout the Ojai system service area, and includes plans to rehabilitate two tanks, demolish three existing tanks, and construct one new tank; rehabilitate one booster pump station, upgrade an additional pump station, demolish and construct two new pump stations, and abandon one pump station; and rehabilitate or replace six active wells in the Ojai system. Tank, booster pump station, and well rehabilitation involves replacing existing infrastructure with similar capacity infrastructure. Booster pump station upgrades would occur at the Heidelberger pump station and involve activities similar to pump rehabilitation, such as replacement of existing pumps, but also include installation of an additional pump. The proposed project also includes potential construction of a new well in the Ojai system.

5.1

We offer the following comment(s):

1. The cumulative impacts of the construction of this project, when considered with the cumulative impact of all other approved (or anticipated) projects in the County, will be potentially significant. To address the cumulative adverse impacts of traffic on the Regional Road Network, Ventura County General Plan Goals, Policies, and

5.2

Programs Section 4.2.2-6 and Ventura County Ordinance Code, Division 8, Chapter 6 require that the PWATD collect a Traffic Impact Mitigation Fee (TIMF). The appropriate Traffic Impact Mitigation Fee (TIMF) should be paid to the County prior to start of construction. The trip generation was established using the information provided in the Draft Initial Study, Mitigated Negative Declaration for the Ojai Water System Improvement Project. The TIMF may be adjusted for inflation at the time of deposit in accordance with the latest version of the Engineering News Record Construction Cost Index.

5.2
Cont.

In accordance with the reciprocal agreement between the City of Ojai and the County of Ventura a reciprocal fee is due. The City should deposit the TIMF reciprocal fee with the PWATD. The applicant/permittee may choose to submit additional information or provide a traffic study to supplement the information currently provided to establish the TIMF fee.

a) The TIMF due to the County would be:

$$\$412.00 = 40 \text{ ADT} \times \$10.30(1) \text{ per ADT}$$

$$40 \text{ ADT} = 10 \text{ material deliveries} \times 2 \text{ trips / delivery} + \\ 10 \text{ round trips for trucks and workers} \times 2 \text{ trips / vehicle}$$

Notes

(1) County of Ventura TIMF for the Average Daily Trips in the Ojai Area District # 1

2. In accordance with the County of Ventura General Plan and the County of Ventura Ojai Valley Area Plan the lowest acceptable LOS for Highway 33 between the end of the 101 Freeway and the City of Ojai is a LOS "E". There are portions of the 33 that are currently operating at a LOS "F". The AM Peak Hour time for the highway 33 impact are from 6:30 am until 9:00 am and the PM Peak Hour times are from 3:30 pm until 6:30 pm, any project that will add 1 or more trip to the 33 and 150 during these times in the Ojai Area will be creating a significant impact.

As the project is proposed the project will be generating about 10 peak hour trips (minimum) per day. As the project is proposed in the Draft Initial Study MND the project will cause a significant traffic impact to State Highway 33.

5.3

The County of Ventura, Public Works Agency, Transportation Department (PWATD) suggest that the leading agency work with a Civil Engineering or Traffic Engineering Company to have a traffic study done to mitigate the impact. The company that performs the work shall work with the PWATD to establish the scope of work and to assure the adequacy of the traffic study.

3. According to the County policy, trenching shall not be permitted on any street that was rehabilitated within the last five years, unless a full width overlay is provided after trenching is completed. The Casitas Municipal Water District should be made

5.4

- aware that the County section of Country Club Drive is listed as Priority 4 in the County's Multi-Year Pavement Plant for estimated completion in FY2022. The Casitas Municipal Water District shall repair any damage to County roads due to trenching and the traffic generated by this project up to and including providing a new overlay as determined by the Transportation Department. The overlay shall be done in accordance with the County of Ventura, Public Works Agency, Road Standards, in particular plate E-11. 5.4 Cont.
4. Prior to any work conducted within the County right-of-way, the developer/project proponent shall obtain an encroachment permit from the Transportation Department. This project will require an encroachment permit from the Transportation Department for work done within the road right-of-way as shown in the Figure 2 Project Site Vicinity map. The applicant shall contact (805) 654-2055 for the requirements of this permit. 5.5
 5. If the project generates significant truck traffic on the County of Ventura Regional Road Network and local public roads, then the developer/project proponent should identify the proposed truck routes for the project. Furthermore, if county roads are anticipated to be used during construction, then a truck route plan/map should be submitted to the Transportation Department for review and approval. 5.6
 6. The applicant should provide a Traffic Management Plan (TMP) to identify the construction-related vehicle route, especially for trucks, if there are any. The TMP should be submitted to Transportation Department for review and approval. If the applicant uses the County roads for truck and construction related trips, proper precautions shall be taken to protect all pavements, curb and gutter, sidewalks, and drainage structures from damage. Any portion damaged by the project's operations, in the opinion of the Transportation Department or designee, shall be replaced in accordance with current Standard Construction Details and/or in a manner acceptable to the Transportation Department or designee. 5.7
 7. The proposed project would require construction in local roadways, including temporary closures of traffic lanes. Construction would cause driver inconvenience and could occur in proximity to homes and schools therefore, construction activity is recommended to take place during off-peak hours. 5.8
 8. The County of Ventura, Public Works Agency, Transportation Department would like to receive a copy of the Revised Draft MND and Final MND. 5.9

Our review is limited to the impacts this project may have on the County's Regional Road Network.

Letter 5

Comment Letter 5 was received after the close of the comment period. The response is being provided herein as a courtesy to the commenter.

COMMENTER: Anitha Balan, Engineering Manager II, Traffic, Advance Planning & Permits Division, Transportation Department, County of Ventura Public Works Agency

DATE: April 15, 2019

Response 5.1

The commenter states the Public Works Agency – Transportation Department reviewed the Environmental Impact Report (EIR) for the project and provides a brief summary description of the project.

Casitas Municipal Water appreciates the commenter’s review of the document. For clarification the document prepared for the proposed project is an IS-MND not an EIR as stated in the comment.

Response 5.2

The commenter states the opinion the cumulative impacts of construction of the proposed project, when considered with the cumulative impact of all other approved (or anticipated) projects in Ventura County on the Regional Road Network will be potentially significant and goes on to outline the general provisions of the County’s Traffic Impact Mitigation Fee. The commenter then provides a calculation of the expected TIMF for the proposed project.

In response to the first part of the comment, the commenter does not provide any evidence for the statement the contribution of the project to a potentially significant impact would be cumulatively considerable. As described in CEQA Guidelines Section 15064(h)(1), “Cumulatively considerable” means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. As noted in Section 3.17, *Transportation*, during peak construction months, construction-related vehicle trips would number approximately 10 roundtrips per day for pipeline, tank, and well construction. Any potential local traffic impacts from this increase in vehicle traffic would be temporary, as construction activities would move along the alignment over time. Also, project operation would not generate long-term vehicle trips or vehicle miles traveled because the project would not require additional maintenance trips beyond those necessary to maintain existing facilities, and the project would not directly or indirectly induce population growth. Mitigation measure TRA-1 would require implementation of a construction traffic control plan to minimize potential impacts associated with this nominal and temporary increase in VMT during project construction. As a result, the project would not conflict with nor be inconsistent with CEQA Guidelines Section 15064.3(b), and this impact was found to be less than significant with mitigation incorporated.

In response to the second part of the comment, it is Casitas Municipal Water District’s understanding the County’s calculation of the trip fee is based on its TIMF ordinance and the project’s projected daily trips rather than the project’s contribution to a potentially significant cumulative impact. The project would not significantly contribute toward a potentially considerable cumulative impact. In this case the 10 daily trips are associated with construction activities only, would occur only during peak construction months and would cease once construction of the

project is complete. Based on this information, Casitas Municipal Water District will coordinate with the County to determine whether this fee applies to the proposed project given it would not result in a long-term increase in operational traffic.

Response 5.3

The commenter states the opinion that because Highway 33 currently operates at Level of Service F during certain periods and on certain segments but does not provide specific locations or times. The commenter goes on to state the opinion, any project which adds 1 or more trip to Highway 33 and Highway 150 during the AM or PM peak hours would create a significant impact. The commenter then requests a traffic study to identify mitigation measures to address this perceived impact.

As described in Section 3.17, *Transportation*, anticipated construction-related vehicle trips include construction workers traveling to and from the project work areas, haul trucks (including for import and export of excavated materials, as needed), and other trucks associated with equipment and material deliveries. During peak construction months, construction-related vehicle trips would number approximately 10 roundtrips per day for pipeline, tank, and well construction. Those trips would be spread throughout the day and would not all occur within the AM or PM peak hours. During non-peak construction months, the number of roundtrips per day would be less than 10.

Because construction is a short-term and temporary activity, construction-related traffic impacts would not be substantial. Also, to ensure appropriate traffic controls are implemented and potential traffic impacts would be less than significant, the proposed project would be required to implement several transportation mitigation measures, including TRA-1 (Traffic Control Plan), which requires the contractor to prepare a traffic control plan for construction areas located in or near roadways whose traffic volumes exceed Ventura County Levels of Service or City of Ojai criteria.

CEQA grants agencies broad discretion to develop their own thresholds of significance. Notwithstanding the commenter's statement about the threshold used by the County to determine significant, in this instance Casitas Municipal Water District, as the lead agency for the proposed project, found impacts related to transportation to be less than significant with appropriate mitigation incorporated.

Response 5.4

The commenter provides information on County policy related to trenching in streets which were rehabilitated within the last five years, unless a full width overlay is provided. The commenter goes on to note the County section of Country Club Drive is listed as Priority 4 in the County's Multi-Year Pavement Plant for estimated completion in FY2022.

This information is acknowledged and appreciated.

Response 5.5

The commenter notes the requirement to obtain an encroachment permit prior to any work conducted within the County right-of-way.

This requirement is acknowledged in Table 1 of the IS-MND.

Response 5.6

The commenter requests Casitas Municipal Water District or its contractor identify the proposed truck routes for the project if the project generates significant truck traffic on the County of Ventura

Regional Road Network and local public roads. As noted previously, the proposed project would generate a maximum of 10 roundtrips daily during the peak construction months, only. No long-term increase in traffic or vehicle miles traveled would occur as a result of the proposed project. The commenter also requests a truck route plan/map be provided, if county roads are anticipated to be used during construction.

This request is acknowledged. Information regarding proposed truck routes will be provided if required as part of the County's encroachment permit process.

Response 5.7

The commenter restates the request for a Traffic Management Plan identifying construction-related vehicle routes. The commenter also requests proper precautions be taken to protect all pavements, curb and gutter, sidewalks, and drainage structures from damage on the County roadway network and that damage to the network from the proposed project should be repaired.

See Response 5.6 regarding the preparation of a construction vehicle and truck route plan. The contractor specifications for the project includes the requirement to repair facilities owned by other agencies, if damaged by construction activities associated with the proposed project.

Response 5.8

The commenter notes the proposed project would require construction in local roadways, including temporary closures of traffic lanes. The commenter recommends construction activity take place during off-peak hours.

As discussed in Section 3.17, *Transportation*, pipeline construction activities would install approximately 200 to 300 LF of pipeline per day before moving to the next segment of pipeline. Full street closures during this work would not be necessary, as the trench should be on one side of the street, in the public right-of-way. Traffic control would be set up to allow one travel lane with flagmen to maintain vehicle, transit, bicycle, and pedestrian access to the greatest extent practicable during construction while maintaining worker and public safety. To ensure appropriate traffic controls are implemented and potential traffic impacts would be less than significant, the proposed project would be required to implement mitigation measures TRA-1 (Traffic Control Plan) and TRA-2 (Emergency Service Providers). The required traffic control plan would be submitted to the City of Ojai, County of Ventura, and/or Caltrans, as necessary. The recommendation to avoid peak hour activities will be considered as these plans are developed.

Response 5.9

The commenter requests a copy of a Revised Draft MND and Final MND.

This request is acknowledged. A Revised Draft MND has not been prepared because no circumstances requiring recirculation have been identified. The Final IS-MND is available on the Casitas Municipal Water District website for download (<https://www.casitaswater.org/>).



Letter 6



GAVIN NEWSOM
GOVERNOR



JARED BLUMENFELD
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

April 11, 2019

Casitas Municipal Water District
Attn: JULIA ARANDA
1055 Ventura Avenue
Oak View CA, 93022

RE: OJAI WATER SYSTEM IMPROVEMENTS PROJECT (PROJECT) MITIGATED NEGATIVE DECLARATION (MND) PROPOSED BY CASITAS MUNICIPAL WATER DISTRICT; SCH # 2019039083

Dear Ms. Julia Aranda:

Thank you for the opportunity to review the MND for the proposed Project. The State Water Resources Control Board, Division of Drinking Water (State Water Board) is responsible for issuing water supply permits administered under the Safe Drinking Water Act and will require a new or amended water supply permit for the above referenced Project. A project requires a permit if it includes water system consolidation or changes to a water supply source, storage, or treatment. The State Water Board is a responsible agency pursuant to the California Environmental Quality Act (CEQA) and considers the above referenced document as adequate to meet water supply permit CEQA requirements.

The proposed Project includes replacement of potable water pipeline segments to improve fire flow which are approaching the end of service life. The purpose of the Project is to improve fire flow and replace aging mains, not to increase capacity to serve additional customers. The Project will replace approximately eight miles of pipeline. The Project will also rehabilitate two tanks, demolish three existing tanks, construct one new tank, rehabilitate one booster pump station, upgrade one pump station, demolish and replace two pump stations, abandon one pump station, and rehabilitate or replace six active wells.

6.1

When the review process has ended, please forward the following items with your permit application to the Santa Barbara District Office:


- Copy of the draft and final MND with any comment letters received and the lead agency responses as appropriate;
- Copy of the Resolution or Board Minutes certifying and adopting the MND;
- Copy of the stamped Notice of Determination filed at the Ventura County Clerk's Office or Governor's Office of Planning and Research, State Clearinghouse.

Please contact Jeff Densmore at Santa Barbara District Office, at (909) 383-4328 or Jeff.Densmore@waterboards.ca.gov if you have any questions regarding permitting requirements.

Sincerely,

E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

Nikolas Storm
Scientific Aid
1001 I Street, 16th Floor
Sacramento CA, 95814

A handwritten signature in black ink, appearing to read "N Storm", written in a cursive style.

cc: Office of Planning and Research, State
Clearinghouse

Jeff Densmore
Santa Barbara District

Letter 6

Comment Letter 6 was received after the close of the comment period. The response is being provided herein out of courtesy to the commenter.

COMMENTER: Nikolas Storm, Scientific Aid, Division of Drinking Water, State Water Resources Control Board

DATE: April 11, 2019

Response 6.1

The commenter outlines the State Water Resources Control Board's responsibility for issuing water supply permits and notes the project will require a new or amended water supply permit. The commenter goes on to describe the Board's role as a responsible agency under CEQA and provides information on where to send the relevant permit application information once the CEQA process is complete.

This requirement is acknowledged and the information provided is appreciated.

DEPARTMENT OF TRANSPORTATION

DISTRICT 7 – Office of Regional Planning

100 S. MAIN STREET, MS 16

LOS ANGELES, CA 90012

PHONE (213) 897-9140

FAX (213) 897-1337

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www.dot.ca.gov



*Making Conservation
a California Way of Life.*

Letter 7

April 10, 2019

Ms. Julia Aranda, PE
Casitas Municipal Water District
1055 Ventura Avenue
Oak View, CA 93022

RE: Ojai Water System Improvement Project –
Mitigated Negative Declaration (MND)
SCH# 2019039083
GTS # 07-VEN-2019-00252
Vic. VEN-150/PM: 16.982

Dear Ms. Julia Aranda:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project’s MND. The proposed project would replace approximately eight miles of pipeline segments throughout the Ojai system service area. Project implementation would occur over approximately ten years, with the first phase of project construction in the first three years and the second phase of construction in the subsequent seven years. The pipelines identified in the CMA and WMP represent the initial scope of pipeline replacements. Over the course of project implementation, more pipelines may be identified as having multiple leaks or breaks, or for which replacement makes sense because they are close to other planned replacements. This work will be performed at the discretion of CMWD. The details of additional pipeline improvements are unknown; thus pipeline or other water system improvements not described in this document will require separate environmental review under CEQA. The proposed project includes plans to rehabilitate two tanks, demolish three existing tanks, and construct up to one new tank; rehabilitate one booster pump station, upgrade an additional pump station, demolish and construct two new pump stations, and abandon one pump station; and rehabilitate or replace six active wells in the Ojai system. The proposed project also includes potential construction of a new well in the Ojai system.

7.1

After reviewing this project’s MND Caltrans has the following comments:

- 1) Due to the sensitivity of wildfires in the Ojai area Caltrans suggests the project please ensure that implementation/construction will not impede emergency evacuation availability. Please consider taking steps to ensure that evacuation roadways are free of any debris/project equipment and are accessible to the public and emergency vehicles at all times.
- 2) Any transportation of heavy construction equipment and/or materials which requires use of oversized-transport vehicles on State highways will need a Caltrans transportation permit. We recommend large size truck trips be limited to off-peak commute periods
- 3) An encroachment permit will be required for any project on, under or in the vicinity of, the Caltrans right of way. Please note that any modifications to the State facility (SR-150 or SR-33) will be subject to additional review by the Office of Permits prior to issuance of the permit

7.2

7.3

7.4

Ms. Julia Aranda
April 10, 2019
Page 2 of 2

If you have any questions regarding these comments, please contact project coordinator Reece Allen, at reece.allen@dot.ca.gov and refer to GTS# 07-VEN-2019-00252.

Sincerely,

A handwritten signature in black ink, appearing to read "Miya E.", written in a cursive style.

MIYA EDMONSON
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

Letter 7

Comment Letter 7 was received after the close of the comment period. The response is being provided herein out of courtesy to the commenter.

COMMENTER: Miya Edmonson, IGR/CEQA Branch Chief, State of California Department of Transportation District 7

DATE: April 10, 2019

Response 7.1

The commenter provides a summary of the project description.

No response is required.

Response 7.2

The commenter suggests the project ensure implementation/construction not impeded emergency evacuation availability.

As discussed under item d), in Section 3.17, *Transportation*, lane closures and other potential traffic impacts caused by construction activities would have the potential to impede emergency response to those areas, or to areas accessed via those routes. To prevent project construction from interfering with emergency response times or other performance public service performance objectives, the proposed project is required to implement mitigation requiring preparation of a traffic control plan and notification of emergency service providers regarding construction plans prior to commencement of construction activities (see TRA-1 and TRA-2 above) The required traffic control plan would be submitted to the City of Ojai, County of Ventura, and/or Caltrans, as necessary.

Response 7.3

The commenter notes transportation of heavy construction equipment and/or materials, which require the use of oversized-transport vehicles on State highways, will require a Caltrans transportation permit. The commenter goes on to recommend large size truck trips be limited to off-peak commute periods.

Deliveries of equipment and material to the project site shall comply with all applicable rules and regulations. If use of oversized-transport vehicles is required as part of project construction, then the required permit will be obtained. As discussed in Section 3.17, *Transportation*, impacts from temporary construction traffic would be less than significant. However, in response to this comment, deliveries to the project site will be scheduled for off-peak hour commute periods, as feasible, throughout the construction period.

Response 7.4

The commenter states an encroachment permit will be required for any project on, under or in the vicinity of the Caltrans right-of-way and any modifications to a State facility (i.e. State Routes 150 or 33) will be subject to additional review by Caltrans.

This requirement to obtain an encroachment permit from Caltrans is acknowledged in Table 1 of the IS-MND. The requirement for additional review for activities requiring modification to a State facility is acknowledged and will be coordinated with Caltrans, as needed and required.