Jefferson Avenue Interconnection Project

Draft Initial Study – Mitigated Negative Declaration

prepared by

Western Municipal Water District
14205 Meridian Parkway
Riverside, California 92518
Contact: Cesar Carrillo, P.E., Engineer

prepared with the assistance of

Rincon Consultants, Inc.
11801 Pierce Street, Suite 200
Riverside, California 92505

September 2024

RINCON CONSULTANTS, INC. SINCE 1994

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1. Project Title

Jefferson Avenue Interconnection Project

2. Lead Agency Name and Address

Western Municipal Water District
14205 Meridian Parkway
Riverside, California 92518

3. Contact Person and Phone Number

Cesar Carrillo, P.E., Engineer
(951) 571-7231

4. Project Location

The project site is comprised of an approximately one-mile-long linear alignment located along Jefferson Avenue between Guava Street and Elm Street in the city of Murrieta, Riverside County. The project site is entirely within the public right-of-way (ROW) of Jefferson Avenue, a paved road. Regional access to the project site vicinity is provided by Interstate 15 (I-15) and Interstate 215 (I-215). Figure 1 shows the regional location of the project site, and Figure 2 shows the project site in a local context.

5. Project Sponsor's Name and Address

Western Municipal Water District
14205 Meridian Parkway
Riverside, California 92518

6. General Plan Designation

The project site is located within an existing public roadway ROW and does not have a General Plan land use designation.

7. Zoning

The project site is located within an existing public roadway ROW and is therefore not zoned.

Figure 1 Regional Location

Figure 2 Project Site Location

8. Description of Project

The proposed project consists of installation of an approximately one-mile, 18-inch water pipeline, two 16-inch interconnections to Rancho California Water District's (RCWD) existing 36-inch domestic water pipelines on each end of the proposed pipeline, and two interconnection vaults along with associated aboveground appurtenances, such as a water quality station, metering pedestal, blow offs, and air vacuum release valves. The project would extend service to certain developed land uses within Western Municipal Water District's (Western Water) service area, specifically within Murrieta's Innovation Zone, which is located west of I-215 and I-15 freeways, east of Jefferson Avenue, north of Elm Street, and south of Guava Street. The Innovation Zone comprises a mix of developed and undeveloped parcels, some of which currently lack municipal water service and are solely relying on private well production.[1] The Innovation Zone is intended to accommodate a wide variety of non-residential uses and have a campus-like, mixed-use business setting (City of Murrieta 2011). Although the pipeline would be installed by Western Water within Western Water's service area, the pipeline would be connected to RCWD's distribution system, and water conveyed throughout the pipeline would be supplied by RCWD, which has adequate pressure and available water supplies to serve this area. The proposed pipeline would not connect physically to Western Water's distribution system.

The City's current General Plan anticipates development of the Innovation Zone to include up to 5,113,038 square feet of non-residential land uses in an approximately 367-acre area (City of Murrieta 2020a). The Innovation land use was introduced in the City's 2020 General Plan Update, and the City prepared and certified a Supplemental Environmental Impact Report in June 2020 for the 2020 General Plan Update (State Clearinghouse No. 2010111084), which specifically evaluated the environmental impacts of buildout of the Innovation Zone (City of Murrieta 2020b). Therefore, the proposed project would be in furtherance of growth already anticipated in the City's General Plan. As such, this IS-MND focuses on the environmental impacts associated with construction and operation of the proposed pipeline and appurtenances and does not further discuss the environmental impacts of the planned future development that would be served by the proposed pipeline.

Construction

Project construction is anticipated to begin as early as January 2025 and occur over the course of 10 months. Project construction would occur Monday through Friday, from 7:00 a.m. to 4:00 p.m., and no nighttime construction would be required.

The proposed pipeline and interconnections would be installed via open-cut trenching techniques, which typically consist of trench excavation (including saw cutting of pavement where applicable), pipe bedding stabilization, pipe installation, and backfill. Paving and ground restoration would then be performed at the completion of each segment of pipeline and at the end of project construction once all backfill activities have been completed.

Approximately 2,703 cubic yards of soil would be excavated and re-used as fill material once the pipeline is installed. In addition, approximately 270 cubic yards of soil would be imported from off-

[1] Once the proposed project is constructed, existing private wells may remain in production or may be abandoned at the discretion of the private property owners separately from the proposed project.

site sources; no soil would be exported from the project site. The maximum depth of excavation during project construction would be approximately 12 feet.

Construction equipment would be staged within the ROW of Jefferson Avenue as well as on private properties in the project site vicinity, to be leased to the construction contractor. Off-site construction staging would only occur on paved surfaces and would not occur on undeveloped lots. During construction, the existing culvert below Jefferson Avenue near Larchmont Lane would be protected in place and would not be modified as part of the proposed project.

Following completion of project construction, the pipeline would be flushed, and water produced during flushing would be discharged into existing storm drains. This activity would be subject to compliance with the San Diego Regional Water Quality Control Board's (RWQCB) General Waste Discharge Requirements for Discharges of Hydrostatic Test Water and Potable Water to Surface Waters and Storm Drains or Other Conveyance Systems within the San Diego Region (Order No. R9-2010-0003).

Project construction would require temporary lane closures on Jefferson Avenue in the vicinity of the active work area. Western Water would require its construction contractor(s) to implement traffic control measures, such as flaggers, during temporary lane closures to minimize traffic impacts to motorists.

Operation and Maintenance

Once construction is complete, RCWD and Western Water staff would jointly maintain the infrastructure. RCWD would be responsible for routine maintenance of the meter vault, and Western Water would inspect the pipeline and perform routine maintenance activities approximately once to twice a year. Operation of the project would not result in a net increase to RCWD's systemwide electricity consumption.

9. Surrounding Land Uses and Setting

Surrounding land uses include commercial and office land uses to the south of Jefferson Avenue; commercial land uses to the north of Jefferson Avenue near the western terminus of the project site; and open space/vacant and single-family residential land uses north of Jefferson Avenue. These open space/vacant land uses are designated as Business Park (City of Murrieta 2020a).

10. Other Public Agencies Whose Approval is Required

Western Water is the lead agency under the California Environmental Quality Act (CEQA) with responsibility for approving the project. The following additional approvals for the proposed project are anticipated:

- City of Murrieta encroachment permit
- SWRCB NPDES Construction General Permit coverage
- RCWD Connection Approval
- SWRCB Division of Drinking Water Construction Permit
- San Diego RWQCB General Waste Discharge Requirements for Discharges of Hydrostatic Test Water and Potable Water to Surface Waters and Storm Drains or Other Conveyance Systems within the San Diego Region permit coverage

11. Have California Native American Tribes Traditionally and Culturally Affiliated with the Project Area Requested Consultation Pursuant to Public Resources Code Section 21080.3.1?

On May 2, 2024, Western Water distributed Assembly Bill (AB) 52 consultation letters for the proposed project, including project information, map, and contact information, to Native American tribes locally and culturally affiliated with the project area. Western Water received a request for consultation from the Pechanga Band of Indians on June 3, 2024; they requested Western Water avoid tribal cultural resources should they be discovered during construction. In addition, the Rincon Band of Luiseño Indians responded on June 5, 2024, and requested copies of existing documents pertaining to the project to review. Two tribes - the Agua Caliente Band of Cahuilla Indians and the Soboba Band of Luiseño Indians - responded on May 1, 2024, but indicated no concerns and deferred to the local Tribes. Environmental Checklist Section 18, *Tribal Cultural Resources*, of the Environmental Checklist provides further information regarding the tribal consultation process.

Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

☐	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

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 "less than significant with mitigation incorporated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

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

Signature	9/25/2024
	Date
Cesar Carrillo	Engineer
Printed Name	Title

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than - Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	■	☐
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	■
c. 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 a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	■
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	■	☐

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

The City of Murrieta General Plan Conservation Element identifies several characteristics that contribute to the scenic setting of Murrieta, including long-range views of rolling hillsides, mountain ranges, the Temescal Valley floor, and varied natural vegetation communities (City of Murrieta 2011). Views available from the project site include long-range views of hillsides and ridgelines (e.g., Santa Rosa Plateau, Palomar Mountain) to the south and southwest. During construction, equipment and materials would be located within the project site and may block motorist and pedestrian views of hillsides and ridgelines. However, the presence of construction equipment and materials would be temporary, short-term, and limited to the construction period and would not substantially interrupt long-range views. During operation, the project would be located entirely underground in the ROW of Jefferson Avenue. Therefore, impacts to scenic vistas 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 within a state scenic highway?

The nearest officially designated state scenic highway to the project site is State Route 74 (California Department of Transportation [Caltrans] 2019). State Route 74 is approximately 24 miles northeast of the project site, and the project site is not visible from State Route 74 due to distance and intervening topography. Therefore, the project would not substantially damage scenic resources within 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 a 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 site is located in the urbanized area of Murrieta. The project would include installation of an underground pipeline in the ROW of Jefferson Avenue and associated aboveground infrastructure. According to Government Code Section 53091, building and zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water. As such, the project would not be subject to the City's building and zoning ordinances (Murrieta Municipal Code Titles 15 and 16). Therefore, the primary regulations governing scenic quality applicable to the project site are contained in the City's General Plan Conservation Element. Goal CSV-5 of the City's General Plan is to protect hills and ridges for their environmental and aesthetic values. While project construction would introduce construction equipment and materials on the project site, which could interrupt views of the hills and ridges, the presence of construction equipment and materials would be temporary and would not interrupt long-term views from the project site. The proposed pipeline would be located underground, and minor aboveground appurtenances would not have the potential to obstruct views of hills and ridges. As such, the project would be consistent with Goal CSV-5 in the City's General Plan Conservation Element. Therefore, the project would not conflict with applicable zoning and other regulations governing scenic quality, and no impact would occur.

NO IMPACT

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

Project construction would generally occur from 7:00 a.m. to 4:00 p.m., and nighttime construction would not be required. However, construction lighting may be necessary during early-morning construction hours during the winter. If construction lighting is required, lighting would be shielded and downcast. In addition, other land uses immediately adjacent to the project site are commercial properties, which are less sensitive to lighting and likely not operational during early-morning hours. Furthermore, the project would not permanently add reflective surfaces, such as windows or car windshields, or lighting to the project site or its surroundings. Therefore, the project would not create a new permanent source of substantial light or glare. Impacts related to light and glare would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than - Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or 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?	☐	☐	☐	■
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	■
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	■
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	■
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	■

a. Would the project convert Prime Farmland, Unique Farmland, or 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?

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 or conversion of forest land to non-forest use?

The project site is located within the existing public roadway ROW and is entirely paved; therefore, the project site does not contain Farmland, lands enrolled in a Williamson Act contract, or lands used or zoned for agriculture, forest land, or timberland. Construction equipment would be staged within the ROW of Jefferson Avenue as well as on private properties in the project site vicinity, and off-site construction staging would only occur on paved surfaces and not on undeveloped lots. Furthermore, none of the adjacent parcels along the project site are zoned for agricultural or forest land (City of Murrieta 2020a). As such, the project would not involve changes in the existing environment which could result in the conversion of Farmland to non-agricultural use or of forest land to non-forest use. Therefore, no impact to agriculture and forestry resources would occur.

NO IMPACT

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?	☐	☐	☐	■
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	■	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	■	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	■	☐

Air Quality Standards and Attainment

The project site is within the South Coast Air Basin (SCAB), which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. The SCAB is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

As the local air quality management agency, SCAQMD must monitor air pollutant levels to ensure that the National Ambient Air Quality Standards and California Ambient Air Quality Standards are met. If they are not met, the SCAQMD must develop strategies for their region to meet the standards. The strategies to achieve attainment status are included as part of the Air Quality Management Plan (AQMP). The attainment statuses for the SCAB are presented in Table 1. As shown therein, the SCAB is in nonattainment for the federal and State standards for ozone and particulate matter measuring 2.5 microns or less in diameter ($PM_{2.5}$). The SCAB is also in nonattainment for the State standards for particulate matter measuring 10 microns or less in diameter (PM_{10}) and in partial nonattainment for the federal standards for lead (SCAQMD 2022). These nonattainment designations result from several factors, the primary ones being the naturally diverse meteorological conditions that limits the dispersion and diffusion of pollutants, the limited capacity of the local airshed to eliminate air pollutants, and the number, type, and density of emission sources within the SCAB. The health effects associated with pollutants for which the SCAB is in nonattainment are shown in Table 2.

Table 1 Attainment Status of Criteria Pollutants in South Coast Air Basin

Pollutant	State Designation	Federal Designation
Ozone	Nonattainment	Nonattainment
Particulate matter with diameters of ten microns or less (PM_{10})	Nonattainment	Attainment
Particulate matter with diameters of 2.5 microns or less ($PM_{2.5}$)	Nonattainment	Nonattainment
Carbon dioxide	Attainment	Attainment
Nitrogen dioxide	Attainment	Attainment
Sulfur dioxide	Attainment	Attainment
Lead	Attainment	Nonattainment *(partial)*

Source: SCAQMD 2022

Table 2 Health Effects Associated with Non-Attainment Criteria Pollutants

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health from alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health from altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically-exposed humans; (3) vegetation damage; and (4) property damage.
Suspended particulate matter ($PM_{2.5}$ & PM_{10})	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma).[1]
Lead	(1) Learning disabilities; (2) impairment of blood formation and nerve function; (3) cardiovascular effects, including coronary heart disease and hypertension; and (4) possible male reproductive system effects.

Source: SCAQMD 2022

Air Quality Management

Since the SCAB is designated nonattainment for several federal and State standards, the SCAQMD is required to implement strategies to reduce pollutant levels to achieve attainment of these standards. The SCAQMD 2022 Air Quality Management Plan (2022 AQMP) is a regional blueprint designed to demonstrate how attainment will be reached and is the AQMP currently in effect. The 2022 AQMP represents a thorough analysis of existing and potential regulatory control options; includes available, proven, and cost-effective strategies; and seeks to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gas (GHG) emissions and toxic risk as well as efficiencies in energy use, transportation, and goods movement.

Air Emission Thresholds

The SCAQMD approved the *CEQA Air Quality Handbook* in 1993 (SCAQMD 1993). Since then, the SCAQMD has provided supplemental guidance on their website to address changes to the methodology and nature of CEQA. Some of these changes include recommended thresholds for

emissions associated with both construction and operation of the project are used to evaluate a project's potential regional and localized air quality impacts, which are detailed below.

Regional Thresholds

Table 3 presents the SCAQMD significance thresholds for regional construction and operational criteria air pollutant and precursor emissions, which are used in this analysis.

Table 3 SCAQMD Regional Significance Thresholds

Construction Thresholds	Operational Thresholds
75 pounds per day of VOC	55 pounds per day of VOC
100 pounds per day of NO_X	55 pounds per day of NO_X
550 pounds per day of CO	550 pounds per day of CO
150 pounds per day of SO_X	150 pounds per day of SO_X
150 pounds per day of PM_{10}	150 pounds per day of PM_{10}
55 pounds per day of $PM_{2.5}$	55 pounds per day of $PM_{2.5}$

VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter measuring 10 microns in diameter or less; $PM_{2.5}$ = particulate matter measuring 2.5 microns in diameter or less

Source: SCAQMD 2023

Localized Significance Thresholds

In addition to the regional thresholds, the SCAQMD has developed Localized Significance Thresholds (LSTs) in response to concern regarding exposure of individuals to criteria pollutants in local communities. LSTs have been developed for nitrogen oxides, carbon monoxide, PM_{10}, and $PM_{2.5}$ and represent the maximum emissions from a project's construction and operation that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or State ambient air quality standard at the nearest sensitive receptor. LSTs take into consideration ambient concentrations in each source receptor area, distance to the nearest sensitive receptor, and project size. LSTs have been developed for emissions generated in construction areas up to five acres in size. LSTs only apply to emissions in a fixed stationary location and are not applicable to mobile sources, such as cars on a roadway (SCAQMD 2009).

The project site is located in Murrieta, which is in Source Receptor Area 26 (Temecula Valley). SCAQMD provides LST lookup tables for project sites that measure one, two, or five acres. LSTs are provided for receptors located 82 feet (25 meters), 164 feet (50 meters), 328 feet (100 meters), 656 feet (200 meters), and 1,640 feet (500 meters) from the project disturbance boundary. Generally, pipelines are constructed by segment, with typical development assumed to cover 100 to 200 feet of pipeline construction per day. Assuming a 20- to 40-foot disturbance width for pipeline installation, the active construction work area would be less than one acre per day. Therefore, this analysis utilizes the one-acre LST. The nearest sensitive receptor to the project boundary – a residence located near the corner of Jefferson Avenue and Larchmont Lane - is approximately 100 feet (30 meters) away. Therefore, this analysis uses the 25-meter (82 feet) receptor threshold. The LST thresholds for construction are shown in Table 4.

Table 4 SCAQMD LSTs for Construction

Pollutant	Allowable Emissions for a One-acre Site in Source Receptor Area 26 for a Receptor 82 Feet Away (pounds per day)
Gradual conversion of NO_X to NO_2	90[1]
CO	750
PM_{10}	4
$PM_{2.5}$	2[2]

VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter measuring 10 microns in diameter or less; $PM_{2.5}$ = particulate matter measuring 2.5 microns in diameter or less; lbs/day = pounds per day; ppm = parts per million

[1] The screening criteria for NO_X were developed based on the 1-hour NO_2 California Ambient Air Quality Standards of 0.18 parts per million (ppm). Subsequent to publication of the SCAQMD's guidance, the United States Environmental Protection Agency promulgated a 1-hour NO_2 National Ambient Air Quality Standards of 0.100 ppm. This is based on a 98th percentile value, which is more stringent than the California Ambient Air Quality Standards. Because SCAQMD's LSTs have not been updated to address this new standard, an approximated LST was estimated to evaluate the federal 1-hour NO_2 standard and determine if project emissions would result in an exceedance of the 1-hour NO_2 National Ambient Air Quality Standards. The revised LST threshold was calculated by scaling the NO_2 LST for by the ratio of the federal and state 1-hour NO_2 standards (i.e., 162 lbs/day * (0.10/0.18) = 90 lbs/day).

[2] The screening criteria for $PM_{2.5}$ were developed based on an annual California Ambient Air Quality Standards of 15 mg/m^3. Subsequent to publication of the SCAQMD's guidance, the annual standard was reduced to 12 mg/m^3. Because SCAQMD's LSTs have not been updated to address this new standard, an approximated LST was estimated to determine if project emissions would result in an exceedance of the annual $PM_{2.5}$ California Ambient Air Quality Standards. The revised LST threshold was calculated by scaling the $PM_{2.5}$ LST by the ratio of annual $PM_{2.5}$ standards (i.e., construction 3 lbs/day * (12/15) = 2.4 lbs/day).

Source: SCAQMD 2009

Toxic Air Containments Thresholds

The SCAQMD has developed significance thresholds for toxic air contaminant (TAC) emissions based on health risks associated with elevated exposure to such compounds. For carcinogenic compounds, cancer risk is assessed in terms of incremental excess cancer risk. A project would result in a potentially significant impact if it would generate an incremental excess cancer risk of 10 in 1 million (1×10^{-6}) or a cancer burden of 0.5 excess cancer cases in areas exceeding a one-in-one-million risk under existing conditions. In addition, non-carcinogenic health risks are assessed in terms of a hazard index. A project would result in a potentially significant impact if it would result in a chronic and acute hazard index greater than 1.0 (SCAQMD 2022).

Methodology

Air pollutant emissions generated by project construction were estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1.1.14. CalEEMod uses project-specific information, including the project's land uses, square footage for different uses, and location to model a project's construction and operational emissions (Appendix A).

Construction and operation of the proposed project was analyzed based on information provided by the project engineer and as described under *Description of Project*. The analysis assumes the project would be required to comply with applicable regulatory standards, including SCAQMD Rule 403 for fugitive dust control.

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

To determine if a project is consistent with the 2022 AQMP, the SCAQMD has established consistency criterion that are defined in the SCAQMD's *CEQA Air Quality Handbook* (1993) and are discussed below.

> **Consistency Criterion No. 1: The proposed project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the Air Quality Management Plan.**

Consistency Criterion No. 1 refers to violations of the California Ambient Air Quality Standards and National Ambient Air Quality Standards. As evaluated under thresholds 3(b) and 3(c), the project would not result in an exceedance of SCAQMD's regional or localized significance thresholds for criteria pollutants during construction or operation. Therefore, the project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the 2022 AQMP.

> **Consistency Criterion No. 2: The proposed project does not exceed the growth assumptions in the AQMP.**

The growth assumptions used in the 2022 AQMP to project future air quality emissions levels are based in part on the projections of the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020-2045 RTP/SCS) utilized by Southern California Association of Governments, which incorporates land use data provided by local general plan documentation as well as assumptions regarding population, location of population growth, and the regional housing needs assessment.

Given the small-scale nature of project construction activities, it is likely construction workers would be drawn from the existing, regional workforce and would not indirectly result in the relocation of people to Riverside County. In addition, no new Western Water or RCWD employees would be required to operate and maintain the project. Furthermore, the project would extend service to certain developed land uses within Western Water's service area in the Innovation Zone, and would be in furtherance of growth already anticipated in the City's General Plan and analyzed in the City's General Plan Update Supplemental Environmental Impact Report. Therefore, the project would not result in population, employment, or housing growth and would not exceed the growth assumptions in the 2022 AQMP.

In light of the above discussion, because the project would meet both SCAQMD criteria for determining consistency with the 2022 AQMP, the project would not conflict with or obstruct implementation of the 2022 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?

Project construction would generate temporary air pollutant emissions associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction equipment and construction vehicles. In addition, off-gassing of paving applications would release emissions of volatile organic

compounds during the paving phase. Table 5 summarizes the estimated maximum daily emissions of pollutants generated during project construction. As shown therein, construction-related emissions would not exceed SCAQMD thresholds. Therefore, project construction would not 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. Impacts would be less than significant.

Table 5 Estimated Maximum Daily Regional Construction Emissions

	Pollutant (lbs/day)					
Construction	**VOC**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
2025	1	9	12	<1	1	<1
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day = pounds per day; VOC = volatile organic compounds NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = particulate matter measuring 10 microns in diameter or less; $PM_{2.5}$ = particulate matter measuring 2.5 microns in diameter or less

Notes: Some numbers may not add up precisely due to rounding considerations.

Source: CalEEMod worksheets in Appendix A. Highest of summer and winter emissions results are shown for all emissions.

Upon completion of construction, inspection and maintenance of the pipeline and meter vault by Western Water and RCWD staff would occur approximately once to twice a year, which would generate approximately one to two new vehicle trips annually. Air pollutant emissions associated with these vehicle trips would be negligible. Therefore, project operation would not result in a cumulatively considerable net increase of criteria air pollutants for which the project region is non-attainment under an applicable federal or State ambient air quality standard. The project's operational impact would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

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

Populations of people who are particularly sensitive to air pollution include children, the elderly, persons with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these people or places where they gather are defined as "sensitive receptors." These may include long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, childcare centers and athletic facilities (SCAQMD 2022). Surrounding land uses along the project site primarily consist of commercial and office land uses and open space/vacant land designated as Business Park (City of Murrieta 2020a). Sensitive receptors in the vicinity of the project site include single-family residences off Jefferson Avenue near the southern end of the alignment, the closest of which is 100 feet northeast of the project alignment (26170 Jefferson Avenue).

Table 6 summarizes the maximum localized daily emissions generated during construction of the proposed project. As shown therein, localized construction emissions would not exceed SCAQMD LST thresholds. Therefore, project construction would have a less than significant impact regarding the exposure of sensitive receptors to substantial concentrations of criteria air pollutants.

Table 6 Estimated Maximum Daily Localized Construction Emissions

	Pollutant (lbs/day)					
	VOC	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Maximum On-Site Daily Emissions	<1	6	8	<1	<1	<1
SCAQMD LST	N/A	90	750	N/A	4	2
Threshold Exceeded?	**N/A**	**No**	**No**	**N/A**	**No**	**No**

lbs/day = pounds per day; VOC = volatile organic compounds; NO_x = nitrogen oxides; CO = carbon monoxide; PM_{10} = particulate matter measuring 10 microns in diameter or less; $PM_{2.5}$ = particulate matter measuring 2.5 microns in diameter or less; SO_x = sulfur oxide

Notes: Maximum on-site emissions are the highest emissions that would occur on the project site from on-site sources, such as heavy construction equipment and paving, and excludes off-site emissions from sources such as construction worker vehicle trips and haul truck trips.

Source: CalEEMod worksheets in Appendix A. Highest of summer and winter emissions results are shown for all emissions.

Upon completion of construction, inspection and maintenance of the pipeline and meter vault by Western Water and RCWD staff would occur approximately once to twice a year, which would generate approximately one to two new vehicle trips annually. Air pollutant emissions associated with these vehicle trips would be negligible. Therefore, project operation would have a less than significant impact regarding the exposure of sensitive receptors to substantial concentrations of criteria air pollutants.

Construction-related activities would result in short-term, project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for site preparation, grading, pipeline installation, and paving. DPM was identified as a TAC by the California Air Resources Board in 1998. The potential cancer risk from the inhalation of DPM (discussed in the following paragraphs) outweighs the potential non-cancer health impacts (California Air Resources Board 2020).

Generation of DPM from construction projects typically occurs in a single area for a short period of time. Construction of the proposed project would occur over approximately 10 months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period (assumed to be the approximate time that a person spends in a household). OEHHA recommends this risk be bracketed with 9-year and 70-year exposure periods. Health risk assessments should be limited to the period/duration of activities associated with a proposed project.

The maximum $PM_{2.5}$ emissions, which are used to represent DPM emissions for this analysis, would occur during pipeline installation and paving construction activities. While pipeline installation and paving construction emissions represent the worst-case condition, such activities would only occur for ten months, which is less than five percent of the 9-year health risk calculation period and less than one percent of the 30-year and 70-year health risk calculation periods. $PM_{2.5}$ emissions would decrease for the earlier construction phases because construction activities such as site preparation and grading would require less construction equipment. In addition, construction activities would also be required to comply with California regulations limiting the idling of heavy-duty construction

equipment to no more than five minutes, which would reduce nearby sensitive receptors' exposure to temporary and variable DPM emissions. Furthermore, TAC emissions at any given sensitive receptor along the proposed pipeline alignment would occur for only a limited portion of the overall construction timeframe because project construction would progress across the pipeline alignment, further limiting the exposure of any proximate individual sensitive receptors to TAC emissions from active construction. Therefore, DPM generated by project construction is not expected to create conditions where the probability that the Maximally Exposed Individual would contract cancer is greater than the SCAQMD's 10 in one million threshold or chronic and acute hazard index greater than 1.0 threshold. As such, project construction would have a less than significant impact involving the exposure of sensitive receptors to substantial TAC concentrations.

The project does not include any stationary sources of TAC emissions. Vehicles used during project operation and maintenance activities would consist of worker vehicles for travel to and from the project site, which would not generate DPM emissions. Therefore, project operation would not expose sensitive receptors to substantial TAC concentrations, and no impacts would occur.

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?

Project construction could generate odors associated with heavy-duty equipment operation, earth-moving and roadway paving activities. Such odors would be temporary in nature and limited to the duration of construction in the vicinity of the project site. Furthermore, these odors would dissipate rapidly with distance from in-use construction equipment. The SCAQMD *CEQA Air Quality Handbook* (1993) identifies certain land uses as sources of odors. These land uses include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The project does not include any of the land uses that have been identified by the SCAQMD as odor sources. Therefore, the project would not result in other emissions (such as those leading to odors) that adversely affect a substantial number of people. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

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?	☐	☐	☐	■
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?	☐	☐	☐	■
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	■	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	■
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	■
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?	☐	☐	☐	■

Vegetation communities in Murrieta broadly include grassland, freshwater marsh, oak woodlands, riparian communities, chaparral, and nonnative habitats (e.g., agriculture and ruderal/disturbed) (City of Murrieta 2011). Development has altered much of Murrieta`s landscape, restricting natural vegetation primarily to undeveloped hillside areas. Many species are locally rare or no longer occur in portions of Murrieta as a result of urban and commercial development within the city limits.

Rincon conducted a reconnaissance-level biological survey of the project site on April 3, 2024. The survey occurred from 8:45 a.m. to 10:00 a.m. with temperatures ranging from 67 to 72 degrees Fahrenheit, calm winds (0 to 4 miles per hour), and clear skies (0 percent cloud cover). The purpose of the survey was to document existing biological conditions within the survey area (i.e., the project site and a 10-foot buffer), including plant and wildlife species, vegetation communities, and the potential for presence of special-status species. The analysis provided below is derived from the reconnaissance survey, as well as a literature and database review of regulated biological resources that have been recorded in the region.

The entirety of Jefferson Avenue is a paved road and categorized as a developed land use with frequent vehicle traffic. The existing road is comprised of pavement along the entirety of its length with minimal vegetation on the road shoulder, outside of the project site but within the 10-foot buffer survey area. Vegetation within the survey area comprises primarily non-native species found commonly along heavily trafficked roads and only occurs on the outer limits of the survey area.

Plant species observed in the survey area during the field reconnaissance survey included: short-pod mustard (*Hirschfeldia incana*), black mustard (*Brassica nigra*), red brome (*Bromus rubens*), pampas grass (*Cortaderia selloana*), mouse barley (*Hordeum murinum*), tumbleweed (*Salsola tragus*), purple fountain grass (*Pennisetum setaceum),* Russian thistle (*Salsola tragus*), and prickly lettuce (*Lactuca serriola).* No special-status plant species were observed on site.

Wildlife species observed during the field reconnaissance survey included: American crow (*Corvus brachyrhynchos*), lesser goldfinch (*Spinus psaltria*), European starling (*Sturnus vulgaris*), black phoebe (*Sayornis nigricans*), mourning dove (*Zenaida macroura*), house sparrow (*Passer domesticus*), red-tailed hawk (*Buteo jamaicensis*), and California ground squirrel (*Otospermophilus beecheyi*). No special-status wildlife species were observed on site.

a. Would the project 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?

Special-status species are those plants and animals that are: 1) listed, proposed for listing, or candidates for listing as Threatened or Endangered by the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) under the Federal Endangered Species Act; 2) those listed or proposed for listing as Rare, Threatened, or Endangered by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act; 3) those recognized as Species of Special Concern or Fully Protected by CDFW; and 4) plants occurring on lists 1 and 2 of the CDFW California Rare Plant Rank system. In addition, special-status wildlife and plant species are ranked with global conservation status (G) and substantial conservation status (S) 1 through 5 based on NatureServe's (2010) methodologies. Although not considered special-status, most nesting birds are afforded protection under the federal Migratory Bird Treaty Act and/or California Fish and Game Code 3505.

In May 2024, the California Natural Diversity Database (CNDDB) was queried for a five-mile radius of the project site, and the California Native Plant Society's Electronic Inventory was queried for the *Murrieta* and nine surrounding United States Geological Survey quadrangles. A review of records from these database searches identified 66 special-status animal species and 88 special-status plant species with occurrence records within five miles of the project site, including 26 federal and/or state listed species. Based on the observations of the field reconnaissance survey, no suitable habitat for special-status species occurs within or adjacent to the project site. The USFWS Critical Habitat Mapper also indicates no critical habitat for listed species occurs within the project site or the adjacent area (USFWS 2024). In addition, no nesting birds are anticipated to be present within the survey area due to the high level of vehicle disturbance and lack of suitable nesting habitat. Nesting birds may be present on more open lands east of the survey area. However, all work would be restricted to developed areas within the existing road, and project construction activities would not result in greater disturbance to the adjacent habitat beyond existing traffic and noise disturbance conditions. Construction equipment would be staged within the ROW of Jefferson Avenue as well as on private properties in the project site vicinity, to be leased to the construction contractor. Off-site construction staging would only occur on paved surfaces and would not occur on undeveloped lots. Consequently, project construction staging would not result in habitat disturbance. Therefore, the proposed project would not 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 CDFW and USFWS. No impact would occur.

NO IMPACT

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 if they have limited distributions or high wildlife value, include sensitive species, or are particularly susceptible to disturbance. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in CNDDB. Similar to special-status plant 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.

According to the CNDDB, no sensitive or riparian habitats occur within the project site, and none were observed during the field reconnaissance survey. Project construction activities would be limited to the ROW of Jefferson Avenue. Therefore, the proposed project would not 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 CDFW or USFWS. No impact would occur.

NO IMPACT

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?

No state or federally protected wetlands occur within the survey area; however, two drainages occur under the project site, north of the intersection of Larchmont Lane and Jefferson Avenue. Both are culverted and enclosed with concrete casing. The proposed project would protect these culverts in place and would not result in modifications to these features. In addition, as discussed

further under threshold 10(a) in Environmental Checklist Section 10, *Hydrology and Water Quality*, compliance with the water quality and erosion control provisions of the NPDES Construction General Permit and associated Stormwater Pollution Prevention Plan (SWPPP) would minimize any potential indirect impacts to these features during construction activities. Therefore, the project would have a less than significant impact on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means.

LESS-THAN-SIGNIFICANT IMPACT

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?

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 project site is comprised of Jefferson Avenue, which does not support wildlife movement or habitat linkages. The developed nature of the project site and frequent vehicle traffic contributes to habitat fragmentation, disrupting any wildlife movement through the project site between habitats linkages. Once construction is complete, the project site would be restored to pre-project conditions. As such, the proposed project would not contribute to the loss of local wildlife movement beyond existing conditions. Therefore, the project would not 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, and no impacts would occur.

NO IMPACT

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

Section 16.42.050 of the Murrieta Municipal Code defines protected trees as follows:

"*Any tree required to be planted or preserved as environmental mitigation, or condition of approval for a discretionary permit. A protected tree is any of the following: mature native oak tree, mature native tree, mature tree, or a historically significant tree.*"

No trees occur within the project site. Therefore, the proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and no impact would occur.

NO IMPACT

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 city of Murrieta is within the boundaries of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) but is not within the boundaries of a Stephen's Kangaroo Rat Habitat Conservation Plan area. The MSHCP is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on conservation of species and their associated habitats in Western Riverside County. The MSHCP serves as a habitat conservation plan pursuant to Section 10 (a)(1)(B) of the Federal Endangered Species Act as well as a natural communities conservation plan under the California Natural Community Conservation Planning Act of 1991. The MSHCP is one of several large, multi-jurisdictional habitat planning efforts in Southern California that identify priority areas for conservation and other areas for future development. The MSHCP Plan Area encompasses approximately 1.26 million acres (1,966 square miles); it includes all of unincorporated Riverside County west of the crest of the San Jacinto Mountains to the Orange County line as well as the jurisdictional areas of several local municipalities (County of Riverside 2003).

The MSHCP identifies Biological Core and Linkage Areas as those areas determined biologically valuable for inclusion in the regional preserve system (Exhibit 8-3, MSHCP Area Plans and Subunits). Biological Core and Linkage Areas were designed to conserve sensitive species and corridors between areas of high-quality habitat and to provide avenues for wildlife movement between these areas. Warm Springs and Murrieta Creek are important natural features within the city that are identified under the MSHCP as potential linkages between core areas; however, neither of these features occurs within or adjacent to the project site (County of Riverside 2003).

No special-status species covered under Sections 6.1.2 (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools) and 6.1.3 (Protection of Narrow Endemic Plant Species) of the MSHCP have potential to occur within the survey area due to the developed land uses and high level of disturbance within the project site. The survey area includes an existing paved road that supports a high level of regular vehicle traffic and therefore would not conflict with the policies of Section 6.1.4 (Guidelines Pertaining to the Urban/Wildlands Interface) of the MHSCP. Section 6.3.2 (Additional Survey Needs and Procedures of the MSHCP) of the MSHCP requires additional surveys and procedures to identify species listed in Sections 6.1.2 and 6.1.3 if suitable habitat occurs within the survey area. The survey area does not occur within any Criteria Area Species Survey Area or on any Special Linkage Area within the Western Riverside County Regional Conservation Authority MSHCP Information Map (2024), and the survey area is classified as developed lands within the MSHCP (Figure 6-2, Section 6.3.2 of the MSHCP). The proposed project also would not conflict with criteria cells mapped by the MSHCP because the survey area does not occur within a criteria cell. Although no survey areas or criteria cells occur within the project limits, the property adjacent to the survey area northeast of Elm Street is within a designated burrowing owl survey area. Nevertheless, no suitable habitat occurs within the survey area; therefore, the proposed project would not conflict with Section 6.3.2 of the MHSCP.

The MSHCP identifies 78 covered species (37 plants and 41 animals), which are provided take authorization under the MSHCP. The federal action addressed in the MSHCP is the issuance of incidental take permits for all species on the covered species list, whether they currently are listed or are to be listed in the future. No species identified under the MSHCP are expected to occur within the project site. The property adjacent to the project alignment is within a sensitive species survey area for burrowing owl. However, project construction activities would be limited to the public ROW of Jefferson Avenue and would not encroach on this property. In addition, project construction

activities adjacent to this property would constitute a similar level of disturbance as existing road conditions. Construction equipment would be staged within the ROW of Jefferson Avenue as well as on private properties in the project site vicinity, and off-site construction staging would only occur on paved surfaces and would not occur on this adjacent property. Therefore, the proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No impact would occur.

NO IMPACT

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?	☐	☐	☐	■
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	■	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	■	☐

The following analysis is based on the Cultural Resources Assessment prepared for the project by Rincon Consultants, Inc. in June 2024.

On March 28, 2024, Rincon conducted a California Historical Resources Information System (CHRIS) records search at the Eastern Information Center, which is the official state repository for cultural resources records and reports for Riverside County. The purpose of the records search was to identify previous cultural resources studies and previously recorded cultural resources within the project site and a 0.5-mile radius. Rincon also reviewed the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Historical Landmarks list, and the Built Environment Resources Directory, as well as its predecessor the California State Historic Property Data File. In addition, Rincon reviewed the Archaeological Determination of Eligibility list. A pedestrian survey of the project site was conducted on April 19, 2024, and no cultural resources were identified during the field survey.

The CHRIS records search identified 36 cultural resources studies that have been previously conducted within the 0.5-mile records search radius, three of which include a portion of the project site. The CHRIS records search also identified 19 previously recorded cultural resources within the 0.5-mile records search radius, none of which occur within the project site. However, the CHRIS records search identified six previously recorded cultural resources within 0.05 mile (260 feet) of the project site, including four prehistoric sites (P-33-001004, P-33-008757, P-33-011086, and P-33-012709) and two historic built environment resources (P-33-007445 and P-33-007446).

Rincon contacted the Native American Heritage Commission (NAHC) on March 19, 2024, to request a search of the Sacred Lands File (SLF). On April 4, 2024, the NAHC responded to Rincon's Sacred Lands File request, stating the results of the SLF search were positive. Potential project impacts to tribal cultural resources are discussed in Environmental Checklist Section 18, *Tribal Cultural Resources.*

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

A historical resource is defined as a resource listed in, or determined to be eligible for listing in, the CRHR; a resource included in a local register of historical resources; or any object, building, structure, site, area, place, record, or manuscript a lead agency determines to be historically significant (CEQA Guidelines Section 15064.5[a][1-3]). To more clearly differentiate between archaeological and built environment resources, the analysis of potential impacts to historical resources under this threshold is limited to built environment resources. Archaeological resources, including those that may be considered historical resources pursuant to CEQA Guidelines Section 15064.5 and those that may be considered unique archaeological resources pursuant to Public Resources Code (PRC) Section 21083.2, are considered under threshold 5(b).

No previously recorded historical resources are recorded within the project site. The two historic built environment resources identified by the CHRIS records search as adjacent to the project site include P-33-007445 (the Merrill House, built circa 1900 at 25679 Jefferson Avenue) and P-33-007446 (the Raleigh Brown House, built circa 1910 to 1912 at 25751 Jefferson Avenue). These two historic resources have not been evaluated for eligibility for the NRHP or CRHR but are listed on the City's Historic Resources Inventory. Although the properties for the two historic built environment resources are recorded as directly adjacent to the project site, none of the associated buildings remain.

The project site is entirely within the public ROW of Jefferson Avenue, a paved road, and would not directly alter either the Merrill House at 25679 Jefferson Avenue or the Raleigh Brown House at 25751 Jefferson Avenue, particularly because no built environment features associated with the two historic resources are present. Therefore, the project would not cause a substantial adverse change in the significance of a historical resource, and no impact would occur.

NO IMPACT

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

PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological 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 that it:

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; or
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If it can be demonstrated that a project would 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]).

The Cultural Resources Assessment did not identify archaeological resources within the project site as a result of the records search, Sacred Lands File search, or pedestrian survey. However, the

records search identified four prehistoric resources (P-33-001004, P-33-008757, P-33-011086, and P-33-012709) adjacent to the project site. Resources P-33-001004 and P-33-011086 may extend outside of their recorded boundaries and have been heavily disturbed by agricultural and residential development. Both of these resources do not appear to have been previously evaluated for the CRHR, NRHP, or for local designation. Resource P-33-008757 has been heavily disturbed by the construction of Jefferson Avenue and was recommended not eligible for the NRHP or CRHR in 2007. The report for resource P-33-012709 was unavailable for review.

The project site is underlain by older alluvial sediments deposited during the Pleistocene period (2.58 million to 11,700 years ago), which largely pre-dates human occupation of the region and is generally not conducive to the natural burial and preservation of archaeological deposits. The four soil series mapped within the project site do not contain subsurface topsoil, which would indicate potential for the presence of subsurface archaeological deposits. Additionally, the project site has been heavily disturbed since the late 19th to early 20th centuries by grading, agricultural use, residential and commercial development, and the development of Jefferson Avenue. Regardless of the level of disturbances and the geologic and natural setting of the project site, the cultural sensitivity of the area is increased due to its proximity of two main fresh water sources (Murrieta Creek and Warm Springs Creek) and mineral-rich hot springs approximately two miles northeast of the project site, which was an important location for indigenous peoples. The lack of surface evidence of archaeological materials does not preclude their subsurface existence. However, the absence of substantial prehistoric or historic-period archaeological remains within the immediate vicinity, along with the existing level of disturbance in the project site, suggest there is a low potential for encountering intact subsurface archaeological deposits.

Nevertheless, based on the presence of both prehistoric and historic archaeological resources nearby, the project site is considered sensitive for archaeological resources, and it is always possible that unknown archaeological materials may be encountered during project construction. If these materials constitute unique archaeological resources under CEQA, disturbance of these resources could result in a substantial adverse change in the significance of an archaeological resource. Therefore, impacts would be potentially significant, and implementation of Mitigation Measures CUL-1 through CUL-5 would be required.

Mitigation Measures

For the purpose of the following measures, the term “Consulting Tribe” refers to the Pechanga Band of Indians.

CUL-1 Cultural Resources Monitoring and Discovery Plan

A qualified archaeologist who meets or exceeds the Secretary of the Interior’s Professional Qualifications Standards for Archaeology (National Park Service 1983) shall develop a Cultural Resources Monitoring and Discovery Plan (CRMDP), prior to the commencement of project-related ground-disturbing activities. The Consulting Tribe shall be afforded the opportunity to review and comment on the CRMDP prior to its approval and implementation. Western Water shall review and approve the CRMDP, which shall be included as part of the construction plans and specifications and implemented by the construction contractor. The CRMDP shall be developed to address potential impacts to the portions of known cultural resources (e.g., P-33-001004, P-33-008757, P-33-011086, P-33-012709) located adjacent to the project site in the event of an archaeological find during construction. The CRMDP shall include the monitoring methods to be used during ground disturbing activities, stop work protocols in the event of a discovery, detailed treatment methods and

discovery protocols, and treatment methods for avoidance, relocation, and data recovery of any prehistoric site constituents of known cultural resources (e.g., P-33-001004, P-33-008757, P-33-011086, and P-33-012709), if necessary. The CRMDP shall also specify:

- Monitoring methods within resource boundaries
- Stop-work authority and procedures
- Protocol for recovery of artifacts, features, and soil samples
- The type of equipment and methods, both mechanical and hand, that shall be used to conduct excavations
- Types and level of analysis to be conducted on site constituents
- Final disposition of any artifacts or samples

CUL-2 Cultural Resources Sensitivity Meeting

Prior to the commencement of project-related ground-disturbing activities, including, but not limited to, site clearing, grubbing, trenching, and excavation, and as-needed during project construction, the qualified archaeologist retained by Western Water, along with Tribal Monitors from Consulting Tribe, shall provide a Cultural Resources Sensitivity Meeting for the construction contractor, subcontractors, and construction workers participating in ground-disturbing activity for project development. At this meeting, the project archeologist and Tribal monitors shall describe the potential of exposing archaeological resources, types of cultural materials that may be encountered, and directions on the steps that shall be taken if such a find is encountered. This meeting may be held alongside other environmental training programs required prior to construction, such as a Worker Environmental Awareness Program or can be held during the preconstruction meeting scheduled for the project. A Cultural Resources Sensitivity Meeting acknowledgment form shall be signed by workers who attended and provided to Western Water to retain.

CUL-3 Archaeological Monitoring

Archaeological monitoring shall be performed during project excavation under the direction of a qualified archaeologist retained by Western Water. During monitoring, the monitor shall examine the work areas for the presence of prehistoric artifacts (e.g., chipped stone tools and production debris, stone milling tools, ceramics), historic-period debris (e.g., metal, glass, ceramics), and/or soil discoloration that might indicate the presence of a cultural midden. The archaeological monitor shall maintain a daily log documenting ground disturbing activity, work locations, description and provenance of any archaeological discoveries (if any), and any necessary action items for monitoring. The archaeological monitor shall have the authority to halt and redirect work shall any archaeological resources be identified during monitoring. If archaeological resources are encountered during ground-disturbing activities, the procedures prescribed in Mitigation Measure CUL-5 shall be implemented.

Archaeological monitoring may be reduced or terminated in consultation with Western Water, as warranted by conditions such as encountering bedrock, the presence of fill soil, or negative findings during initial ground disturbance. If archaeological monitoring is reduced to spot-checking, spot-checking shall occur when ground disturbance moves to a new location or when ground disturbance will extend to depths not previously excavated (unless those depths are within bedrock).

CUL-4 Phase IV Report

Prior to final inspection, the Qualified Archeologist shall prepare a Phase IV Cultural Resources Monitoring Report that shall comply with any relevant requirements outlined in the CRMDP prepared pursuant to Mitigation Measure CUL-1 and include evidence of the Cultural Resources Sensitivity Meeting held pursuant to Mitigation Measure CUL-2. Western Water shall review and approve the report. Once the report is approved by Western, one copy shall be submitted to the appropriate CHRIS Information Center and one copy shall be submitted to the Consulting Tribe.

CUL-5 Unanticipated Discovery of Cultural Resources

If during ground disturbance activities, unique cultural resources as defined in the CRMDP prepared pursuant to Mitigation Measure CUL-1 are discovered that were not assessed by the Cultural Resources Assessment conducted prior to Project approval, the following procedures shall be implemented in accordance with the CRMDP. Tribal cultural resources are excluded from the definition of unique cultural resources as those resources are defined by the tribal values ascribed to them by their affiliated communities, as described in PRC Section 21074. Treatment of tribal cultural resources inadvertently discovered during ground-disturbing activities that meet the requirements outlined in PRC Section 21074 shall be subject to the consultation process required by state law and AB 52.

- In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work within 100 feet of the find shall halt and the qualified archaeologist retained pursuant to Mitigation Measure CUL-3, along with Tribal Monitor(s) retained pursuant to Mitigation Measure TCR-1, shall immediately evaluate the resource.
- If the resource is determined to be potentially significant, then the project archeologist, Consulting Tribe, and Western Water shall coordinate a meeting to discuss the significance of the find.
- At the meeting, the significance of the discoveries shall be discussed, and after consultation with the Tribal Representative(s) and the qualified archaeologist, a decision shall be made, with the concurrence by Western Water, as to the appropriate mitigation (documentation, recovery, avoidance, etc.) for the cultural resources, as defined in the CRMDP prepared pursuant to Mitigation Measure CUL-1.
- Treatment and avoidance of the newly-discovered resource(s) shall be consistent with the CRMDP prepared pursuant to Mitigation Measure CUL-1 and the Tribal Monitoring Agreement(s) entered into with the Consulting Tribe pursuant to Mitigation Measure TCR-1. This may include avoidance of the cultural resources through project design, in-place preservation of cultural resources located in native soils, and/or re-burial within the immediate vicinity so they are not subject to further disturbance in perpetuity as identified in Mitigation Measure TCR-2. If avoidance is infeasible, then treatment shall be implemented pursuant to the CRMDP. Western Water shall make the final determination based on the provisions of CEQA with respect to archaeological resources, recommendations of the qualified archeologist, and the cultural and religious principles and practices of the Tribe.
- Further ground disturbance, including but not limited to grading and trenching, shall not resume within the area of the discovery until the appropriate mitigation has been implemented pursuant to the CRMDP. Work shall be allowed to continue outside of the 100-foot buffer area and shall be monitored by additional archaeological and Tribal monitors, if necessary.

- If the resource proves to be eligible for the CRHR and significant impacts to the resource cannot be avoided via project redesign, a qualified archaeologist in coordination with the consulting Tribe(s) shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource, pursuant to the requirements of the CEQA Guidelines Section 15126.4(b)(3)(C). The data recovery plan shall identify data recovery excavation methods, measurable objectives, and data thresholds to reduce any significant impacts to cultural resources related to the resource. Western Water and the Consulting Tribe shall review and approve the treatment plan and archaeological testing as appropriate, and the resulting documentation shall be submitted to the regional repository of the CHRIS pursuant to CEQA Guidelines Section 15126.4(b)(3)(C).
- Evidence of compliance with this mitigation measure, if a significant archaeological resource is found, shall be provided to Western Water, the appropriate CHRIS Information Center, and the Consulting Tribe, and the Rincon Band of Luiseno Indians upon completion of the Phase IV report detailing the significance of the resource and treatment findings.

Significance After Mitigation

Mitigation Measures CUL-1 through CUL-5 would minimize potential impacts to unanticipated discoveries of archaeological resources by requiring a CRMDP, a cultural resources sensitivity meeting for construction personnel, archaeological monitoring of ground disturbing activities, preparation of a Phase IV report, and implementation of appropriate procedures for evaluation and treatment of any discoveries made during construction. Therefore, implementation of Mitigation Measures CUL-1 through CUL-5 would reduce impacts to archaeological resources to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

No human remains are known to be present within the project site. However, the discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, California Health and Safety Code Section 7050.5 states 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 by Western Water. If the human remains are determined to be of Native American origin, the Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, Western Water shall reinter the remains in an area of the property secure from subsequent disturbance. With adherence to existing regulations, impacts to human remains would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than - Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	■	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	■

As a state, 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 ([U.S. Energy Information Administration] EIA 2021). Electricity and natural gas are primarily consumed by the built environment for lighting, appliances, heating and cooling systems, fireplaces, and other uses such as industrial processes in addition to being consumed by alternative fuel vehicles. The proposed project does not include natural gas connections and would not result in a net increase in electricity usage in Western Water's or RCWD's service areas beyond that analyzed in the City's General Plan Update Supplemental Environmental Impact Report, as the project would be in furtherance of growth already anticipated in the City's General Plan. Therefore, electricity and natural gas consumption are not discussed further in this analysis.

Petroleum fuels are primarily consumed by on-road and off-road equipment in addition to some industrial processes, with California being one of the top petroleum-producing states in the nation (EIA 2021). Gasoline, which is used by light-duty cars, pickup trucks, and sport utility vehicles, is the most used transportation fuel in California with 13.6 billion gallons sold in 2022 (California Energy Commission 2022a). Diesel, which is used primarily by heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles, is the second most used fuel in California with 3.6 billion gallons sold in 2022 (California Energy Commission 2022b).

Energy consumption is directly related to environmental quality in that the consumption of nonrenewable energy resources releases criteria air pollutant and GHG emissions into the atmosphere. The environmental impacts of air pollutant and GHG emissions associated with the project's energy consumption are discussed in detail in Environmental Checklist Section 3, *Air Quality*, and Section 8, *Greenhouse Gas Emissions*, respectively.

Methodology

Energy consumption estimates for construction and operation of the proposed project were calculated based on information provided by the project engineer and as described under *Description of Project*. Worksheets used to calculate energy consumption for the proposed project are included as Appendix C.

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

During project construction, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, hauling of materials, and construction worker travel to and from the project site. Total consumption of gasoline and diesel fuel during project construction was estimated using the assumptions and factors from the air pollutant and GHG emissions modeling in CalEEMod (refer to Appendix A; for energy calculations, refer to Appendix C). Table 7 presents estimated energy consumption during project construction. As shown therein, construction equipment and haul trips are anticipated to consume approximately 23,307 gallons of diesel fuel, and construction worker trips are anticipated to consume approximately 2,929 gallons of gasoline.

Table 7 Estimated Fuel Consumption during Construction

	Fuel Consumption (gallons)	
Source	**Gasoline**	**Diesel**
Construction Equipment & Hauling Trips	--	23,307
Construction Worker Vehicle Trips	2,929	--

See Appendix C for energy calculation sheets.

Energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of Title 13 California Code of Regulations Sections 2449 and 2485, which prohibit off-road diesel vehicles and diesel-fueled commercial motor vehicles, respectively, from idling for more than five minutes and would minimize unnecessary fuel consumption. Construction equipment would be subject to the United States Environmental Protection Agency Construction Equipment Fuel Efficiency Standard, and water and haul trucks would be subject to the California Air Resources Board Advanced Clean Trucks regulation, both of which would also minimize inefficient, wasteful, or unnecessary fuel consumption. These regulations would result in the efficient use of energy necessary to construct the project. Furthermore, in the interest of cost-efficiency, construction contractors would not be anticipated to utilize fuel in a manner that is wasteful or unnecessary. Therefore, project construction would not result in wasteful, inefficient, or unnecessary consumption of energy resources and no impact would occur.

Project operation would include inspection and maintenance of the pipeline and meter vault by Western Water and RCWD staff approximately once to twice a year (generating one to two new staff trips annually) and would not result in any increased electricity, diesel, or natural gas use. Vehicle trips to and from the project site for operation and maintenance activities would result in a negligible increase in gasoline consumption. Therefore, project operation would have a less than significant impact involving the wasteful, inefficient, or unnecessary consumption of energy resources.

LESS-THAN-SIGNIFICANT IMPACT

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

Western Water has not adopted any renewable energy or energy efficiency plans with which the project could comply. In addition, no state plans for renewable energy or energy efficiency would apply to the project. Therefore, no impact would occur.

NO IMPACT

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7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than - Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial 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?	☐	☐	■	☐
2. Strong seismic ground shaking?	☐	☐	■	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	■	☐
4. Landslides?	☐	☐	☐	■
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	■	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	■
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	■
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	■	☐	☐

The following analysis is based upon the conclusions and recommendations of the Geotechnical Report for the Jefferson Avenue Interconnection Project, prepared by AESCO in May 2024, and included as Appendix D.

a.1. Would the project directly or indirectly cause potential substantial 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?

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Like much of California, the project site is located in a seismically active region. The United States Geological Survey defines active faults as those that have had surface displacement within the Holocene period (approximately the last 11,000 years). Potentially active faults are those that have had surface displacement during the last 1.6 million years, and inactive faults have not had surface displacement within that period. The entirety of the project site is located in a mapped Alquist-Priolo Fault Zone associated with the Wildomar Fault Line (Department of Conservation [DOC] 2024a).

The project involves construction of water infrastructure and would not involve placement of habitable structures, thereby minimizing the potential to result in loss, injury, or death involving fault rupture and strong seismic ground-shaking. Because most of California is susceptible to strong ground shaking from severe earthquakes and the project's location within an earthquake fault zone, construction of the project could expose project infrastructure to strong seismic ground shaking. A large seismic event, such as a fault rupture, seismic shaking, or ground failure could result in breakage of the proposed pipeline, failure of joints, and/or underground leakage from the pipeline. Western Water would incorporate the recommendations outlined in the project-specific geotechnical engineering report (Appendix D) into the project design and construction plans to reduce seismic hazards. As such, design and construction of the proposed project would consider the seismic environment and would comply with applicable seismic design standards. Therefore, the project would not increase or exacerbate fault rupture or seismic ground shaking hazards at adjacent properties. In the event fault rupture or seismic ground shaking compromises the pipelines or facilities during operation, RCWD would temporarily shut-off water conveyance processes, and Western Water or RCWD would conduct emergency repairs as soon as practicable. Therefore, the project would have a less than significant impact regarding the risk of loss, injury, or death involving rupture of a known earthquake fault or strong seismic ground shaking.

LESS-THAN-SIGNIFICANT IMPACT

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Liquefaction is the sudden loss of soil shear strength due to a rapid increase of soil pore water pressures caused by cyclic loading from a seismic event. This means a liquefied soil acts more like a fluid than a solid when shaken during an earthquake. A small portion of the project alignment near the intersection of Jefferson Avenue and Larchmont Lane is located in a liquefaction zone and the entire project site is within 0.25 mile of a mapped liquefaction zone (DOC 2024a). Soils therefore have the potential to liquefy during a seismic event, and seismically-induced liquefaction could potentially damage the proposed pipeline in the event of an earthquake, resulting in joint failure or

leakage from the pipeline. As discussed under thresholds 7(a.1) and 7(a.2), the project would be constructed in accordance with the recommendations outlined in the project-specific geotechnical engineering report (Appendix D) into the project design and construction plans to reduce seismic hazards. As such, design and construction of the proposed project would consider the seismic environment and would comply with applicable seismic design standards. In the event seismically-induced liquefaction compromises the pipeline during operation, RCWD would temporarily shut-off water conveyance processes, and Western Water or RCWD would conduct emergency repairs as soon as practicable. In addition, the project would not exacerbate the risk of liquefaction on the project site. As a result, the proposed project would have a less than significant impact regarding the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.

LESS-THAN-SIGNIFICANT IMPACT

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The project site is located in a relatively flat area that is not within an earthquake-induced landslide hazard zone (DOC 2024a). The nearest mapped landslide zone is located less than 0.25 mile east of Jefferson Avenue, north of Larchmont Lane. Therefore, the project would no impact regarding the risk of loss, injury, or death involving landslides.

NO IMPACT

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

Soil erosion or the loss of topsoil may occur when soils are disturbed but not secured or restored, such that wind or rain events may mobilize disturbed soils, resulting in their transport off the project site. Project construction and grading would result in exposure and disturbance of soils that could be subject to erosion during wind and rain events. However, the project would be subject to compliance with the requirements of the NPDES Construction General Permit (Order No. 2022-0057-DWQ). The Construction General Permit requires the preparation and implementation of a SWPPP to reduce erosion and topsoil loss from stormwater runoff during construction activities. Compliance with the requirements set forth in this permit would require the construction contractor(s) to implement best management practices (BMPs) for erosion control during construction, as necessary. With adherence to the requirements of the Construction General Permit, the project would have a less than significant impact involving substantial soil erosion or loss of topsoil.

No substantial erosion or loss of topsoil would occur from project operation because the project would restore ground surfaces to pre-project conditions.

LESS-THAN-SIGNIFICANT IMPACT

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

Although the proposed project would be located in a seismically active area, the project would not adversely affect soil stability or increase the potential for local or regional landslides or liquefaction. During construction, trench spoils would be temporarily stockpiled within the construction staging and storage area, then used to backfill the trench after pipeline placement; backfilling would be conducted to meet proper compaction requirements. The project also does not include activities

with the potential to result in subsidence, such as oil extraction, or with the potential to result in lateral spreading and liquefaction, such as shallow groundwater injection. Although a small portion of the project alignment near the intersection of Jefferson Avenue and Larchmont Lane is located in a liquefaction zone and the entire project site is within 0.25 mile of a mapped liquefaction zone (DOC 2024a), the project would incorporate the recommendations outlined in the project-specific geotechnical engineering report (Appendix D) into the project design or construction plans to reduce liquefaction hazards. Therefore, the project would result in less than significant impacts involving on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse due to unstable geologic units or soils.

LESS-THAN-SIGNIFICANT IMPACT

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

The project site contains soils composed of primarily Grangeville fine sandy loam (GtA) in the southern portion of the project site, Greenfield sandy loam (GyC2) and Monserate sandy loam (MmC2 and MnE3) within the central portion of the project site, and Monserate sandy loam (MnD2) and Hanford coarse sandy loam (HcC) in the northern area of the project site (California Soil Resource Lab 2024). Due to the lack of clay content of the on-site soils, the potential for expansive soils to occur is low. Therefore, the proposed project would not create substantial direct or indirect risks to life or property as a result of expansive soils. No impact would occur.

NO 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 does not involve the use of septic tanks or alternative wastewater disposal systems. As a result, no impact would occur.

NO IMPACT

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

Paleontological resources, or fossils, are the evidence of once-living organisms preserved in the rock record. They include both the fossilized remains of ancient plants and animals and the traces thereof (e.g., trackways, imprints, burrows, etc.). Paleontological resources are not found in “soil” but are contained within the geologic deposits or bedrock that underlies the soil layer. Typically, fossils are greater than 5,000 years old (i.e., older than middle Holocene in age) and are typically preserved in sedimentary rocks. Although rare, fossils can also be preserved in volcanic rocks and low-grade metamorphic rocks under certain conditions (Society of Vertebrate Paleontology [SVP] 2010). Fossils occur in a non-continuous and often unpredictable distribution within some sedimentary units, and the potential for fossils to occur within sedimentary units depends on several factors. It is possible to evaluate the potential for geologic units to contain scientifically important paleontological resources and to therefore evaluate the potential for impacts to those resources during ground disturbing activities.

Rincon evaluated the paleontological sensitivity of the geologic units that underlie the project site to assess the project’s potential for significant impacts to scientifically important paleontological

resources. The analysis was based on the results of a paleontological locality search and a review of existing information in the scientific literature regarding known fossils within geologic units mapped at the project site. Following the literature review, a paleontological sensitivity classification was assigned to each geologic unit mapped within the project site. According to the SVP (2010) classification system, geologic units can be assigned a high, low, undetermined, or no potential for containing scientifically significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrate or invertebrate fossils have been determined by previous studies to be present or likely to be present. The potential for impacts to significant paleontological resources is based on the potential for ground disturbance to directly impact paleontologically-sensitive geologic units.

The project site is situated in the Peninsular Ranges, one of the eleven major geomorphic provinces in California (California Geological Survey 2002). In general, the Peninsular Ranges consist of northwest-southeast trending mountain ranges and faults (Norris and Webb 1976). These mountains are generally comprised of Mesozoic to Cenozoic plutonic and extrusive igneous and Cretaceous marine sedimentary rocks. The Peninsular Ranges province also contains sedimentary basins, such as the Los Angeles Basin, which have accumulated thick sequences of Cenozoic marine and terrestrial sedimentary rocks.

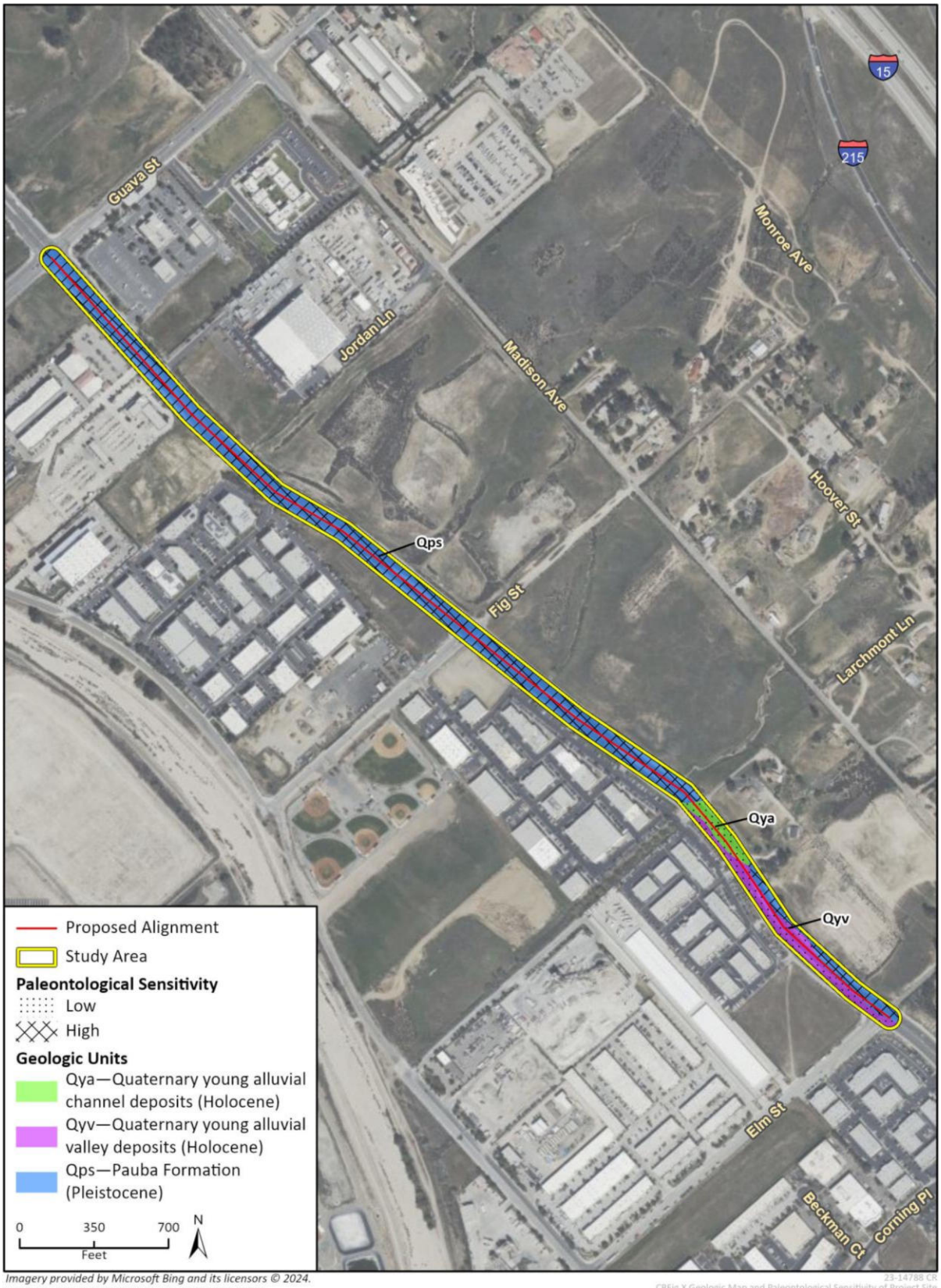
The project is located in the *Murrieta, California* United States Geological Survey 7.5-minute topographic quadrangle. The geology of the region surrounding the project site was mapped by Kennedy et al. (2003) and Morton and Miller (2006) who identified three geologic units - Quaternary young alluvial channel deposits, Quaternary young alluvial valley deposits, and Pauba Formation - underlying the project site (Figure 3).

Rincon requested a paleontological records search of the Western Science Center on April 15, 2024, to identify known fossil localities within the project site or nearby localities from the same geologic units that underlie the project site. This records search recovered no known fossil localities within the project site (Stoneburg 2024). However, there are several known fossil localities within one mile of the project site in the same geologic units that underlie the project site that have produced taxa such as mammoth (*Mammuthus*), ground sloth (*Paramylodon*), and horse (*Equus*).

As shown in Figure 3, the Pauba Formation underlies the majority of the project site. The Pauba Formation is lithologically variable, but within the project site, it consists of brown cross-bedded sandstone with occasional conglomerate beds (Kennedy et al. 2003). The Pauba Formation has produced numerous paleontological resources in Riverside County, including mammoth (*Mammuthus*), mastodon (*Mammut*), ground sloth (*Paramylodon*), saber-toothed cat (*Smilodon*), tapir (*Tapirus*), camel (*Camelops*, *Hemiauchenia*), other mammals, reptiles, birds, and invertebrates (Jefferson 2010; Paleobiology Database 2024; Stoneburg 2024). Therefore, the Pauba Formation has high paleontological sensitivity.

As shown in Figure 3, Quaternary young alluvial channel deposits and Quaternary young alluvial valley deposits underlie small portions of the southeastern part of the project site. Both Quaternary young alluvial channel deposits and Quaternary young alluvial channel deposits consist of unconsolidated clay, silt, and sand and are Holocene in age (Kennedy et al. 2003). Holocene-aged sediments, such as Quaternary young alluvial channel deposits and Quaternary young alluvial channel deposits, are generally considered too young (i.e., less than 5,000 years old) to preserve paleontological resources (SVP 2010). However, Holocene-aged sediments may be underlain in the subsurface by older, potentially high-sensitivity sediments. Given the proximity of surficial exposures of the high-sensitivity Pauba Formation, this transition depth is likely quite shallow for the Holocene-aged sediments within the project site, perhaps as little as three feet. Therefore,

Figure 3 Geologic Map and Paleontological Sensitivity of Project Site



Imagery provided by Microsoft Bing and its licensors © 2024.
Geologic data provided by Morton and Miller, 2006.

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CRFig X Geologic Map and Paleontological Sensitivity of Project Site

Quaternary young alluvial channel deposits and Quaternary young alluvial valley deposits have low paleontological sensitivity from the surface to three feet below the surface and high paleontological sensitivity greater than three feet below the surface.

Ground-disturbing activities within previously undisturbed sediments with high paleontological sensitivity could result in significant impacts to paleontological 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. Ground-disturbing activities for this project are anticipated to include open-cut trenching, which would reach up to 12 feet below the surface, to install the new pipeline. Therefore, previously undisturbed portions of the highly-sensitive Pauba Formation would be impacted, and potentially significant impacts to paleontological resources, if present, could occur. Implementation of Mitigation Measure GEO-1 would be required.

Mitigation Measure

GEO-1 Paleontological Resources Monitoring and Mitigation

Prior to the start of ground-disturbing construction activities (e.g., trenching, excavation), Western Water shall retain a Qualified Professional Paleontologist who meets the following requirements, as defined by the SVP (2010):

- A graduate degree in paleontology or geology and/or a publication record in peer-reviewed journals and demonstrated competence in field techniques, preparation, identification, curation, and reporting in the state or geologic province in which the project occurs.
- At least two full years professional experience as assistant to a Project Paleontologist with administration and project management experience supported by a list of projects and referral contacts.
- Proficiency in recognizing fossils in the field and determining their significance.
- Expertise in local geology, stratigraphy, and biostratigraphy.
- Experience collecting vertebrate fossils in the field.

The Qualified Professional Paleontologist shall direct implementation of the following measures during project construction:

- **Paleontological Worker Environmental Awareness Program.** Prior to the start of construction and as-needed during construction, the Qualified Professional Paleontologist or their designee shall conduct a paleontological Worker Environmental Awareness Program training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction personnel.
- **Paleontological Monitoring.** Full-time paleontological monitoring shall be conducted during all project-related ground-disturbing activities, including, but not limited to, site clearing, grubbing, trenching, and excavation, within previously undisturbed sediments in areas mapped as the Pauba Formation and during ground-disturbing construction activities within previously undisturbed sediments exceeding three feet in depth in areas mapped as Quaternary alluvial channel deposits and Quaternary alluvial valley deposits. Paleontological monitoring shall be conducted by a paleontological monitor with experience with collection and salvage of paleontological resources and who meets the following minimum standards of the SVP (2010) for a Paleontological Resources Monitor:

- BS or BA degree in geology or paleontology and one year experience monitoring in the state or geologic province of the specific project. An associate degree and/or demonstrated experience showing ability to recognize fossils in a biostratigraphic context and recover vertebrate fossils in the field may be substituted for a degree; or
- AS or AA in geology, paleontology, or biology and demonstrated two years of experience collecting and salvaging fossil materials in the state or geologic province of the specific project; or
- Enrollment in upper division classes pursuing a degree in the fields of geology or paleontology and two years of monitoring experience in the state or geologic province of the specific project.
- Monitors must demonstrate proficiency in recognizing various types of fossils, in collection methods, and in other paleontological field techniques.

The Qualified Professional Paleontologist may recommend that monitoring be reduced in frequency or ceased entirely based on geologic observations. Such decisions shall be subject to review and approval by Western Water.

- **Unanticipated Fossil Discovery.** In the event of a fossil discovery by the paleontological monitor or construction personnel, all construction activity within 50 feet of the find shall cease, and the Qualified Professional Paleontologist shall evaluate the find. If the fossil(s) is (are) not scientifically significant, then construction activity may resume. If it is determined that the fossil(s) is (are) scientifically significant, the following shall be completed:
  - **Fossil Salvage.** The paleontological monitor shall salvage (i.e., excavate and recover) the fossil to protect it from damage/destruction. Bulk matrix sampling may be necessary to recover small invertebrates or microvertebrates from within paleontologically-sensitive deposits. After the fossil(s) is (are) salvaged, construction activity may resume.
  - **Fossil Preparation and Curation**. Fossils shall be identified to the lowest (i.e., most-specific) possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the Qualified Professional Paleontologist.
- **Final Paleontological Mitigation Report.** Upon completion of ground-disturbing activities (or laboratory preparation and curation of fossils, if necessary), the Qualified Professional Paleontologist shall prepare a final report describing the results of the paleontological monitoring efforts. The report shall include a summary of the field and laboratory methods employed; an overview of project geology; and, if fossils were discovered, an analysis of the fossils, including physical description, taxonomic identification, and scientific significance. The report shall be submitted to the Western Water and, if fossil curation occurred, the designated scientific institution.

Significance after Mitigation

Implementation of Mitigation Measure GEO-1 would reduce potential impacts to paleontological resources to a less-than-significant level through the implementation of a Worker Environmental Awareness Program training, paleontological monitoring, and appropriate procedures for handling the recovery, identification, and curation of previously unrecovered fossils, if encountered during construction.

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

Overview of Climate Change and Greenhouse Gases

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 GHG emissions 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.

GHGs occur both naturally and as a result of human activities, such as fossil fuel burning, decomposition of landfill wastes, raising livestock, deforestation, and some agricultural practices. GHGs produced by human activities include carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Anthropogenic activities since the beginning of the industrial revolution (approximately 250 years ago) are adding to the natural greenhouse effect by increasing the concentration of GHGs in the atmosphere that trap heat. Since 1750, estimated concentrations of CO_2, methane, and nitrous oxide in the atmosphere have increased over by 36 percent, 148 percent, and 18 percent, respectively, primarily due to human activity (Forster et al. 2007). Emissions resulting from human activities are thereby contributing to an average increase in Earth's temperature. Potential climate change impacts in California may include loss of snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (State of California 2018).

Regulatory Framework

In response to climate change, California implemented AB 32, the "California Global Warming Solutions Act of 2006." AB 32 required the reduction of statewide GHG emissions to 1990 emissions levels (essentially a 15 percent reduction below 2005 emission levels) by 2020 and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. On September 8, 2016, Senate Bill 32 was signed into law, extending AB 32 by

requiring the State to further reduce GHG emissions to 40 percent below 1990 levels by 2030. AB 1279, the California Climate Crisis Act, was passed on September 16, 2022, and declares the State will achieve net zero GHG emissions as soon as possible, but no later than 2045, and will achieve and maintain net negative GHG emissions thereafter. In addition, the bill states the State will reduce GHG emissions by 85 percent below 1990 levels no later than 2045.

In response to the passage of AB 1279 and the identification of the 2045 GHG reduction target, California Air Resources Board published the Final 2022 Climate Change Scoping Plan in November 2022 (California Air Resources Board 2022). The 2022 Climate Change Scoping Plan builds upon the framework established by the 2008 Climate Change Scoping Plan and previous updates while identifying new, technologically feasible, cost-effective, and equity-focused path to achieve California's climate target. The 2022 Climate Change Scoping Plan includes policies to achieve a significant reduction in fossil fuel combustion, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

The 2022 Climate Change Scoping Plan assesses the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in Senate Bill 32 and laid out in the 2017 Scoping Plan, addresses recent legislation and direction from Governor Gavin Newsom, extends and expands upon these earlier plans, and implements a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045 as well as taking an additional step of adding carbon neutrality as a science-based guide for California's climate work. The 2022 Climate Change Scoping Plan approaches decarbonization from two perspectives - managing a phasedown of existing energy sources and technologies and increasing, developing, and deploying alternative clean energy sources and technology.

Significance Thresholds

Individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to significant cumulative effects, even if individual changes resulting from a project are limited. As a result, 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]).

To evaluate whether a project may generate a quantity of GHG emissions with the potential to have a significant impact on the environment, local air districts developed a number of bright-line significance thresholds, which are numeric mass emissions thresholds that identify the level at which additional analysis of project GHG emissions is necessary. If project emissions are equal to or below the significance threshold, with or without mitigation, the project's GHG emissions would be less than significant.

In September 2010, SCAQMD proposed a tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010). The draft tiered approach is outlined in meeting minutes dated September 29, 2010:

- **Tier 1.** If the project is exempt from further environmental analysis under existing statutory or categorical exemptions, there is a presumption of less-than-significant impacts with respect to climate change. If not, then the Tier 2 threshold should be considered.

- **Tier 2.** Consists of determining whether the project is consistent with a GHG reduction plan that may be part of a local general plan, for example. The concept embodied in this tier is equivalent to the existing concept of consistency in CEQA Guidelines Sections 15064(h)(3), 15125(d), and 15152(a). Under this tier, if a proposed project is consistent with the qualifying local GHG reduction plan, impacts related to GHG emissions are less than significant. If there is not an adopted plan, then the Tier 3 approach would be appropriate.
- **Tier 3.** Establishes a screening significance threshold level to determine significance. The Working Group has provided a recommendation of 3,000 MT CO_2e per year for nonindustrial projects.
- **Tier 4.** Establishes a service population threshold to determine significance. The Working Group has provided a recommendation of 4.8 MT CO_2e per person per year for land use projects.

Tier 1 would not apply to the proposed project because it is not exempt from environmental analysis. Tier 2 would not apply as Western Water has not adopted a qualified climate action plan. Therefore, for the purposes of this analysis, the bright-line threshold of 3,000 MT of CO_2e per year is considered to be the best available method for determining the significance of GHG emissions associated with the proposed project.[2]

Methodology

Calculations of CO_2, methane, and nitrous oxide emissions are provided to identify the magnitude of potential project effects from GHG emissions. The analysis focuses on CO_2, methane, and nitrous oxide because these make up 98 percent of all GHG emissions by volume and are the GHG emissions the project would emit in the largest quantities (Intergovernmental Panel on Climate Change 2023). Emissions of all GHGs are converted into their equivalent Global Warming Potential in terms of CO_2 (i.e., CO_2e). Minimal amounts of other GHGs (such as chlorofluorocarbons) would be emitted; however, these other GHG emissions would not substantially add to the total GHG emissions. GHG emissions associated with the project construction were calculated using CalEEMod, with the assumptions described in Environmental Checklist Section 3, *Air Quality* (refer to Appendix A). In addition, in accordance with SCAQMD's recommendation, GHG emissions from construction of the proposed project were amortized over a 30-year period (SCAQMD 2008).

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

Construction of the proposed project would generate temporary GHG emissions primarily as a result of operation of construction equipment at the project site, vehicles transporting construction workers to and from the project site, and heavy trucks to transport demolition debris, new materials, and soil import. As shown in Table 8, project construction would result in emissions of approximately 251 MT of CO_2e total, or 8.4 MT of CO_2e when amortized over a 30-year period pursuant to SCAQMD guidance. In addition, project operation would involve the inspection and maintenance of the pipeline and meter vault by Western Water and RCWD staff approximately once to twice a year, generating one to two new staff trips annually. GHG emissions associated with these vehicle trips would be negligible. Therefore, project-related GHG emissions would not exceed the threshold of 3,000 MT of CO_2e per year. As such, the project would have a less than significant

[2] Because the project would neither directly nor indirectly generate new population, comparison to a per capita or per service population threshold is not appropriate. In addition, because the project would not involve an industrial stationary source requiring SCAQMD permitting, this analysis conservatively uses the lower GHG threshold for development projects of 3,000 MT of CO_2e per year instead of the higher industrial GHG threshold of 10,000 MT of CO_2e per year.

impact involving the generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

Table 8 Estimated Construction GHG Emissions

	Project Emissions (MT of CO_2e)
Total Construction Emissions	251
Construction Emissions Amortized over 30 Years	8.4 per year
SCAQMD-Recommended Threshold	3,000 per year
Threshold Exceeded?	**No**

MT = metric tons; CO_2e = carbon dioxide equivalent; SCAQMD = South Coast Air Quality Management District
See Appendix A for CalEEMod results.

LESS-THAN-SIGNIFICANT IMPACT

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

Western Water does not have any specific GHG emission reduction plans, policies, or regulations with which the project could comply. Policies set forth in the 2022 Scoping Plan are not directly applicable because the proposed project does not include any stationary sources of GHG emissions. Project operation would require one to two staff vehicle trips annually to conduct inspection and maintenance activities, and GHG emissions associated with these trips would be negligible and short-term. In addition, as shown under threshold 8(a), the project would result in minor GHG emissions from construction compared to the applicable threshold, indicating the project's GHG emissions would not conflict with plans to reduce GHG emissions. Therefore, the project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and no impact would occur.

NO IMPACT

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?	☐	☐	■	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	■	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	☐	■
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?	☐	☐	☐	■
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?	☐	☐	☐	■
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	■	☐	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	■	☐

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

Project construction would involve the use of small quantities of potentially hazardous materials such as vehicle fuels and fluids. These materials would be contained within vessels specifically engineered for safe storage and would not be transported, stored, or used in quantities that would pose a significant hazard to the public or construction workers themselves. In addition, any use of potentially hazardous materials during construction of the proposed project would be required to comply with all local, state, and federal regulations regarding the handling of hazardous materials, including the Hazardous Material Transportation Act, Resource Conservation and Recovery Act, the California Hazardous Materials Management Act, and CCR Title 22, Division 4.5, which would minimize the potential for the project to create a significant hazard to the public or the environment. Operation and maintenance of the project would not include the use of hazardous materials. Therefore, the project would have a less than significant impact involving the creation of a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

LESS-THAN-SIGNIFICANT IMPACT

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?

Small quantities of hazardous materials used during project construction activities, including but not limited to ground-disturbing activities such as trenching, could result in an accidental upset or release of hazardous materials if they are not properly stored and secured. Hazardous materials used during project construction would be disposed of off-site in accordance with all applicable laws and regulations, including but not limited to the regulations of the federal and state Occupational Safety and Health Administrations. Additionally, project construction would require a SWPPP, which includes Good Housekeeping BMPs to reduce the risk of hazardous material spills or leaks. With adherence to the requirements of the SWPPP, project construction would have a less than significant impact involving the unanticipated spill or release of hazardous materials.

As discussed under threshold 9(a), operation and maintenance of the project would involve the conveyance of water and would not require the routine use, storage, or disposal of hazardous materials. No impacts related to the release of hazardous materials due to reasonably foreseeable upset or accident conditions during project operation would occur.

LESS-THAN-SIGNIFICANT IMPACT

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 no schools within 0.25 mile of the project site. Therefore, the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school, and no impact would occur.

NO IMPACT

d. Would the project 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?

The following databases compiled pursuant to Government Code Section 65962.5 were reviewed for known hazardous materials contamination within and adjacent to the project site:

- EnviroStor Database, California Department of Toxic Substances Control (DTSC)
- GeoTracker Database, SWRCB
- List of "active" Cease and Desist Orders and Cleanup and Abatement Orders, California Water Board
- Hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, DTSC

According to the database search, there are no known hazardous material sites located on or within 0.25 mile of the project site (DTSC 2024; SWRCB 2024; California Environmental Protection Agency 2024). Therefore, no impact would occur.

NO IMPACT

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 project site is approximately 3.5 miles southwest of the French Valley Airport and is not within the French Valley Airport's land use study area or the noise level contours for the airport (County of Riverside 2012). Therefore, the project would not result in a safety hazard or excessive noise for people working at the project site due to proximity to an airport, and no impact would occur.

NO IMPACT

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

Currently, the City has no defined evacuation routes outlined in the General Plan (City of Murrieta 2011). However, the Western Riverside Council of Governments (WRCOG), as part of Resilient IE, has prepared Transportation Hazards and Evacuation Maps that define evacuation routes in the city (WRCOG 2024). I-15 and I-215 are identified as regional evacuation routes by WRCOG as they traverse Murrieta and grant access from many of the main thoroughfares. Jefferson Avenue is also an identified evacuation route (WRCOG 2024).

The proposed project involves installation of an underground pipeline and, once operational, would not modify or block current emergency access routes or site ingress and egress. Project construction would require a temporary single-lane closure along Jefferson Avenue, which could slow traffic through the local area and thereby affect implementation of emergency response and emergency evacuation plans along this identified evacuation route. Therefore, impacts would be potentially significant, and implementation of Mitigation Measure TRA-1, as identified in Environmental Checklist Section 17, *Transportation*, would be required to reduce impacts to a less-than-significant level.

Mitigation Measure

Please refer to Mitigation TRA-1 in Environmental Checklist Section 17, *Transportation*.

Significance after Mitigation

Mitigation Measure TRA-1 would require the construction contractor(s) to safely redirect traffic, utilize traffic control measures, give emergency response providers advance notification and priority access, and implement advance warning detour signs at key locations such that the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan would be minimized. Therefore, implementation of Mitigation Measure TRA-1 would reduce impacts to a less-than-significant level.

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?

As discussed in detail in Environmental Checklist Section 20, *Wildfire*, the project site is near state responsibility areas (SRAs) or lands classified as Very High Fire Hazard Severity Zones (VHFHSZ) (California Department of Forestry and Fire Protection [CAL FIRE] 2024). According to the CAL FIRE, the project site is located approximately 1.5 miles northeast of the nearest VHFHSZ (CAL FIRE 2024). The project site is largely surrounded by existing commercial and industrial development, but there are some undeveloped, vegetated properties along the project alignment between Fig Street and Elm Street. The project consists of water conveyance infrastructure and would not include habitable structures. Construction personnel would adhere to the PRC to minimize fire risk. These regulations include PRC Section 4442, which requires earth-moving and portable construction equipment with internal combustion engines to use spark arrestors when operating on any forest-covered, brush-covered, or grass-covered land; and PRC Section 4428, which 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. Operation and maintenance activities would consist of water conveyance and routine inspection of the pipeline, neither of which would result in an increase in fire risk. Therefore, impacts related to exposure of people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

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?	☐	☐	■	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	■
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	■	☐
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	■	☐
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	■	☐
(iv) Impede or redirect flood flows?	☐	☐	☐	■
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	■
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	■

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Excavation, grading, and construction activities associated with project construction would result in soil disturbance. As stormwater flows over a construction site, it can pick up sediment, debris, and chemicals, and transport them to receiving water bodies. Construction activities could also affect water quality in the event of an accidental fuel or hazardous materials leak or spill. Receiving water bodies in the vicinity of the project site include an unnamed drainage near the intersection of Jefferson Avenue and Larchmont Lane that is culverted under Jefferson Avenue.

The project's total disturbance area would be greater than one acre; therefore, the project would be subject to compliance with the requirements of the NPDES Construction General Permit, which would require the development of a SWPPP to reduce erosion during construction activities. Compliance with the requirements set forth in this permit would require the construction contractor(s) to implement BMPs for erosion control during construction. With adherence to the requirements of the Construction General Permit, polluted stormwater runoff would be minimized to the extent feasible.

Project construction would involve a minimal amount of dewatering for nuisance water encountered during excavation activities. Discharge of the dewatered water would be covered under the Santa Ana RWQCB General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimis) Threat To Water Quality (Order No. R8-2020-0006, NPDES No. CAG998001). Therefore, discharge of produced groundwater would not substantially degrade water quality.

Upset or accident conditions could result in the unanticipated spill or release of hazardous materials such as vehicle and equipment fuels during project construction. However, the project-specific SWPPP would include Good Housekeeping BMPs that would reduce the risk of hazardous material spills or leaks. With adherence to the required SWPPP, impacts related to substantial degradation of surface or ground water quality during construction would be less than significant.

Following completion of project construction, the pipeline would be flushed, and water produced during flushing would be discharged into existing storm drains. This activity would be subject to compliance with the San Diego RWQCB's General Waste Discharge Requirements for Discharges of Hydrostatic Test Water and Potable Water to Surface Waters and Storm Drains or Other Conveyance Systems within the San Diego Region (Order No. R9-2010-0003, NPDES No. CAG679001). This permit would require treatment and testing of discharged water for the presence of United States Environmental Protection Agency Priority Pollutants (e.g., dechlorination and testing for chlorine) prior to discharge. With adherence to these regulatory requirements, the discharge of water used for flushing the pipeline would not result in substantial degradation of surface water or groundwater quality.

Following completion of construction, roadways would be restored to paved, pre-project conditions. Project operation and maintenance would consist of conveying potable water through the pipeline and routine pipeline inspection, and no discharges would occur. However, project operation would require vehicle travel to and from the project site once to twice a year, which may result in the generation of small amounts of pollutants, such as gasoline, that could enter the storm drain system. Project operation would have a less than significant impact involving the violation of water quality standards or waste discharge requirements or substantial degradation of surface or ground water quality.

LESS-THAN-SIGNIFICANT IMPACT

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 proposed project would involve installation of a water pipeline and appurtenances within the paved right-of-way of Jefferson Avenue. The project would not increase impervious surfaces and therefore would not interfere substantially with groundwater recharge. The project would involve minimal dewatering of any perched groundwater encountered during construction activities (Appendix D), which would not substantially decrease groundwater supplies. The proposed project is intended to provide water supplies to future development in the City's Innovation Zone. The environmental impacts of development in the Innovation Zone, including impacts to groundwater supplies, were evaluated in the Supplemental Environmental Impact Report certified in June 2020 for the 2020 General Plan Update (City of Murrieta 2020b). In addition, some or all of the undeveloped properties that currently rely on private well production may then choose to cease use of their private wells, which would benefit local groundwater supplies and sustainable management of the groundwater basin. Accordingly, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that impede sustainable groundwater management, and no impact would occur.

NO IMPACT

c.(i) 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 siltation on- or off-site?

c.(ii) 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?

c.(iii) 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 that 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?

The proposed project would not alter the course of a stream or river and would not introduce new impervious surfaces. The proposed project would adhere to the requirements of the SWPPP, which would include BMPS that would reduce risk of erosion and degradation of water quality during project construction. During construction, the existing culvert below Jefferson Avenue near Larchmont Lane would be protected in place and would not be modified as part of the proposed project. During operation, the project would not result in substantial erosion, siltation, or stormwater runoff on or off the site because the project site would be restored to paved, pre-project conditions upon the completion of construction. Therefore, project impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

c.(iv) 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?

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

The project alignment is located approximately 23 miles inland and is not in a tsunami inundation zone (DOC 2024b). The nearest large surface water body is Lake Elsinore, located approximately 10.5 miles northwest of the project site. The project site is located in Zone X, identified by the Federal Emergency Management Agency as an area of minimal flood risk (Federal Emergency Management Agency 2008). Therefore, the project alignment would not be subject to potential inundation and would not risk release of pollutants due to inundation. The project would not alter the existing drainage pattern of the site in a manner that could redirect flood flows, as the project would restore the site to paved, pre-project conditions upon the completion of construction. No impact would occur.

NO IMPACT

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

In September 2014, the California Legislature enacted comprehensive legislation aimed at strengthening local control and management of groundwater basins throughout the state. Known as the Sustainable Groundwater Management Act (SGMA), the legislation provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for State intervention when necessary to protect the resource. The project site overlies the Temecula Valley Groundwater Basin, which is designated as a Very Low priority basin; therefore, no Groundwater Sustainability Plan has been adopted for this basin (California Department of Water Resources 2022 and 2024). Accordingly, the project would not conflict with or obstruct implementation of a sustainable groundwater management plan, and no impact would occur.

The project site is within an area subject to the Water Quality Control Plan for the San Diego Basin, which designates beneficial uses for water bodies in the San Diego Region and establishes water quality objectives and implementation plans to protect those beneficial uses (San Diego Regional Water Quality Control Board 2021). During construction, project activities would be subject to compliance with the Construction General Permit, which requires development of a SWPPP and implementation of BMPs to reduce erosion and topsoil loss from stormwater runoff during construction activities. Compliance with the requirements set forth in this permit would require the construction contractor(s) to implement BMPs for erosion control during construction. Additionally, following completion of project construction, the pipeline would be flushed, and water produced during flushing would be discharged into existing storm drains. This activity would be subject to compliance with the San Diego RWQCB's General Waste Discharge Requirements (Order No. R9-2010-0003, NPDES Permit No. CAG679001). This permit would require testing of discharged water for the presence of United States Environmental Protection Agency Priority Pollutants and compliance with water quality objectives. Accordingly, the project would not conflict with or obstruct implementation of the water quality control plan, and no impacts would occur.

NO IMPACT

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?	☐	☐	☐	■
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?	☐	☐	☐	■

a. Would the project physically divide an established community?

The proposed project involves installation of an underground pipeline. Construction would be temporary in nature and would preserve one lane of access on Jefferson Avenue during construction activities. The project includes minor aboveground appurtenances, such as a water quality station, metering pedestal, blow offs, and air vacuum release valves, which do not have the potential to physically divide an established community. Furthermore, the project site would be restored to existing conditions once construction is complete. Therefore, the project would not have the potential to physically 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 proposed project would be located in the city of Murrieta in Riverside County. The project alignment is located in the public ROW of an existing roadway and does not have a General Plan land use designation or zoning. In addition, pursuant to California Government Code 53091, the building and zoning ordinances of a county or city do not apply to the location or construction of facilities for the production, storage, or transmission of water, wastewater, or electrical energy by a local agency. Therefore, the project is only evaluated for consistency with the City of Murrieta General Plan.

The proposed project would be consistent with Policy INF-1.9 of the City of Murrieta General Plan, which encourages water districts to proactively manage their assets through the maintenance, improvement, and replacement of aging water and wastewater systems to ensure the provision of these services to all areas of the community (City of Murrieta 2011). The proposed project would also be consistent with the policies of the City's General Plan Air Quality Element, including AQ-3.1 through AQ-3.4, because emissions would not exceed SCAQMD thresholds. In addition, the proposed project would be consistent with Policy N-4.3 of the City's General Plan Noise Element, which requires implementation of construction noise reduction methods when feasible. Consistent with the City's General Plan Safety Element, the project would not result in significant impacts

related to geologic, seismic, flood, or fire hazards, as discussed throughout this IS-MND. Furthermore, as indicated in Environmental Checklist Section 4, *Biological Resources*, no biological resources protected by local policies and ordinances are located on the project site. Furthermore, the project would result in minimal changes to existing conditions upon completion of construction activities given that the proposed pipeline would be installed underground and minimal changes to RCWD's and Western Water's operations and maintenance would occur. As such, the project has minimal potential to conflict with land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. As a result, the proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. No impact would occur.

NO IMPACT

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?	☐	☐	☐	■
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?	☐	☐	☐	■

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?

The California Geological Survey is responsible for classifying land into Mineral Resource Zones under the Surface Mining Control and Reclamation Act based on the known or inferred mineral resource potential of that land. The project site is not located within an area classified as containing mineral deposits which are either of statewide significance or the significance of which requires further evaluation (California Geological Survey 2022). As such, the proposed project would not reduce or eliminate access to known mineral resources. In addition, the proposed project does not involve mining or oil extraction activities. Therefore, the project would not 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 or result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. No impact would occur.

NO IMPACT

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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?	☐	☐	■	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■

Noise Overview

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Caltrans 2013).

The unit of measurement used to describe a noise level is the decibel (dB). However, the human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, a method called "A weighting" is used to filter noise frequencies that are not audible to the human ear. A-weighting approximates the frequency response of the average young ear when listening to most ordinary everyday sounds. A person's relative judgment of the loudness or annoyance of a sound correlates well with the "A-weighted" levels of those sounds. Therefore, the A-weighted noise scale is used for measurements and standards involving the human perception of noise. In this analysis, all noise levels are A-weighted, and "dBA" is understood to identify the A-weighted decibel.

Decibels are measured on a logarithmic scale which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. A 10-dB increase represents a 10-fold increase in sound intensity, a 20-dB change is a 100-fold difference, a 30-dB change is a 1,000-fold difference, etc. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3-dB decrease.

Human perception of noise has no simple correlation with acoustical energy. The perception of noise is not linear in terms of dBA or in terms of acoustical energy. Two equivalent noise sources combined do not sound twice as loud as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA; a change of 5 dBA is readily perceptible; and an increase of 10 dBA sounds twice as loud.

Descriptors

The impact of noise is not a function of loudness alone. The time of day when noise occurs, and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors has been developed. The noise descriptor used for this analysis is the one-hour equivalent noise level (L_{eq}). The L_{eq} is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period. Typically, the L_{eq} is equivalent to a one-hour period, even when measured for shorter durations, because the noise level of a 10- to 30-minute period is the same as the hourly period if the noise source is relatively steady. The L_{max} is the highest Root Mean Squared (RMS) sound pressure level within the sampling period, and the L_{min} is the lowest RMS sound pressure level within the measuring period.

Propagation

Sound from a small, localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate of 6 dBA for each doubling of the distance. Traffic noise is not a single, stationary point source of sound. Over time, the movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point. The drop-off rate for a line source is 3 dBA for each doubling of distance.

The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site (such as parking lots or smooth bodies of water) receives no additional ground attenuation, and the changes in noise levels with distance (drop-off rate) are simply the geometric spreading of the source. A soft site (such as soft dirt, grass, or scattered bushes and trees) receives an additional ground attenuation value of 1.5 dBA per doubling of distance.

Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods and man-made features such as buildings and walls can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration 2011).

Vibration Overview

Vibration levels are usually expressed as a single-number measure of vibration magnitude in terms of velocity or acceleration, which describes the severity of the vibration without the frequency variable. The peak particle velocity (PPV) is defined as the maximum instantaneous positive or negative peak of the vibration signal, usually measured in inches per second. Since it is related to the stresses experienced by buildings, PPV is often used in monitoring and controlling construction vibration.

Sensitive Receivers

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The City of Murrieta's General Plan Noise Element defines noise-sensitive receivers as hospitals, residences, schools, churches, and parks (City of Murrieta 2011). Noise-sensitive receivers near the project site include single-family residences off Jefferson Avenue near the southern end of the alignment, the closest of which is 100 feet northeast of the project alignment (26170 Jefferson Avenue), and the Greater Works Church (25823 Jefferson Avenue) located approximately 240 feet southwest of the alignment.

Vibration-sensitive receivers are similar to noise-sensitive receivers and include residences and institutional uses, such as schools, churches, and hospitals. However, vibration-sensitive receivers also include buildings where vibrations may interfere with vibration-sensitive equipment, affected by levels that may be well below those associated with human annoyance. Vibration-sensitive receivers near the project site include the same receivers listed above.

Project Noise Setting

The primary noise source in the vicinity of the project site is vehicular traffic along Jefferson Avenue; vehicular traffic on I-15 (approximately 2,300 feet to the east) may also contribute slightly to the existing noise environment. According to Table 11-6, *Existing Roadway Noise Levels*, of the City of Murrieta General Plan Noise Element, Jefferson Avenue from Fig Street to Elm Street results in a noise contour of 60 Community Noise Equivalent Level (CNEL) at 1,172 feet, 65 CNEL at 371 feet, and 70 CNEL at 117 feet (City of Murrieta 2011).[3]

Significance Thresholds

Pursuant to California Government Code 53091, the building and zoning ordinances of a county or city do not apply to the location or construction of facilities for the production, storage, or transmission of water, wastewater, or electrical energy by a local agency, which include the City's Noise Ordinance because it is contained within the City's zoning code (Murrieta Municipal Code Title 16). Therefore, for purposes of analyzing impacts from this project, the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018) criteria were used. The FTA provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction. This analysis conservatively utilizes FTA's daytime noise threshold of 80 dBA L_{eq} for an 8-hour period for residential uses (FTA 2018).

Vibration limits used in this analysis to determine a potential impact from construction activities are based on information contained in Caltrans' *Transportation and Construction Vibration Guidance Manual* and the FTA *Transit Noise and Vibration Impact Assessment Manual* (Caltrans 2020; FTA 2018). Maximum recommended vibration limits by the American Association of State Highway and Transportation Officials (AASHTO) are identified in Table 9.

[3] CNEL, or Community Noise Equivalent Level, is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013).

Table 9 AASHTO Maximum Vibration Levels for Preventing Damage

Building Type	Limiting Velocity (in/sec PPV)
Historic sites or other critical locations	0.1
Residential buildings, plastered walls	0.2 to 0.3
Residential buildings in good repair with gypsum board walls	0.4 to 0.5
Engineered structures, without plaster	1.0 to 1.5

in/sec = inches per second; PPV = peak particle velocity

Source: Caltrans 2020

Based on AASHTO recommendations, limiting vibration levels to below 0.2 in/sec PPV at residential structures would prevent structural damage regardless of building construction type. These limits are applicable regardless of the frequency of the source.

Methodology

Project construction noise was modeled using the Roadway Construction Noise Model, based on information provided by the project engineer and as described under *Description of Project*. Worksheets used to calculate anticipated noise levels for proposed project construction are included as Appendix E. The project would not include noise-generating components during operation; therefore, project operational noise levels were not modeled.

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?

Temporary noise levels caused by construction activity would be a function of the noise generated by construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of noise-generating activities. For a construction noise assessment, construction equipment can be considered to operate in two modes: stationary and mobile. As a rule, stationary equipment operates in a single location for one or more days at a time, with either fixed-power operation (e.g., pumps, generators, and compressors) or variable-power operation (e.g., pile drivers, rock drills, and pavement breakers). Conversely, mobile equipment moves around the construction site with power applied in cyclic fashion, such as bulldozers, graders, and loaders (FTA 2018).

Construction noise was estimated using the Federal Highway Administration's Roadway Construction Noise Model (refer to Appendix E). Typical construction projects have long-term noise averages that are lower than louder short-term noise events due to equipment moving from one point to another on the site, work breaks, and idle time. Each phase of construction has a specific equipment mix depending on the work to be carried out during that phase. Accordingly, each phase also has its own noise characteristics; some will have higher continuous noise levels than others, and some may have discontinuous high-impact noise levels. The maximum hourly L_{eq} of each phase is determined by combining the L_{eq} contributions from each piece of equipment used in that phase (FTA 2018). Project construction phases would include open-cut trenching and paving, with a compactor, excavator, and trencher used for trenching and a paver and paving equipment used for paving. It is conservatively assumed that diesel engines would power all construction equipment and the equipment within each phase would operate simultaneously, as pipeline construction would occur in a linear fashion such that multiple phases would occur along the alignment.

Construction equipment would travel linearly along the pipeline alignment; therefore, exposure to the nearest sensitive receivers would be temporary, and the distance to the receivers would vary over the course of a construction day. It was assumed the nearest sensitive receiver (the residence at 26170 Jefferson Avenue) would be exposed to construction noise at an average distance of approximately 100 feet throughout a typical construction workday when the active work area is near this residence. Table 10 shows the estimated construction noise levels at this residence, as well as at Greater Works Church. As shown therein, construction noise levels (estimated to be 75 and 68 dBA L_{eq} during open-cut trenching, and 74 and 66 dBA L_{eq} during paving, respectively) would not exceed FTA's daytime noise threshold of 80 dBA L_{eq}. Therefore, project construction would have a less than significant impact involving the generation of a substantial temporary increase in ambient noise levels in the vicinity of the project site.

Table 10 Construction Noise Levels

	Noise Level (dBA L_{eq})			
Construction Phase[1]	26170 Jefferson Avenue[2]	Greater Works Church[3]	Threshold[4]	Exceed Threshold?
Open-cut Trenching	75	68	80	No
Paving	74	66	80	No

[1] Noise levels were calculated assuming a compactor and excavator for trenching and a paver and paving equipment for paving.

[2] Modeled at a distance of 100 feet.

[3] Modeled at a distance of 240 feet.

[4] FTA 2018

dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level

See Appendix E for construction noise modeling output.

The project does not include components that would generate noise during operation. Upon completion, the project would require one or two maintenance trips per year; this addition to traffic noise would result in a negligible increase. Therefore, project operation would have a less than significant impact involving the generation of a substantial permanent increase in ambient noise levels in the vicinity of the project site.

LESS-THAN-SIGNIFICANT IMPACT

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

Construction activities known to generate excessive groundborne vibration, such as pile driving, would not be conducted as part of the proposed project. Therefore, the greatest known sources of vibration during project construction activities may be a paving device such as a vibratory roller, which may be used as close as approximately 100 feet to the nearest residential structure at 26170 Jefferson Avenue. A vibratory roller would generate a vibration level of approximately 0.210 in/sec PPV at a distance of 25 feet, which would equate to 0.03 in/sec PPV at a distance of 100 feet (Caltrans 2020). This vibration level would be well below the structural damage threshold of 0.2 in/sec PPV. Therefore, project construction would have a less than significant impact involving the generation of excessive groundborne vibration or groundborne noise levels.

Operation and maintenance of the project would involve the conveyance of water through an underground pipeline, along with routine inspection of the pipeline, and would therefore not

include operational sources of vibration. Therefore, project operation would not generate excessive groundborne vibration or groundborne noise levels, and no impact would occur.

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 French Valley Airport is located approximately 3.5 miles northeast of the project site. The project lies outside of the 55 CNEL contour line, according to Figure FV-3 of the Riverside County Airport Land Use Compatibility 2010 Plan (County of Riverside 2012). Therefore, the project would not expose people residing or working in the project area to excessive noise levels, and no impact would occur.

NO IMPACT

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

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)?

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

The project involves installation of a pipeline in the public ROW of a paved roadway, which would enable Western Water to provide developed properties with imported water supplies. The project does not include housing that would directly lead to population growth. Given the small-scale nature of project construction activities, it is likely that construction workers would be drawn from the existing, regional workforce and would not indirectly result in the relocation of people to Murrieta. In addition, no new Western Water or RCWD employees would be required to operate and maintain the project.

The City's current General Plan anticipates development of the Innovation Zone to include up to 5,113,038 square feet of non-residential land uses in an approximately 367-acre area (City of Murrieta 2020a). The Innovation land use was introduced in the City's 2020 General Plan Update, and the City prepared and certified a Supplemental Environmental Impact Report in June 2020 for the 2020 General Plan Update, which specifically evaluated the environmental impacts of buildout of the Innovation Zone (City of Murrieta 2020b). Therefore, the proposed project would be in furtherance of growth already anticipated in the City's General Plan and would not have the potential to induce substantial unplanned growth. Therefore, the project would not directly or indirectly induce substantial unplanned population growth. In addition, no existing people or housing are located on the project site; as such, the project also would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Accordingly, no impacts related to population and housing would occur.

NO IMPACT

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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?	☐	☐	☐	■
	2 Police protection?	☐	☐	☐	■
	3 Schools?	☐	☐	☐	■
	4 Parks?	☐	☐	☐	■
	5 Other public facilities?	☐	☐	☐	■

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

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

As described in Environmental Checklist Section 14, *Population and Housing*, the project does not include development of structures or infrastructure that would directly or indirectly increase the population of Murrieta or Riverside County beyond that analyzed in the City's General Plan Update Supplemental Environmental Impact Report. In addition, as an underground pipeline, the project does not include components that would place additional demands on fire or police protection services. As such, the proposed project would not increase demand for fire protection, police protection, schools, parks, or other public facilities. Therefore, the project would not 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 fire protection, police protection, schools, parks, or other public facilities. No impacts would occur.

NO IMPACT

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?	☐	☐	☐	■
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?	☐	☐	☐	■

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

As described in Environmental Checklist Section 14, *Population and Housing*, the project does not include development of structures or infrastructure that would directly or indirectly increase the population of Murrieta or Riverside County beyond that analyzed in the Supplemental Environmental Impact Report. Therefore, the project would not increase the population served by local parks and recreational facilities or otherwise result in increased demand for or degradation of those facilities. As such, the project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated. The project also does not include recreational facilities or require the construction or expansion of recreational facilities. No impact related to recreation would occur.

NO IMPACT

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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?	☐	☐	■	☐
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	■
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	☐	☐	■
d. Result in inadequate emergency access?	☐	■	☐	☐

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

Regional and local plans and policies addressing the circulation system include the City of Murrieta's General Plan Circulation Element; the Southern California Association of Governments 2020-2045 RTP/SCS; and the Riverside County Transportation Commission Congestion Management Plan (City of Murrieta 2011; Southern California Association of Governments 2020; County of Riverside 2011).

Access to the project site during construction would be provided by Jefferson Avenue, which is a four-lane road. No transit stops are located along the segment of Jefferson Avenue adjacent to the project site. Sidewalks are located along some portions of the project site, notably along both sides of Jefferson Avenue for approximately 700 feet proceeding south of its intersection with Guava Street and along the southbound side of Jefferson Avenue from Fig Street to a point approximately 400 feet north of Elm Street. Class II bike lanes are provided along both sides of Jefferson Avenue. Construction traffic would be temporary and limited to the duration of the construction schedule (approximately 10 months). Construction activities would require a temporary one-lane closure along Jefferson Avenue, and traffic control measures would be implemented during this closure, including flaggers at both ends, to minimize conflicts with the circulation system. After construction is complete, no changes to existing transportation patterns would occur because the pipeline would be located underground and no new operation and maintenance activities would be required for the project. The project would generate a minimal level of traffic during project construction; therefore; the project would have a less than significant impact involving conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

LESS-THAN-SIGNIFICANT IMPACT

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (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 CEQA Guidelines Section 15064.3(b)(3), a lead agency may include a qualitative analysis of operational and construction traffic if existing models or methods are not available to estimate the VMT for the particular project being considered. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. Western Water has not adopted VMT thresholds. In addition, both the City of Murrieta and the County of Riverside have adopted VMT thresholds, but these do not include thresholds for construction-phase VMT impacts (City of Murrieta 2021; County of Riverside 2020).

A VMT calculation is typically conducted on a daily or annual basis, for long-range planning purposes. As discussed under threshold 17(a), traffic on local roadways would temporarily increase during project construction due to worker trips and the necessary transport of construction vehicles, equipment, and soil material to and from the project site. Increases in VMT from construction would be short-term, minimal, and temporary. In addition, the project would require minimal new operations and maintenance activities (i.e., one to two maintenance trips per year) by RCWD and Western Water staff upon completion of construction activities. Therefore, the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b). No impact related to VMT would occur.

NO IMPACT

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)?

The project would not involve the construction of new roads or reconfiguration of roadways, driveways, or intersections that could result in a substantial increase in roadway hazards. During project construction, construction staging and worker parking would be within the ROW of Jefferson Avenue as well as on private properties in the project site vicinity, to be leased to the construction contractor. Off-site construction staging would only occur on paved surfaces and would not occur on undeveloped lots. Upon the completion of construction, the pipeline would be located underground and thus would not substantially increase roadway hazards. Therefore, the project would not substantially increase hazards due to a geometric design feature or incompatible use, and the project would have no impact.

NO IMPACT

d. Would the project result in inadequate emergency access?

Construction of the project would require a temporary single-lane closure along Jefferson Avenue, an evacuation route identified by WRCOG (2024), which would have the potential to impede emergency response in the project area. Therefore, the project would potentially result in inadequate emergency access during construction activities. Implementation of Mitigation Measure TRA-1 would be required to minimize interference with emergency access during project construction activities through implementation of traffic control measures and advance notification of emergency response providers prior to construction activities. With implementation of Mitigation

Measure TRA-1, impacts related to emergency access during project construction would be reduced to a less-than-significant level.

Operation of the pipeline would include minor aboveground appurtenances, such as a water quality station, metering pedestal, blow offs, and air vacuum release valves. However, this infrastructure would not be located within an area that might impede emergency access. In addition, the operation of the proposed project would not introduce new vehicle trips that would have the potential to impede emergency access. Therefore, project operation would not result in inadequate emergency access, and no impact would occur.

Mitigation Measure

TRA-1 Traffic Control Plan

Western Water shall require the construction contractor(s) to prepare and implement a traffic control plan that specifies how traffic will be safely and efficiently redirected during lane closures. All work shall comply with the California Department of Transportation's Work Area Traffic Control Handbook, which conforms to the standards and guidance of the California Manual on Uniform Traffic Control Devices. Traffic control measures for lane closures shall be included, and priority access shall be given to emergency vehicles. The traffic control plan shall also include requirements to notify local emergency response providers at least one week prior to the start of work when lane closures are required. The traffic control plan shall also include regional coordination with other construction activities that impact Jefferson Avenue and surrounding streets. All construction activities shall be closely coordinated with other construction projects that may be occurring at the time along the Jefferson Avenue corridor to ensure that traffic along Jefferson Avenue and surrounding streets remain at an acceptable level of operation during construction. The plan shall provide advance lane closure warning signage at key locations north and south of the project alignment along Jefferson Avenue to allow for efficient re-direction of traffic to I-15/I-215 in the event of an evacuation, including, but not limited to the intersection of Jefferson Avenue with Murrieta Hot Springs Road, Guava Street, Elm Street, French Valley Parkway/Cherry Street, and Winchester Road.

Significance after Mitigation

Mitigation Measure TRA-1 would require the construction contractor(s) to safely redirect traffic, utilize traffic control measures, give emergency response providers advance notification and priority access, and implement advance warning detour signs at key locations such that the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan would be minimized. Therefore, implementation of Mitigation Measure TRA-1 would reduce impacts to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than - Significant Impact	No Impact
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, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	☐	■	☐	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	■	☐	☐

Tribal cultural resources are defined in Public Resources Section 21074(a)(1)(A-B) as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either:

- Included or determined to be eligible for inclusion in the California Register of Historical Resources; and/or
- Included in a local register of historical resources as defined in Public Resources Section 5020.1(k).

AB 52 establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be adopted or certified. 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," specifically with those Native American tribes that have requested notice of projects proposed within the jurisdiction of the lead agency. Consultation begins with a written notification that must

include a brief description of the proposed project, the project location, the CEQA lead agency contact information, and notification that the California Native American Tribe has 30 days to request consultation. Upon receipt of a written response from a California Native American Tribe requesting consultation, the CEQA lead agency and the California Native American Tribe requesting consultation shall begin the AB 52 process.

Western Water circulated AB 52 consultation letters for the proposed project, including project information, map, and contact information, to the following Native American tribes on May 1, 2024:

- Agua Caliente Band of Cahuilla Indians
- Juaneño Band of Mission Indians Acjachemen Nation
- La Jolla Band of Luiseño Indians
- Pala Band of Mission Indians
- Pauma Band of Luiseño Indians
- Pechanga Band of Indians
- Quechan Tribe of the Fort Yuma Reservation
- Rincon Band of Luiseño Indians
- Santa Rosa Band of Cahuilla Indians
- Soboba Band of Luiseño Indians

Two tribes - the Agua Caliente Band of Cahuilla Indians and the Soboba Band of Luiseño Indians - responded on May 1, 2024, but indicated no concerns and deferred to the local Tribes. Western Water received the following two responses requesting consultation:

- **Pechanga Band of Indians.** On June 3, 2024, Juan Ochoa, Assistant Tribal Historic Preservation Officer of the Cultural Resources Department of the Pechanga Band of Indians, responded via email requesting consultation with Western Water and requesting avoidance of tribal cultural resources should they be discovered during construction. Western staff held a virtual consultation meeting with the Pechanga Band of Indians on July 11, 2024 during which the Tribe indicated the sensitivity of the project site for cultural resources of Native American origin. A second virtual consultation meeting was scheduled for August 15, 2024; however, on August 15, 2024, Ebru T. Ozdil, Cultural Analyst of the Pechanga Band of Indians, indicated via email that Tribal members were unable to attend the meeting due to unforeseen circumstances. Western staff requested to re-schedule the second consultation meeting and provided the draft cultural and tribal cultural mitigation measure language for review via email on August 21, 2024. On September 4, 2024, Molly Earp of the Pechanga Band of Indians provided suggested revisions to the mitigation measure language via email to Western Water. On September 12, 2024, Western Water responded via email with revised cultural and tribal cultural mitigation measure language for review and requested feedback be provided by September 20. At the time of this reporting, the Pechanga Band of Indians has not confirmed receipt of the email but has not responded to the latest version of the proposed mitigation measures.
- **Rincon Band of Luiseño Indians**. On June 5, 2024, Shuuluk Linton, Tribal Historic Preservation Coordinator of the Cultural Resources Department of the Rincon Band of Luiseño Indians, responded via email and requested copies of existing documents pertaining to the project to review. On September 11, 2024, Western Water staff responded via email providing the requested documents. On September 19, 2024, Shuuluk Linton provided a letter via email indicating the Rincon Band of Luiseño Indians would not be requesting AB 52 consultation on the proposed project and requesting to be notified of any changes in project plans and to be provided a copy of the final monitoring report, when available.

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 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 5024.1?

As described above, Western Water conducted AB 52 consultation with two Tribes. No tribal cultural resources qualifying for listing in the CRHR or determined significant by Western Water were identified within the project site; however, the Pechanga Band of Mission Indians indicated the project site is potentially sensitive for cultural resources of Native American origin. Therefore, ground disturbance during project construction could inadvertently encounter cultural resources of Native American origin, and Western Water has proposed implementation of Mitigation Measures TCR-1 and TCR-2 along with Mitigation Measures CUL-1 through CUL-5 (see Section 5, *Cultural Resources*), which incorporate the input received from Tribes during AB 52 consultation.

Mitigation Measures

For the purpose of the following measures, the term "Consulting Tribe" refers to the Pechanga Band of Indians.

TCR-1 Native American Monitoring

At least 30 days prior to the commencement of project-related ground-disturbing activities, including, but not limited to, site clearing, grubbing, trenching, and excavation, Western Water shall contact and secure a Tribal Monitoring agreement with the Consulting Tribe. The Tribal Monitoring agreement shall be consistent with the processes and procedures outlined in the CRMDP prepared under Mitigation Measure CUL-1. The Tribal Monitor(s) shall have the authority to temporarily divert, redirect, or halt ground-disturbing activities to allow recovery of cultural resources, in coordination with the archaeological monitor retained under Mitigation Measure CUL-3. Western Water shall notify the retained Tribal Monitor(s) of scheduled ground disturbance at least five business days in advance. Work may proceed if the retained Tribal Monitor(s) are unavailable at the time of ground disturbance. Native American monitoring may be reduced or terminated in consultation with Western Water, as warranted by conditions such as encountering bedrock, the presence of fill soil, or negative findings during initial ground disturbance.

TCR-2 Final Disposition

In the event that Tribal cultural resources are discovered during construction (inadvertent discoveries), the following procedures shall be carried out for final disposition of the discoveries in accordance with the CRMDP prepared under Mitigation Measure CUL-1, and may include one or more of the following treatments, in order of preference, that shall be employed with the tribes. Evidence of such shall be provided to Western Water in the Phase IV report prepared pursuant to Mitigation Measure CUL-4.

1. Preservation-in-place of the cultural resources, if feasible. Preservation in place means avoiding the resources, leaving them in the place where they were found with no development affecting the integrity of the resources.

2. Reburial of the resources in the immediate vicinity of the project site. The measures for reburial may include the following in accordance with the CRMDP: a) measures and provisions to protect the future reburial area from any future impacts in perpetuity; b) reburial shall not occur until all legally required cataloging and basic recordation have been completed, with an exception that sacred items, burial goods, and Native American human remains are excluded; c) any reburial process shall be culturally appropriate; and d) listing of contents and location of the reburial shall be included in the confidential Phase IV report prepared pursuant to Mitigation Measure CUL-4. The Phase IV Report shall be filed with Western Water under a confidential cover and not subject to Public Records Requests.
3. If preservation in place or reburial is not feasible, then the resource(s) may be curated in a culturally appropriate manner as described in the CRMDP prepared pursuant to Mitigation Measure CUL-1 at a Riverside County curation facility that meets the California Office of Historic Preservation Guidelines for the Curation of Archaeological Resources, ensuring access and use pursuant to these guidelines. The collection and associated records shall be transferred, including title, and are to be accompanied by payment of the fees necessary for permanent curation. Evidence of curation in the form of a letter from the curation facility stating that subject archaeological materials have been received and that all fees have been paid, shall be provided by Western Water. No destructive or invasive testing on sacred items, burial goods, and Native American human remains shall be permitted. Results concerning finds of any inadvertent discoveries shall be included in the Phase IV report prepared pursuant to Mitigation Measure CUL-4.

Significance after Mitigation

Mitigation Measures TCR-1 and TCR-2, in conjunction with Mitigation Measures CUL-1 through CUL-5 outlined in Section 5, *Cultural Resources*, would minimize potential impacts to cultural resources of Native American origin by requiring Native American monitoring and procedures for final disposition of any unanticipated discoveries of such resources. Therefore, with implementation of Mitigation Measures TCR-1 and TCR-2 along with Mitigation Measures CUL-1 through CUL-5, impacts to tribal cultural resources would be less than significant.

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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?	☐	☐	☐	■
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	■	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	■
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	■	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	■	☐

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 project itself consists of installation of a water pipeline that would enable RCWD to provide imported water supplies to future development in the Innovation Zone. The environmental impacts of this infrastructure have been evaluated throughout this document, and no additional environmental impacts would occur. Therefore, the project would not result in the construction or relocation of additional new or expanded water facilities. No impact would occur.

Wastewater

The project would not require permanent on-site personnel and does not include the installation of restroom facilities. Portable restrooms would be used for workers during project construction. Therefore, no wastewater would be generated, and the project would not result in the construction or relocation of new or expanded wastewater facilities. No impact would occur.

Stormwater Drainage

The proposed pipeline would be located underground and would not introduce new impervious surfaces. Therefore, no new or expanded stormwater drainage facilities would be required, and no impact would occur.

Electric Power

The project would not require connections to the electrical grid and would not result in a net increase in electricity consumption within RCWD's service area. Therefore, no new or expanded electrical power facilities would be required, and no impact would occur.

Natural Gas

The project would not require the use of natural gas. Therefore, no new or expanded natural gas facilities would be required, and no impact would occur.

Telecommunications

The project would not require connections to telecommunication facilities. Therefore, no new or expanded telecommunication facilities would be required, and no impact 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?

Small quantities of water would be required during construction for dust suppression and pipeline testing, which would be potable or non-potable water provided by Western Water. Water consumption associated with dust suppression would be temporary and minimal because only disturbed areas would need to be watered.

The project itself consists of installation of a water pipeline that would enable RCWD to provide imported water supplies to developed properties in the Innovation Zone. Anticipated total demand from future connections to the pipeline is approximately 280 acre-feet per year. The proposed project is intended to provide water supplies to future development in the City's Innovation Zone. The environmental impacts of development in the Innovation Zone, including impacts to water supply availability, were evaluated in the Supplemental Environmental Impact Report certified in June 2020 for the 2020 General Plan Update (City of Murrieta 2020b). Furthermore, RCWD's 2020 Urban Water Management Plan was developed utilizing growth projections contained in local planning documents, including the City's General Plan. According to the RCWD 2020 Urban Water Management Plan, sufficient water supplies are available to serve projected growth through 2045 in normal, single-dry, and multiple-dry years (RCWD 2021). Therefore, sufficient water supplies would

be available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years, and impacts would be less than significant.

LESS-THAN-SIGNIFICANT 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?

The project consists of installation of a water pipeline and would not generate wastewater. During project construction, portable restrooms would be used for workers. Therefore, the project would not result in a determination by the wastewater treatment that it has inadequate capacity to serve the project's projected demand. 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?

Construction activities may temporarily generate solid waste, including soil spoils or other construction waste, which would be disposed of in accordance with all applicable federal, state, and local statutes and regulations. Construction waste would be disposed of at a nearby landfill, anticipated to be the El Sobrante Landfill located at 10910 Dawson Canyon Road in Corona. This landfill has a remaining capacity of approximately 143,977,170 cubic yards and an anticipated closure date of January 1, 2051 (California Department of Resources Recycling and Recovery 2024). The maximum daily throughput for the El Sobrante Landfill is 16,054 tons per day. Due to the temporary nature of construction and minimal amount of construction waste anticipated to require disposal, the project would not generate quantities of solid waste that would account for a substantial percentage of the total daily regional permitted capacity available at the El Sobrante Landfill. In addition, operation and maintenance of the proposed pipeline would not generate solid waste. Therefore, the project would have a less than significant impact involving the generation of solid waste in excess of state or local standards or in excess of the capacity of local infrastructure, and involving the attainment of solid waste reduction goals.

The project would be required to comply with all applicable laws and regulations related to solid waste generation, collection, and disposal. The project would result in a short-term and temporary increase in solid waste generation during construction but would not substantially affect standard solid waste operations of local landfills. During operational and maintenance activities, the proposed pipeline would not generate solid waste. Therefore, the project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, and would have a less than significant impact.

LESS-THAN-SIGNIFICANT IMPACT

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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?	☐	■	☐	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	■	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	■
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	■

According to CAL FIRE, the project site is approximately 1.5 miles northeast of the nearest SRA and the nearest VHFHSZ (CAL FIRE 2024). Therefore, the project site is considered to be near an SRA and lands classified as a VHFHSZ for the purposes of this analysis.

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 Environmental Checklist Section 9, *Hazards and Hazardous Materials*, WRCOG has identified Jefferson Avenue as an evacuation route (WRCOG 2024). Project construction would require a temporary single-lane closure along Jefferson Avenue in the vicinity of the work area, which could slow traffic through the local area and thereby affect implementation of emergency response and emergency evacuation plans along this identified evacuation route. Therefore, impacts related to emergency response and emergency evacuation plans would be potentially significant, and implementation of Mitigation Measure TRA-1 (outlined in Environmental Checklist Section 17, *Transportation*) would be required to reduce impacts to a less-than-significant level

through providing advance notification to emergency response providers, granting priority access to emergency vehicles during construction, and implementing advance warning detour signs at key locations.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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?

As discussed in Environmental Checklist Section 9, *Hazards and Hazardous Materials,* project operation would not involve activities with potential wildfire ignition risk. Project construction would occur within a paved road, and project construction staging areas would be paved or developed. However, project construction in proximity to vegetated areas would have the potential to result in wildfire ignition. To minimize fire risk, construction personnel would adhere to PRC Section 4442, which requires earth-moving and portable construction equipment with internal combustion engines to use spark arrestors when operating on any forest-covered, brush-covered, or grass-covered land. In addition, 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 adherence to existing regulatory requirements, the project would have a less than significant impact involving exacerbation of fire risk.

LESS THAN SIGNIFICANT IMPACT

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?

The proposed project would not require the installation or maintenance of any infrastructure, such as roads or fuel breaks, that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. No impact would occur.

NO IMPACT

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?

The proposed project involves installation of an underground pipeline in a relatively flat area that is not subject to landslide or flooding. The proposed project does not include construction of habitable structures that could expose people to downslopes or downstream flooding or landslides. Upon the completion of construction activities, the project site would be restored to paved, pre-project conditions. Therefore, the project would not expose people or structures to flooding or landslides as a result of post-fire runoff, slope instability, or drainage changes. No impact would occur.

NO IMPACT

21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than - Significant Impact	No Impact
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?	☐	☐	☐	■
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)?	☐	■	☐	☐
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	■	☐	☐

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?

As discussed in Environmental Checklist Section 4, *Biological Resources*, the project would not 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, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. In addition, as discussed in Environmental

Checklist Section 5, *Cultural Resources*, the project would not eliminate important examples of the major periods of California history or prehistory. The project would have no impact.

NO IMPACT

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)?

Cumulative impacts are defined as two or more individual (and potentially less than significant) project effects which, when considered together or in concert with other projects, combine to result in a significant impact within an identified geographic area. Cumulatively considerable impacts could occur if the construction of other projects occurs at the same time as the proposed project and in the same vicinity, such that the effects of similar impacts of multiple projects combine to expose adjacent sensitive receptors to greater levels of impact than would occur under the proposed project. For example, if the construction of other projects in the area occurs at the same time as construction of the proposed project, potential impacts associated with noise and traffic in the project area may be more substantial. Cumulative development in the vicinity of the project site includes the following (City of Murrieta 2023):

- **Ranpac Self-Storage Expansion**. This project consists of a 91,621-square-foot expansion of the existing self-storage and RV storage facility at 41605 Elm Street. The new expansion would be located at APN 910-230-020.
- **Greater Works Church Improvements**. This project consists of a 2,087-square-foot second story addition to an existing building occupied by Greater Works Church at 25823 Jefferson Avenue. Improvements would include seven classrooms, three storage rooms, an administrative office, and a bathroom.

Project impacts are primarily temporary, localized effects that would occur during construction activities. As discussed throughout this IS-MND, the project would result in no impacts to agriculture and forestry resources, land use and planning, mineral resources, population and housing, public services, and recreation, and therefore the project would not contribute to cumulative impacts to these resources. The potential for the project to contribute to cumulative impacts would be limited to the infrequent periods of project activities and the following specific issue areas, for which the project is anticipated to have less than significant impacts (with or without mitigation):

- **Aesthetics:** Cumulative development in the region could continue to change the existing visual landscape. However, cumulative projects in the vicinity of the project site would consist of a continuation of existing uses, and would not result in the addition of tall structures that could interfere with public views in the area. The project would result in a small change to the current visual character of the project site during project construction, and would not interfere with views during project operation. Cumulative development would be subject to existing regulations governing scenic character, including the City's General Plan. Therefore, cumulative impacts related to aesthetics would not be significant.
- **Air Quality:** Because the Basin is designated as being in nonattainment for the ozone and $PM_{2.5}$ NAAQS and CAAQS and nonattainment for the lead and PM_{10} CAAQS, significant cumulative air quality impacts currently exist for these pollutants. As discussed in Environmental Checklist Section 3, *Air Quality,* the proposed project would not generate emissions of these air pollutants which exceed the SCAQMD significance thresholds, which are intended to assess whether a

project's contribution to existing cumulative air quality impacts is considerable. Therefore, the project's contribution to significant cumulative air quality impacts would not be cumulatively considerable.

- **Biological Resources:** Cumulative development in the region would continue to disturb areas with the potential to contain or provide habitat for biological resources. Cumulative development projects have undergone or would be required to undergo CEQA review, which would determine the extent of potential biological resources impacts and mitigate those impacts appropriately. If these cumulative projects would result in impacts to biological resources, impacts to such resources would be addressed on a case-by-case basis. Given the uncertainty in the extent of impacts associated with these projects, this analysis conservatively assumes a significant cumulative impact to biological resources would occur. However, the proposed project would result in less-than-significant impacts to biological resources, and consequently, would not result in a cumulatively considerable contribution to this cumulative impact.
- **Cultural and Tribal Cultural Resources:** Cumulative development in the region would continue to disturb areas with the potential to contain cultural and tribal cultural resources. As mentioned above, cumulative development projects have undergone or would be required to undergo CEQA review, which would determine the extent of potential cultural resources impacts and mitigate those impacts appropriately. If cumulative projects would result in impacts to known or unknown cultural resources, impacts to such resources would be addressed on a case-by-case basis. Given the uncertainty in the extent of impacts associated with these projects, this analysis conservatively assumes a significant cumulative impact to cultural resources would occur. Nevertheless, the proposed project would be required to implement Mitigation Measure CUL-1 through CUL-5, TCR-1, and TCR-2 to reduce its impacts to cultural resources to a less-than-significant level such that project-level impacts would not result in a cumulatively considerable contribution to this cumulative impact.
- **Energy:** Cumulative development in the region would use energy resources during both construction and operation. Similar to the proposed project, cumulative project construction would be subject to existing regulations that would minimize inefficient, wasteful, or unnecessary fuel consumption. Furthermore, in the interest of cost-efficiency, cumulative project construction contractors would not be anticipated to utilize fuel in a manner that is wasteful or unnecessary. Cumulative project operations would consist of a continuation of existing uses and would not substantially increase energy usage. Therefore, cumulative impacts related to energy would not be significant.
- **Geology and Soils:** Cumulative development in the region would continue to disturb areas with the potential to contain paleontological resources. As discussed above, cumulative development projects have undergone or would be required to undergo CEQA review, which would determine the extent of potential paleontological resources impacts and mitigate those impacts appropriately. This analysis conservatively assumes a significant cumulative impact to paleontological resources would occur. Nevertheless, the proposed project would be required to implement Mitigation Measure GEO-1 to reduce its impacts to paleontological resources to a less-than-significant level such that project-level impacts would not result in a cumulatively considerable contribution to this cumulative impact.
- **Greenhouse Gas Emissions:** GHG emissions and climate change are, by definition, cumulative impacts. As discussed in Environmental Checklist Section 8, *Greenhouse Gas Emissions*, the adverse environmental impacts of cumulative GHG emissions, including increased average temperatures, more drought years, and more frequent large wildfires, are already occurring. As

a result, cumulative impacts related to GHG emissions are significant. Thus, the issue of climate change involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. As discussed in Environmental Checklist Section 8, *Greenhouse Gas Emissions*, project emissions would be consistent with adopted plans and would therefore not be cumulatively considerable.

- **Hazards and Hazardous Materials:** Similar to the proposed project, cumulative projects would be required to comply with regulations applicable to the use, disposal, and transportation of hazardous materials during construction activities, and compliance with applicable regulations would reduce potential cumulative impacts to less-than-significant levels. With respect to the use and accidental release of hazardous materials in the environment during construction, effects are generally limited to site-specific conditions. Therefore, cumulative impacts related to accidental release of hazardous materials would not be significant.
- **Hydrology and Water Quality:** As discussed in Environmental Checklist Section 10, *Hydrology and Water Quality*, the project's construction-related water quality impacts would be less than significant with SWPPP implementation and regulatory compliance. The cumulative projects listed above would have less than significant impacts related to hydrology and water quality, as they would be required to comply with existing NPDES regulations to ensure they do not result in substantial erosion or stormwater discharges that would substantially affect water quality in the area. Implementation of these regulations minimizes and avoids the potential for cumulative impacts to occur. Therefore, cumulative impacts related to hydrology and water quality would not be significant.
- **Noise:** Cumulative development projects may occur at the same time as the proposed project. However, cumulative projects are not located directly adjacent to the project site, and it is unlikely that development of the proposed project and cumulative projects would result in an increase in noise, should construction schedules overlap. The proposed project would be constructed in a linear fashion along Jefferson Avenue, such that noise impacts in one area would be temporary and short-term as construction proceeds along the pipeline alignment. The proposed project would not result in an increase in operational noise. Therefore, cumulative impacts related to noise would not be significant.
- **Transportation:** The cumulative development projects listed above may occur at the same time as the proposed project. However, the cumulative development projects and the proposed project would not increase traffic levels such that they would result in a significant cumulative transportation impact.
- **Utilities and Service Systems:** The project itself consists of water conveyance infrastructure, and would therefore not result in a cumulatively considerable contribution to adverse impacts on water supply. The project would not generate wastewater and would temporarily generate minimal solid waste during construction. Therefore, the project's contribution to cumulative impacts related to solid waste or wastewater would not be considerable.
- **Wildfire:** As described in Environmental Checklist Section 20, *Wildfire*, potential wildfire impacts associated with the project would be limited to heavy-duty construction equipment possibly producing sparks to ignite vegetation, which would be less than significant with compliance with applicable law. Project operation would not involve potentially flammable activities. In addition, the proposed project would not introduce habitable structures, and therefore, would not expose new residents to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. The cumulative projects listed above would generally involve the continued operation of existing activities and are located in developed areas, and would not contribute considerably

to cumulative wildfire impacts. Since there would be no long-term project operational wildfire impacts and potential construction-related wildfire impacts would be limited, the project's contribution to cumulative impact wildfire impacts would not be considerable.

Given the above discussion, the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact with mitigation incorporated.

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

In general, impacts to human beings are associated with such issues as air quality, hazards and hazardous materials, noise, and wildfire impacts. As detailed under Environment Checklist Section 3, *Air Quality*, Section 9, *Hazards and Hazardous Materials*, Section 13, *Noise*, and Section 20, *Wildfire*, the proposed project would not result, either directly or indirectly, in substantial adverse effects related to air quality, hazardous materials, and noise with implementation of Mitigation Measure TRA-1. Therefore, impacts to human beings would be less than significant with mitigation incorporated.

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Appendix A

CalEEMod Modeling Results

23-14788 Jefferson Ave Interconnection Detailed Report

Table of Contents

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	23-14788 Jefferson Ave Interconnection
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.80
Precipitation (days)	18.6
Location	33.540261, -117.186592
County	Riverside-South Coast
City	Murrieta
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5556
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.24

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Road Widening	1.00	Mile	12.0	0.00	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.27	1.07	8.52	11.7	0.02	0.36	0.23	0.59	0.33	0.05	0.38	—	2,539	2,539	0.10	0.03	0.93	2,551
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.26	1.06	8.53	11.3	0.02	0.36	0.23	0.59	0.33	0.05	0.38	—	2,519	2,519	0.10	0.03	0.02	2,531
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.75	0.63	5.10	6.81	0.01	0.21	0.14	0.35	0.20	0.03	0.23	—	1,506	1,506	0.06	0.02	0.24	1,513
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.14	0.12	0.93	1.24	< 0.005	0.04	0.02	0.06	0.04	0.01	0.04	—	249	249	0.01	< 0.005	0.04	251

2.2. Construction Emissions by Year, Unmitigated

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

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

2025	1.27	1.07	8.52	11.7	0.02	0.36	0.23	0.59	0.33	0.05	0.38	—	2,539	2,539	0.10	0.03	0.93	2,551
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.26	1.06	8.53	11.3	0.02	0.36	0.23	0.59	0.33	0.05	0.38	—	2,519	2,519	0.10	0.03	0.02	2,531
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.75	0.63	5.10	6.81	0.01	0.21	0.14	0.35	0.20	0.03	0.23	—	1,506	1,506	0.06	0.02	0.24	1,513
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.14	0.12	0.93	1.24	< 0.005	0.04	0.02	0.06	0.04	0.01	0.04	—	249	249	0.01	< 0.005	0.04	251

3. Construction Emissions Details

3.1. Pipeline Installation (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	0.32	2.37	2.68	< 0.005	0.09	—	0.09	0.09	—	0.09	—	384	384	0.02	< 0.005	—	385
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.38	0.32	2.37	2.68	< 0.005	0.09	—	0.09	0.09	—	0.09	—	384	384	0.02	< 0.005	—	385
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.41	1.60	< 0.005	0.06	—	0.06	0.05	—	0.05	—	229	229	0.01	< 0.005	—	230
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.26	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.9	37.9	< 0.005	< 0.005	—	38.1
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.58	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	106	106	< 0.005	< 0.005	0.39	107
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.02	11.3

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.44	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	97.2	97.2	< 0.005	< 0.005	0.01	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.8	10.8	< 0.005	< 0.005	< 0.005	11.3
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.28	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.8	58.8	< 0.005	< 0.005	0.10	59.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.42	6.42	< 0.005	< 0.005	0.01	6.73
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.73	9.73	< 0.005	< 0.005	0.02	9.87
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.06	1.06	< 0.005	< 0.005	< 0.005	1.11

3.3. Paving (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.79	0.67	6.06	7.64	0.02	0.27	—	0.27	0.24	—	0.24	—	1,898	1,898	0.08	0.02	—	1,905
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.79	0.67	6.06	7.64	0.02	0.27	—	0.27	0.24	—	0.24	—	1,898	1,898	0.08	0.02	—	1,905
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	0.40	3.62	4.56	0.01	0.16	—	0.16	0.15	—	0.15	—	1,134	1,134	0.05	0.01	—	1,138
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.66	0.83	< 0.005	0.03	—	0.03	0.03	—	0.03	—	188	188	0.01	< 0.005	—	188
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.77	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	141	141	0.01	< 0.005	0.52	143
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.58	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	0.01	< 0.005	0.01	131
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.37	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	78.4	78.4	< 0.005	< 0.005	0.13	79.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.0	13.0	< 0.005	< 0.005	0.02	13.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Pipeline Installation	Linear, Drainage, Utilities, & Sub-Grade	1/1/2025	10/31/2025	5.00	218	—
Paving	Linear, Paving	1/1/2025	10/31/2025	5.00	218	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Pipeline Installation	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Pipeline Installation	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Pipeline Installation	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Surfacing Equipment	Diesel	Average	1.00	8.00	399	0.30
Paving	Sweepers/Scrubbers	Diesel	Average	1.00	8.00	36.0	0.46

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Pipeline Installation	—	—	—	—
Pipeline Installation	Worker	7.50	18.5	LDA,LDT1,LDT2
Pipeline Installation	Vendor	0.00	10.2	HHDT,MHDT
Pipeline Installation	Hauling	0.16	20.0	HHDT
Pipeline Installation	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	10.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	0.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

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

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Pipeline Installation	270	0.00	12.0	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Road Widening	12.0	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O

2025	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	26.3	annual days of extreme heat
Extreme Precipitation	4.75	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth

Wildfire	11.3	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	74.1
AQ-PM	38.4
AQ-DPM	58.4
Drinking Water	39.1
Lead Risk Housing	34.7
Pesticides	47.0
Toxic Releases	13.1
Traffic	94.5

Effect Indicators	—
CleanUp Sites	7.71
Groundwater	0.00
Haz Waste Facilities/Generators	72.0
Impaired Water Bodies	72.2
Solid Waste	52.9
Sensitive Population	—
Asthma	40.2
Cardio-vascular	94.4
Low Birth Weights	23.7
Socioeconomic Factor Indicators	—
Education	49.4
Housing	74.8
Linguistic	30.7
Poverty	55.2
Unemployment	45.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	32.40087258
Employed	50.78916977
Median HI	32.28538432
Education	—
Bachelor's or higher	20.55691005
High school enrollment	22.72552291

Preschool enrollment	50.86616194
Transportation	—
Auto Access	56.16578981
Active commuting	35.57038368
Social	—
2-parent households	4.568202233
Voting	31.70794303
Neighborhood	—
Alcohol availability	61.24727319
Park access	39.66380085
Retail density	78.73732837
Supermarket access	71.93635314
Tree canopy	5.800076992
Housing	—
Homeownership	35.77569614
Housing habitability	47.00372129
Low-inc homeowner severe housing cost burden	37.11022713
Low-inc renter severe housing cost burden	38.82971898
Uncrowded housing	49.60862312
Health Outcomes	—
Insured adults	38.84255101
Arthritis	48.2
Asthma ER Admissions	70.4
High Blood Pressure	58.0
Cancer (excluding skin)	55.0
Asthma	21.6
Coronary Heart Disease	66.7

Chronic Obstructive Pulmonary Disease	31.1
Diagnosed Diabetes	70.5
Life Expectancy at Birth	23.7
Cognitively Disabled	90.0
Physically Disabled	68.4
Heart Attack ER Admissions	26.9
Mental Health Not Good	27.8
Chronic Kidney Disease	73.0
Obesity	25.3
Pedestrian Injuries	19.6
Physical Health Not Good	40.7
Stroke	64.5
Health Risk Behaviors	—
Binge Drinking	18.0
Current Smoker	19.3
No Leisure Time for Physical Activity	43.7
Climate Change Exposures	—
Wildfire Risk	2.1
SLR Inundation Area	0.0
Children	10.0
Elderly	68.4
English Speaking	72.3
Foreign-born	17.7
Outdoor Workers	20.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	74.5
Traffic Density	88.2

Traffic Access	23.0
Other Indices	—
Hardship	57.7
Other Decision Support	—
2016 Voting	47.3

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	60.0
Healthy Places Index Score for Project Location (b)	31.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Applicant-provided construction schedule.
Construction: Off-Road Equipment	Applicant-provided construction list.

Construction: Trips and VMT	Increased default worker trips for site preparation and grading phases (default was zero) to be conservative.

Appendix B

Cultural Resources Assessment (CONFIDENTIAL)

This document contains sensitive and confidential information concerning archaeological sites. This document is being held confidential and is not for public distribution. Archaeological site locations are exempt from the California Public Records Act, as specified in Government Code 6254.10, and from the Freedom of Information Act (Exemption 3), under the legal authority of both the National Historic Preservation Act (PL 102-574, Section 304[a]) and the Archaeological Resources Protection Act (PL 96-95, Section 9[a]). Sections of this report contain maps and other sensitive information. Distribution is therefore restricted.

Appendix C

Energy Consumption Calculations

Jefferson Ave Interconnection

Last Updated: 6/3/2024

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Excavators	1	8	36	0.38	Pipeline Installation Phase	1,402
Trenchers	1	8	40	0.5	Pipeline Installation Phase	2,050
Plate Compactors	1	8	8	0.43	Pipeline Installation Phase	353
Pavers	1	8	81	0.42	Paving Phase	3,487
Paving Equipment	1	8	89	0.36	Paving Phase	3,284
Surfacing Equipment	1	8	399	0.3	Paving Phase	11,035
Sweepers/Scrubbers	1	8	36	0.46	Paving Phase	1,697
					Total Fuel Used	**23,306 (Gallons)**

Construction Phase	Days of Operation
Pipeline Installation Phase	218
Paving Phase	218
Total Days	**436**

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Pipeline Installation Phase	24.1	8	18.5	1,255
Paving Phase	24.1	10	18.5	1,673
		Total		**2,929**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Pipeline Installation Phase	7.5	0.16	20.0	0.43
Paving Phase	7.5	0	20.0	0.00
		Total		**0.43**
VENDOR TRIPS				
Pipeline Installation Phase	7.5	0	10.2	0.00
Paving Phase	7.5	0	10.2	0.00
		Total		**-**

Total Gasoline Consumption (gallons)	**2,929**
Total Diesel Consumption (gallons)	**23,307**

Sources:

[1] United States Environmental Protection Agency. 2021. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES3.0.2* . September. Available at: https://www.epa.gov/system/files/documents/2021-08/420r21021.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2021. *National Transportation Statistics* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Appendix D

Geotechnical Report

Orange County
17782 Georgetown Lane
Huntington Beach, California 92647
Tele: (714) 375-3830
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GEOTECHNICAL REPORT
JEFFERSON AVENUE INTERCONNECTION PROJECT
WESTERN MUNICIPAL WATER DISTRICT
FROM GUAVA AVENUE TO ELM STREET
MURIETTA, CALIFORNIA
AESCO PROJECT NO. 20230665-H2565

Prepared for:

MKN and Associates, Inc.
16310 Bake Parkway
Irvine, CA 92618

Attention: Mr. Safa Kamangar, PE, PMP, CCM, ENV SP

Prepared By:

AESCO
17782 Georgetown Lane
Huntington Beach, California 92647

Adam Chamaa, PE, GE, Sr. Engineering Manager
Omar Chamaa, PE, Project Manager

May 6, 2024

Orange County
17782 Georgetown Lane
Huntington Beach, California 92647
Tele: (714) 375-3830
Fax: (714) 375-3831

May 6, 2024

Mr. Safa Kamangar, PE, PMP, CCM, ENV SP
MKN and Associates, Inc.
16310 Bake Parkway
Irvine, CA 92618

Subject: Geotechnical Engineering Report
Jefferson Avenue Interconnection Project
Western Municipal Water District
From Guava Avenue to Elm Street,
Murietta, CA
AESCO Project No. 20230665-H2565

Dear Mr. Kamangar:

AESCO is pleased to provide you with the geotechnical report for the proposed Jefferson Avenue Interconnection Project to be constructed at the subject site. The project consists of construction of a new 12" waterline along Jefferson Avenue between Guava Avenue to Elm Street and provide an interconnection to Rancho's 36-inch domestic water line.

AESCO will be happy to assist you further on this project by furnishing any Construction Materials Testing and Inspection Services you may require during the construction phase of the project. We are a full service-testing laboratory and inspection service and can supply the full range of testing and inspection services such as soils, concrete, asphalt, steel, welding, etc. that may be necessary for construction of this project.

Please do not hesitate to contact us if you have any questions or if we may be of any additional assistance. We look forward to assisting you during the construction of the proposed facility.

Sincerely,

AESCO, Inc.

Omar Chamaa, PE
Project Manager

Adam Chamaa, PE, GE
Engineering Manager

Nadra Matar
Geology Division

Appendix

Geotechnical Engineering Services
Jefferson Avenue Interconnection Project
Western Municipal Water District
From Guava Avenue to Elm Street
Murietta, CA
AESCO Project No. 20230665-H2565

This report, authorized by MKN and Associates, presents the results of a geotechnical investigation performed by AESCO for the installation of two interconnections with Rancho California Water District (Rancho) and new 12" waterline along Jefferson Avenue in the City of Murietta. This interconnection will tap into Rancho's 36-inch domestic water line which runs along Jefferson Avenue. The layout of the study area is shown on the Site Plan (Figure 1 to Figure 5) in the Appendix. The layout is based on preliminary drawings provided by MKN and Associates, dated March 2024.

The purpose of this study was to provide geotechnical engineering recommendations for the water line construction, the pavement and subgrade recommendations for in the area of construction. The scope of our services included the following:

- Coordinating site access for the field investigation;
- Obtaining utility clearances for the field investigation;
- Perform a ground penetration radar (GPR) survey of the site;
- Obtaining a business license from the City of Murietta;
- Obtaining an encroachment permit from the City of Murietta;
- Provide traffic control in accordance with the California MUTCD Manual during the field investigation;
- Performing geotechnical drilling and sampling at the site;
- Performing laboratory testing of representative samples;
- Performing engineering analyses; and
- Preparing this report.

This report summarizes our findings and presents geotechnical recommendations for the design of pavement and subgrade recommendations for the new 12" water pipeline design.

2.1 FIELD INVESTIGATION

A field investigation was conducted at the site on April 16, 2024, to gather information on the subsurface conditions. The work was carried out under a no-fee encroachment permit obtained from The City of Murrieta, Public Works & Engineering, Permit No. E-PT-MISC-2024-00276. Traffic control was managed by Allied Traffic & Equipment company at the city's request.

A total of five borings were drilled to a maximum depth of 25 feet below the existing subgrade using a truck-mounted hollow-stem auger drill rig and hand auger. Boring locations B-2 and B-5 were situated in the roadway and were initially cored to preserve the core for capping, as per the City of Murietta Public Works Inspector's request. The approximate locations of the borings can be found on the site plan (Figure 1 through Figure 5) based on preliminary drawings by MKN. Please note that surveying was not within the scope of our work.

AESCO personnel undertook the logging of the borings, visually classified the subsurface materials encountered, and collected samples. The borings were then backfilled with grout up to the bottom of the existing asphaltic concrete. B-2 and B-5 were capped with the extracted asphalt core and epoxied, in compliance with the city's requirements.

The logs of borings B-1 through B-5 are documented in the Appendix.

2.2 LABORATORY TESTING

All testing was performed in accordance with ASTM Standards and California Test Methods. Laboratory testing performed in our Huntington Beach, California geotechnical laboratory consisted of water content (ASTM D4959), Atterberg Limits (ASTM D4318), dry density (ASTM D2937), washed sieve analysis (ASTM D1140), direct shear test (ASTM D3080), and R-Value (California Test Method 301). Results of the laboratory tests are summarized on the Boring Log.

R-Value test was performed on samples of the subgrade soils from borings B-3 and B-4 which yielded a result of 29 (exudation) and 27 (exudation), respectively, for the clayey and clayey sand subgrade soils.

3.1 SITE AND SUBSURFACE CONDITIONS

The material encountered within boring B-1 consisted of tan silty sand to a depth of 3 feet, light brown clayey sands to a total depth drilled of 10 feet below existing ground surface. Brown clayey sands were encountered in B-2 to a depth of 20 feet below existing ground surface, with medium dense between 3 to 5 feet, loose between 5 and 7 feet, medium dense and increase in clay from 8 to 10 feet, dense from 13 to 15 feet, and dense with an increase of sand between 18 and 20 feet below existing ground surface. Brown clayey sands were encountered in B-3 and B-4 to total depth drilled of 10 feet below existing ground surface. Brown clayey sands were encountered in B-5, loose between 3 and 5 ft, and medium dense between 5 foot to total drilled depth of 20 feet below existing ground surface.

Groundwater was not encountered within the borings. Historically high groundwater was at a depth greater than 179 feet (CDWR, 1968). The depth to groundwater may fluctuate, depending on rainfall and possible groundwater recharge or pumping activity in the site vicinity.

The pavement sections of asphalt concrete (AC) and base (AB) encountered in borings B-2 and B-5 consisted of the following:

Boring No.	Thickness (in.)	
	AC	AB
B-2	6	3
B-5	4	3

The pavement thickness, comprising both asphalt concrete and base layers as indicated in the table above, is subject to variations between different boring locations, primarily due to utility trenching activities and spot pavement repairs conducted along the street. As a result, there may be inconsistencies in the pavement thickness along the street alignment, influenced by various factors such as the history of street repairs, patches of new pavement, ongoing utility repair and installation works. These factors contribute to the fluctuation in pavement thickness throughout the project area, highlighting the need for careful consideration and assessment during the pavement evaluation process.

4.1 SITE PREPARATION AND EARTHWORK

All grading and site preparation should be observed by experienced personnel reporting to the project Geotechnical Engineer. Our field monitoring services are an essential continuation of our prior studies to confirm and correlate the findings and our prior recommendations with the actual subsurface conditions exposed during construction, and to confirm that suitable fill soils are placed and properly compacted.

The bottom of the trench excavations to receive compacted fill should be scarified to a depth of 6 inches, moisture conditioned to at least optimum water content, and compacted as described above. Excavations below the final grade level should be properly backfilled using approved fill material. The backfill and any additional fill should be placed in loose lifts less than 8 inches thick, moisture conditioned to 0 to 2 percent above optimum water content and compacted as to obtain a relative compaction of not less than 90 percent as determined by ASTM D-1557, latest revision, or as specified by the Soils Engineer. All fill 12 inches below the pavement surface should be compacted to a minimum of 95 percent relative compaction as determined by ASTM D-1557. Engineered fill should consist of soils with a maximum particle size of 4 inches, as per Section 217-2.1 of the WMWD Standard Specifications, at least 80 percent passing the ¾-inch sieve and with an expansion index not greater than 20. Fill materials should be free of construction debris, roots, organic matter, rubble, contaminated soils, and any other unsuitable or deleterious material as determined by the Geotechnical Engineer. The on-site soils appear to be suitable for use as compacted fill. We recommend that if imported fill material is used, it should be analyzed for acceptability by the Geotechnical Engineer prior to importing it to the site for use as engineered fill.

If loose, spongy, soft or other unacceptable materials, including undocumented fill, are encountered in the subgrade they should be removed to firm materials as determined by the Geotechnical Engineer's representative and replaced with either concrete, crushed aggregate base or compacted engineered fill.

4.2 INSTALLATION OF PIPELINES

The invert of the suction and discharge pipelines will be placed 4 feet below the existing ground or pavement surface and the bottom of the trench will be 6 feet below the existing ground or pavement surface.

4.2.1 Pipe Bedding

Bedding material should be placed to a minimum depth of 12 inches below the invert of new piping and should extend 12 inches over the top of the pipeline. Bedding should also be placed at least 6 to 8 inches on either side of the pipelines and should extend 6 inches below PVC and ductile iron pipe. The bedding should be a uniform material and may consist of compacted, free-draining sand that has less than 12 percent passing the No. 200 sieve and a sand equivalent value greater than 30. A modulus of soil reaction of 200 pci is recommended for estimating initial pipe deflections if granular bedding material is placed adjacent to the pipes. Placement of bedding material should be conducted at the same time on each side of the pipelines for proper protection of the pipes. Flooding or jetting for placement and compaction of bedding material may be doable for clean sand type bedding material. Bedding material and compaction requirements should be in accordance with the requirements presented in the "Site Preparation and Earthwork" and "Utility Trenches" sections of this report.

4.2.2 Lateral Pressure for Thrust Block

Transferring thrust force to soil outside of the pipes through a thrust block will restrain thrust for buried pipelines. Concrete should be poured against undisturbed soil and should make positive contact with the pipe with a minimum thickness of 12 inches. Concrete should be placed such that bell ends of fittings should be available for repairs. Concrete placed over joints should be removed. Reinforcing steel exposed directly to the soil should be coated with the appropriate coating as per Section 306-8.8.3 of WMWD Standard Specifications. The following parameters may be used to calculate the thrust block lateral passive earth pressure, assuming groundwater at the ground surface:

Pp = 100 psf/ft, with a maximum of 1000 psf

Thrust block excavations should be backfilled with granular material in accordance with the requirements presented in the "Site Preparation and Earthwork" section of this report.

4.3 EXCAVATIONS AND SHORING

The site is underlain by clayey sands and silty sands. This material may be subject to heavy pumping with high moisture conditions during the site preparation. Temporary excavations should be evaluated in accordance with OSHA. Temporary cuts and trenches should not undermine support of structures or other improvements and setback requirements of governing jurisdictions and applicable building codes should be followed.

The historic high groundwater level is at a depth greater than 179 feet (CDWR, 1968) and no water was encountered within the borings which were drilled to a maximum depth of 20 feet below the existing ground surface. Therefore, a dewatering system may not be needed during any open excavations. In any excavation, perched water should be anticipated. Water may be generated through the bedding of existing utilities and may seep into the excavation. This type of water may be pumped out by placing a sump pump in the excavation.

We understand that installation of the pipelines will generally involve excavating up to 6 feet below grade in mostly sandy clay materials. Excavations between 4 and 10 feet in depth necessitate shoring to ensure the safety of personnel and prevent potential collapses. For this pipeline installation project, excavation depths are anticipated to reach up to 6 feet below grade, primarily in sandy clay materials categorized as soil type (B) according to CAL-OSHA standards. To maintain stability, temporary construction slopes should not exceed a ratio of 1:1 (horizontal to vertical).

Given the project's location within a street environment, where minimizing lane closures is crucial, vertical excavation shoring may be necessary to facilitate a more efficient construction process. The shoring method may involve the use of prefabricated hydraulic supports, braced with plywood, which should be 1.125 in. thick softwood or 0.75 inch. thick, 14 ply, arctic white birch (Finland form), or steel plates installed on the excavation walls to prevent cave-ins.

It is imperative that the shoring load rating is designed by a licensed engineer experienced in such systems to ensure structural integrity and compliance with safety regulations.

The design of shoring, a minimum equivalent pressure of 45H should be used. For the design of this value are based on the assumption that there are no surcharge loads, such as stockpiles of soil or construction materials, vehicular and dump truck loads and that no loads act above a 1:1 (h:v) plane extending from the base of the shoring. If there are surcharge loads, then the effect of the loads should be considered on the lateral earth pressures.

Temporary spoil must be placed no closer than 4 feet from the surface edge of the excavation, measured from the nearest base of the spoil to the cut. This distance should not be measured from the crown of the spoil deposit. This distance requirement reduces the fill surcharge loads. Spoil should be placed so that it channels rainwater and other run-off water away from the excavation. Spoil should be placed so that it cannot accidentally run, slide, or fall back into the excavation.

The contractor should be aware that slope height, slope inclination or excavation depths should in no case exceed those specified in local, state or federal safety regulations, e.g. OSHA Health and Safety Standards for Excavation, 29 CFR Part 1926, or successor regulations. Such regulations are strictly enforced and, if not followed, the owner or the contractor could be liable for substantial penalties.

4.4 EXISTING UTILITIES

The proposed pipeline installation will be located near existing utilities. Care should be exercised not to disturb the existing utilities and to support them during construction.

4.5 ASSESSMENT OF ADJACENT STRUCTURES

Adjacent structures (within 50 feet) should be monitored for vibrations and ground surface settlement due to construction of the pipeline. The monitoring program could include seismographs, groundwater observation wells, inclinometers, and other methods. Existing conditions should be documented prior to the start of construction. Documentation may include a crack survey, videotaping of deficiencies, floor level surveys, and other methods. The age and condition of existing utilities should also be documented.

4.6 SPECIFICATIONS FOR PAVEMENT CONSTRUCTION

For the pavement replacement within the trench zone, all organics at the surface must be completely removed prior to any site preparation. The excavated subgrade should be recompacted to a minimum of 95 percent of maximum dry density per ASTM D-1557. Any soft spots, where the Geotechnical Engineer believes compaction may not be achieved, should be removed, and replaced with compacted engineered fill as described herein.

The upper 12 inches would then have engineered fill placed and compacted to a minimum of 95 percent relative compaction per ASTM D1557. This procedure is recommended to maintain a continuous surface prior to placement of new base.

Lift thickness should be no greater than the height of the teeth on a sheepsfoot roller. Generally, for a forty-eight-inch diameter or smaller drum roller, the maximum acceptable compacted lift thickness is six inches. For rollers with drums sixty inches in diameter and greater, with about nine-inch-long teeth, a nine-inch final compacted lift thickness will be acceptable. The sole determination of the lift thickness will be the capability of the Contractor's equipment to obtain the required compaction. When obtaining the average density of a lift to determine its

conformance to specifications, the lift should be immediately rejected if any density is more than 2 percent below the required average.

Generally, sheepsfoot rollers are most suitable for compaction of clayey and silty soils; however, the contractor may use spike-tooth rollers, rubber-tired rollers, or any fill compaction equipment that has sufficient mass to compact the soil. The drums of sheepsfoot rollers should be filled with water or, for additional weight, with both water and sand. For sands, the contractor should use "vibratory" equipment of sufficient mass needed for achieving compaction. The vibratory frequency of the compaction equipment should be adjustable. Tractors or other vehicles used primarily for hauling WILL NOT be allowed as fill compaction equipment. The Contractor should also have smooth wheeled rollers to seal the working area at the end of each day's operations so that overnight rains will not saturate the soil and delay work. Rollers should also be used to seal the surface whenever rainfall is imminent. A Geotechnical Engineer should advise the Contractor to modify or remove from the site any equipment that in his opinion is not capable of compacting the fill to the required density.

4.6.1 Class II Aggregate Base or Crushed Miscellaneous Base

If the existing base materials can be removed without contamination from the subgrade soils, they may be considered for reuse as base material for the new pavement. When excavating the existing gravel during construction, care should be taken to extract only the gravel without disturbing the underlying native subgrade soils. The gravel should be stockpiled, and representative samples collected for laboratory testing to assess if it meets the criteria for either Class II Aggregate Base (AB) or Crushed Miscellaneous Base (CMB) as per the design selection.

Any Class II crushed aggregate base must be free of organic matter and other detrimental substances and should be capable of easy compaction underwatering and rolling to establish a stable base. It should be compacted to a minimum of 95 percent according to ASTM D-1557.

Imported aggregate base must adhere to the grading and quality standards outlined in the provided table below. The Contractor may choose the ¾ inch-maximum grading option, with changes to the grading requiring approval from the Geotechnical Engineer.

If CMB is used as base, it should conform to the requirements of the Standard Specifications for Public Works Construction (Greenbook).

AGGREGATE GRADING REQUIREMENTS

Sieve Sizes	Percentage Passing
	¾" Maximum
	Grading Requirements
1-1/2" (37.5mm)	100
¾" (19.0mm)	90-100
3/8" (9.5mm)	50-80
No. 4 (4.75mm)	35-55
No. 30 (600µm)	10-30
No. 200 (75 µm)	2-9
ASTM C131 Test Grading	B

QUALITY REQUIREMENTS

Test	Requirements
Resistance (R-value)	80 Min.
Sand Equivalent	50 Min.
Durability Index	40 Min.

If CMB is used as base, it should conform to the requirements of the Standard Specifications for Public Works Construction (Greenbook).

4.6.2 Compaction Specifications for Base and Asphalt Concrete

The base should be compacted to a minimum of 95 percent per ASTM D-1557. The asphaltic concrete should be compacted to a relative compaction of 95 percent. The asphaltic concrete pavement should consist of base course consisting of Type II B3 PG 64-10; and Overlay/Surface Course consisting of Type III C3 PG 64-10 per WMWD Standard Specifications.

Compaction should be done with the base material sufficiently moist so that bulking will be eliminated.

The borrow source, if any, should be checked and tested for compliance with the material specifications. Initial acceptance of fill in the borrow source does not mean general acceptance of the entire pit since the material in the pit can change.

The contractor should use "vibratory" equipment of sufficient mass needed for achieving compaction. The vibratory frequency of the compaction equipment should be adjustable.

4.7 SOIL CORROSIVITY

The results of pH, soluble chloride and soluble sulfate laboratory tests on a sample of the near surface soils are summarized in the following table:

Chemical Testing - Boring B-2		
Soil Test	**Test Results**	**Corrosion Potential**
Soluble Sulfates (per CA 417)	93 ppm	Negligible sulfate attack on concrete.
Soluble Chlorides (per CA 422)	60 ppm	Negligible corrosive potential to buried ferrous metals
pH	9.3	Mild to Moderate corrosion potential to buried ferrous metals

Concrete should be designed in accordance with the 2022 CBC, ACI 318 Section 4.3, Table 19.3.2.1 (2022). As the potential for sulfate attack on concrete appears negligible, Type II Portland cement may be used with no water to cement ratio for the purpose of sulfate attack abatement. The minimum compressive strength of concrete should be 3,000 psi at 28 days and maximum slump during placement should be five inches. All subgrade soils should be moistened to 125% of optimum moisture prior to the concrete pour. A qualified inspector, under the supervision of a professional engineer, should inspect the concrete placement.

The test results indicate that the on-site soils can be classified as very corrosive potential to buried metallic structures (e.g. pipes). As a minimum, buried metal piping should be protected with suitable coatings, wrappings, or seals. As an alternative, utility piping may be buried in PVC lined trenches and backfilled with clean sand. The width of the trenches should be a minimum of three times the diameter of the pipes. A corrosion consultant should be retained if more detailed evaluation or a protection system is desired. AESCO recommends that additional corrosivity evaluation should be performed during grading operations and for any imported fill to ensure that corrosivity characteristics have not changed.

4.8 CONSTRUCTION PROCEDURES

The upper soils at the site are composed of a significant number of fine materials. These soils are subject to extreme changes in shear strength with varying moisture conditions and, if construction is initiated during wetter seasons of the year, it may be very difficult to move equipment about the site. Also, once the soil becomes saturated, compaction operations can be

seriously hampered by a tendency of the fine material to "pump". Consequently, it is recommended that adequate site drainage be established prior to and continued during and following construction operations to prevent ponding of water on or adjacent to the construction area and subsequent saturation of the soil. Compaction operations may be expedited by using light compaction equipment and thin lifts of soil. Rolling only as necessary to obtain compaction is advisable because further repetitive loading may cause the subgrade to "pump". Once the soil begins to "pump", it generally becomes necessary to undercut the poor soil, waste it and replace it with controlled fill.

Compaction operations and installation of the foundations should be supervised by the Geotechnical Engineer. All foundation excavations should be inspected to verify cleaning and bearing stratum. Concrete should be placed in foundation excavations as soon as practical after forming and final cleanup have been approved to avoid prolonged exposure of the bearing stratum and possible disturbance due to standing water, desiccation or construction operations.

4.9 CONSTRUCTION OBSERVATIONS AND FIELD TESTING

Construction observation and field-testing services are an essential continuation of this geotechnical study to confirm and correlate our findings and recommendations with the actual subsurface conditions exposed during construction. As such, to maintain the status of geotechnical engineer of record, AESCO should be present to observe and provide testing during the following construction activities:

- Excavation bottoms
- Subgrade inspection and testing
- Shoring installation
- Placement of all fill and base
- Backfilling of utility trenches
- Placement of AC and Base
- Concrete placement

5.1 LIMITATIONS

It must be recognized that the conclusions reached in this report are based on conditions which exist at the boring location and are assumed to exist over the entire site. In any subsoil investigation, it is necessary to assume that the subsoil conditions between boring(s) do not change significantly. The pavement thickness may change between borings due to pavement maintenance, utility placement, and localized pavement removal and replacement. The number of the borings, locations, and spacing are chosen in such a manner as to decrease the possibility of undiscovered anomalies, while considering the nature of loading, size, existing structures, and cost of the project. Consequently, careful observations must be made during construction to detect significant deviations of actual conditions throughout the construction area from those inferred from the exploratory borings.

If significant changes in design loads or structural characteristics are made, AESCO should be retained to review our original design recommendations and their applicability to the revised design plans. In this way, any required supplemental recommendations can be made in a timely manner.

Should any unusual conditions be encountered during construction, this office should be notified immediately so that further investigations and supplemental recommendations can be made. Geotechnical observations and testing should be provided on a continuous basis during grading, excavation, and installation of the foundations. If parties other than AESCO are engaged to provide geotechnical services during construction, they will be required to assume full responsibility for the geotechnical phase of the project by adhering to the recommendations of this report.

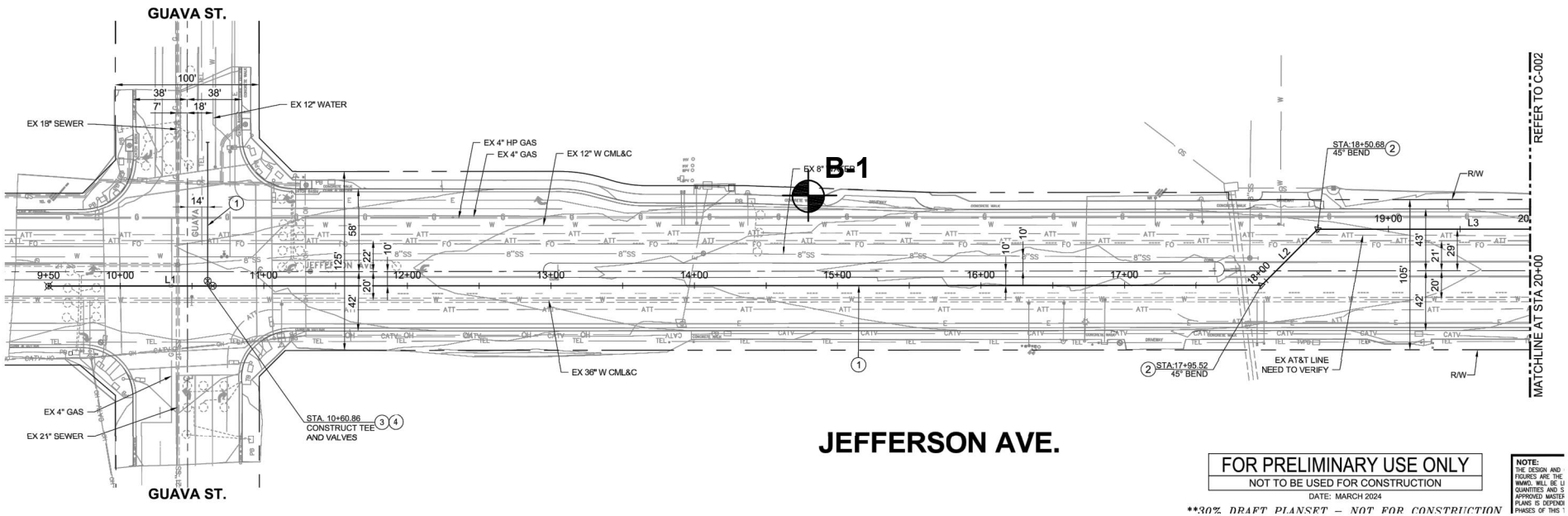
APPENDIX A
SITE PLAN (Figure 1 through Figure 5)

L3	371.438	S41°44'08"E	(CONT)

CURB, GUTTER, DRAIN PIPES, LANDSCAPING AND ALL EXISTING IMPROVEMENTS NOT SPECIFICALLY CALLED FOR REMOVAL.

4. GAS, ELECTRIC, PHONE, CABLE TV, SEWER, AND WATER SERVICES ARE SHOWN WHERE PLANS ARE AVAILABLE. HOWEVER, THESE PLANS DO NOT NECESSARILY REFLECT ALL OF THE GAS, ELECTRIC, PHONE, CABLE TV, SEWER, AND WATER SERVICES. THE CONTRACTOR SHALL ASSUME SERVICES EXIST FOR EACH UTILITY TO EACH INDIVIDUAL PROPERTY. CONTRACTOR TO FIELD VERIFY LOCATION OF ALL UTILITY SERVICES AND PROTECT IN PLACE, UNLESS OTHERWISE NOTED.

④ CONSTRUCT 18" PLUG OF TEE WITH TI WMWD STD. DWG. XXX



JEFFERSON AVE.

FOR PRELIMINARY USE ONLY
NOT TO BE USED FOR CONSTRUCTION
DATE: MARCH 2024

**30% DRAFT PLANSET – NOT FOR CONSTRUCTION

NOTE:
THE DESIGN AND FIGURES ARE THE WMWD. WILL BE U QUANTITIES AND S APPROVED MASTER PLANS IS DEPENDI PHASES OF THIS T

LEGEND

B-1 Approximate Location of Boring

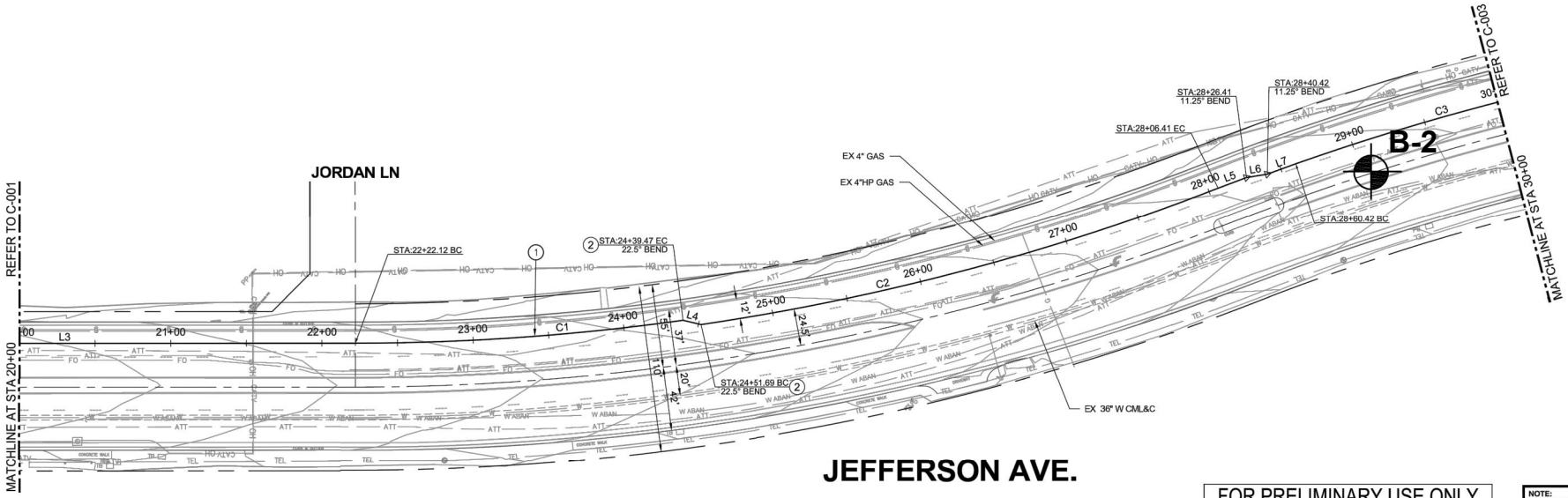
AESCO	**WESTERN WATER**	
	Project No. : 20230665-H2565	Scale: *1 inch ≅ 120 feet*
	Site Name: Jefferson Ave.	
	Site Address: STA. 10+00 to STA. 20+00	
	SITE PLAN	Date: 4-25-24 / Figure 1

C2	012°54'00"	1575.50	178.11'
C3	010°15'26"	1627.79	146.10'

(CONT)

L4	12.222	S28°15'59"E
L5	20.000	S62°12'31"E
L6	14.004	S50°57'31"E
L7	20.000	S61°35'20"E

(CONT)



FOR PRELIMINARY USE ONLY
NOT TO BE USED FOR CONSTRUCTION
DATE: MARCH 2024

NOTE:
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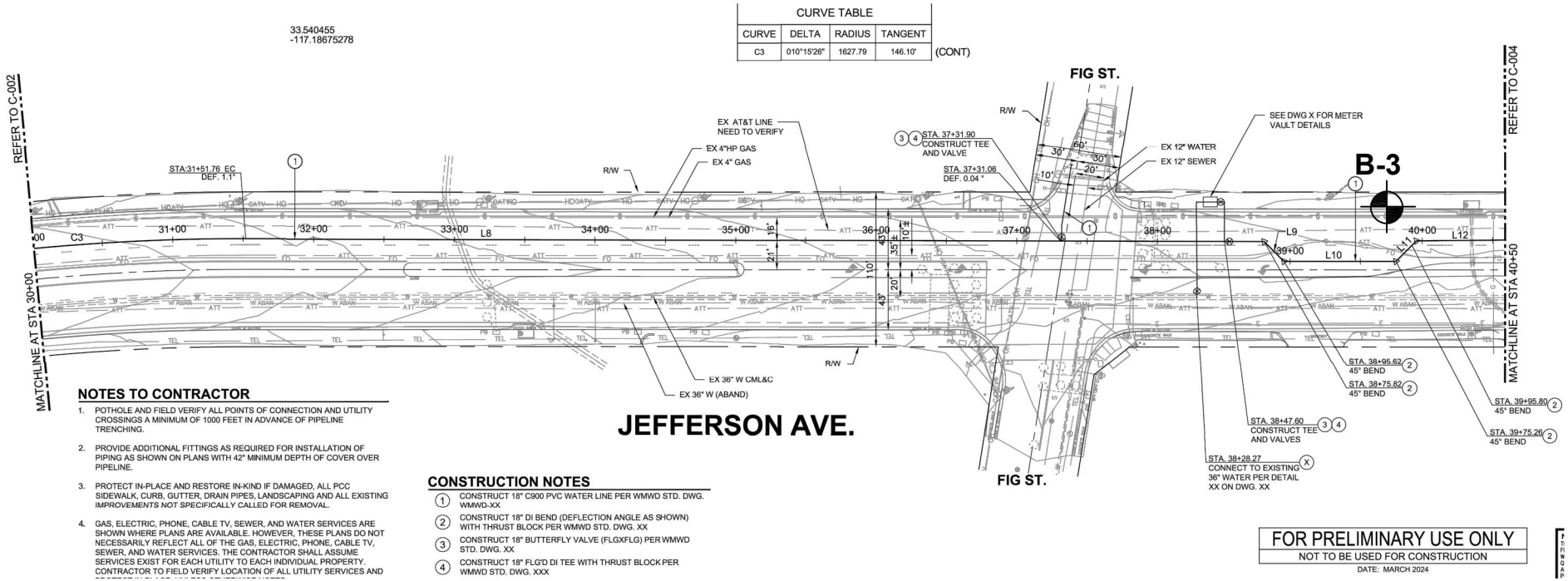
APPROVED MASTER PL
PLANS IS DEPENDENT

LEGEND

B-2 Approximate Location of Boring

WESTERN WATER		
Project No. : 20230665-H2565	Scale: *1 inch ≅ 115 feet*	
Site Name: Jefferson Ave.		
Site Address: STA. 20+00 to STA. 30+00		
SITE PLAN	Date: 4-25-24	Figure 2



NOTES TO CONTRACTOR

1. POTHOLE AND FIELD VERIFY ALL POINTS OF CONNECTION AND UTILITY CROSSINGS A MINIMUM OF 1000 FEET IN ADVANCE OF PIPELINE TRENCHING.
2. PROVIDE ADDITIONAL FITTINGS AS REQUIRED FOR INSTALLATION OF PIPING AS SHOWN ON PLANS WITH 42" MINIMUM DEPTH OF COVER OVER PIPELINE.
3. PROTECT IN-PLACE AND RESTORE IN-KIND IF DAMAGED, ALL PCC SIDEWALK, CURB, GUTTER, DRAIN PIPES, LANDSCAPING AND ALL EXISTING *IMPROVEMENTS NOT SPECIFICALLY* CALLED FOR REMOVAL.
4. GAS, ELECTRIC, PHONE, CABLE TV, SEWER, AND WATER SERVICES ARE SHOWN WHERE PLANS ARE AVAILABLE. HOWEVER, THESE PLANS DO NOT NECESSARILY REFLECT ALL OF THE GAS, ELECTRIC, PHONE, CABLE TV, SEWER, AND WATER SERVICES. THE CONTRACTOR SHALL ASSUME SERVICES EXIST FOR EACH UTILITY TO EACH INDIVIDUAL PROPERTY. CONTRACTOR TO FIELD VERIFY LOCATION OF ALL UTILITY SERVICES AND

CONSTRUCTION NOTES

1. CONSTRUCT 18" C900 PVC WATER LINE PER WMWD STD. DWG. WMWD-XX
2. CONSTRUCT 18" DI BEND (DEFLECTION ANGLE AS SHOWN) WITH THRUST BLOCK PER WMWD STD. DWG. XX
3. CONSTRUCT 18" BUTTERFLY VALVE (FLGXFLG) PER WMWD STD. DWG. XX
4. CONSTRUCT 18" FLG'D DI TEE WITH THRUST BLOCK PER WMWD STD. DWG. XXX

FOR PRELIMINARY USE ONLY
NOT TO BE USED FOR CONSTRUCTION
DATE: MARCH 2024

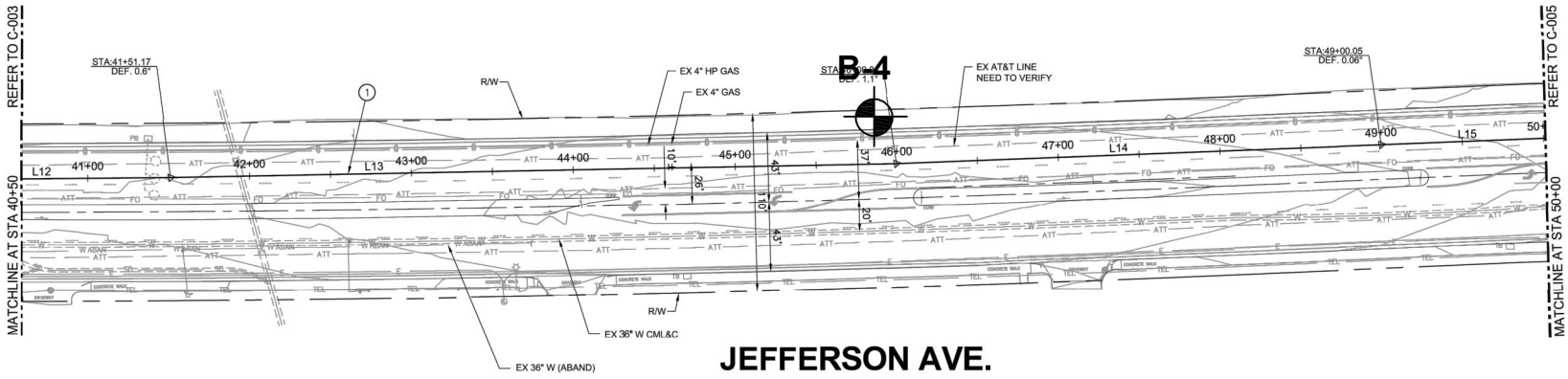
LEGEND

B-3 Approximate Location of Boring

WESTERN WATER		
Project No. : 20230665-H2565	Scale: *1 inch ≅ 115 feet*	
Site Name: Jefferson Ave.		
Site Address: STA. 30+00 to STA. 40+50		
SITE PLAN	Date: 4-25-24	Figure 3

LINE DATA TABLE		
LINE	LENGTH	BEARING
L12	155.436	S51°19'00"E
L13	448.820	S51°53'37"E
L14	300.064	S52°59'55"E
L15	116.437	S53°03'34"E

(CONT)



CONSTRUCTION NC

1. CONSTRUCT 18" C900 PVC WATER L

NOTES TO CONTRAC

1. POTHOLE AND FIELD VERIFY ALL CROSSINGS A MINIMUM OF 1000 F TRENCHING.
2. PROVIDE ADDITIONAL FITTINGS A PIPING AS SHOWN ON PLANS WIT PIPELINE.
3. PROTECT IN-PLACE AND RESTOR SIDEWALK, CURB, GUTTER, DRAI IMPROVEMENTS NOT SPECIFICAL
4. GAS, ELECTRIC, PHONE, CABLE T SHOWN WHERE PLANS ARE AVAI NECESSARILY REFLECT ALL OF T SEWER, AND WATER SERVICES. T SERVICES EXIST FOR EACH UTILI CONTRACTOR TO FIELD VERIFY L PROTECT IN PLACE, UNLESS OTH

FOR PRELIMINARY USE ONLY
NOT TO BE USED FOR CONSTRUCTION
DATE: MARCH 2024

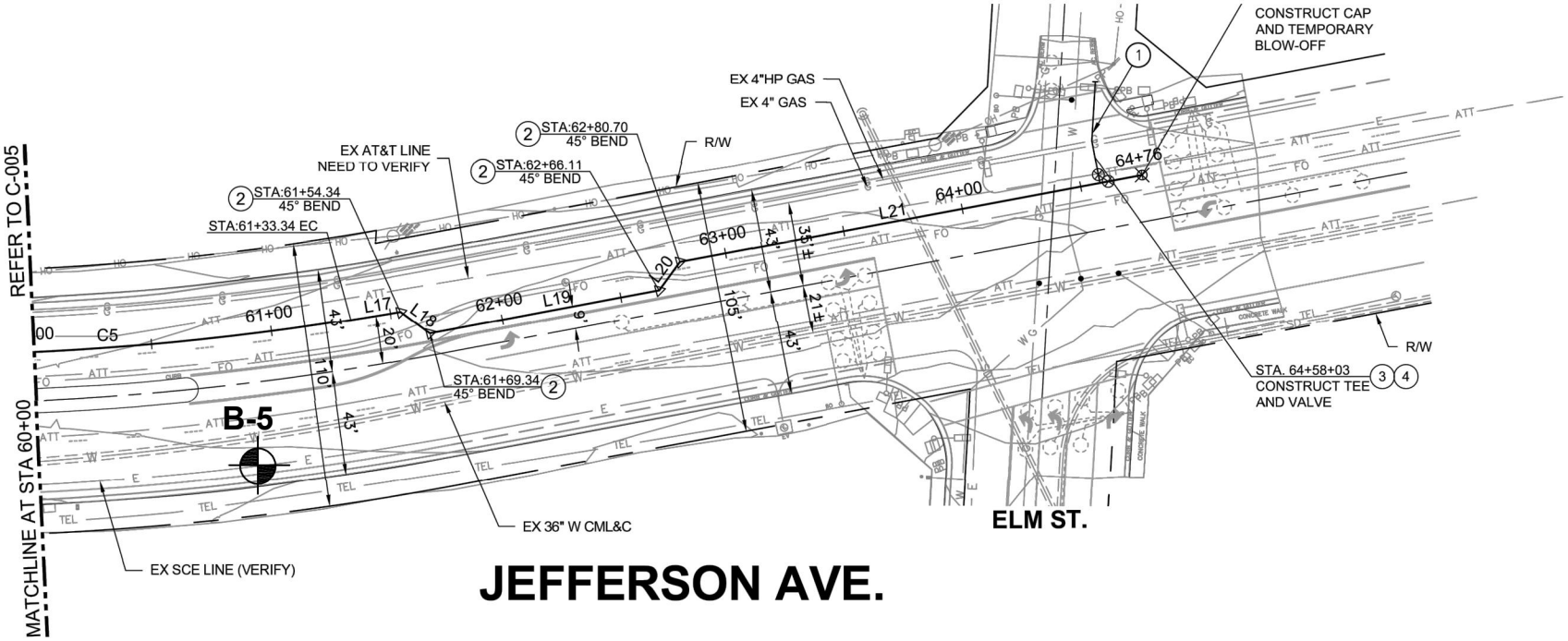
30% DRAFT PLANSET – NOT FOR CONSTRUCTION

NOTE:
THE DESIGN AND CONSTRUCT FIGURES ARE THE RESPONSIB WMWD. WILL BE LIMITED TO T QUANTITIES AND SIZE OF FAC APPROVED MASTER PLAN. DE PLANS IS DEPENDENT UPON PHASES OF THIS TRACT AND/

LEGEND

B-4 Approximate Location of Boring

AESCO	**WESTERN WATER**	
	Project No. : 20230665-H2565	Scale: *1 inch ≅ 120 feet*
	Site Name: Jefferson Ave.	
	Site Address: STA. 30+00 to STA. 40+50	
	SITE PLAN	Date: 4-25-24 / Figure 4



LEGEND

B-5 Approximate Location of Boring

N

AESCO	**WESTERN WATER**	
	Project No. : 20230665-H2565	Scale: *1 inch ≅ 75 feet*
	Site Name: Jefferson Ave.	
	Site Address: STA. 30+00 to STA. 40+50	
	SITE PLAN	Date: 4-25-24 / Figure 5

APPENDIX B
LOGS OF BORINGS B-1 through B-5

Log of Boring B-1

AESCO

Project:	Western Municipal Water District Jefferson Avenue Interconnection, Murrieta, CA	**Location:**	Jefferson Ave, Murrieta, CA
Client:	MKN and Associates, Inc.	**Field Engineer:**	Aziz Trabolci
Date:	4/16/24	**Project No.**	20230665-H2565

WATER: None encountered

DRILLING: Hand Auger

FIELD DATA		TESTS	LABORATORY DATA											**DESCRIPTION OF STRATUM**
SOIL SYMBOL	DEPTH (FT)	N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp. TSF	Unconfined Comp. Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	
	3		13.5				NP			37.7				Tan silty SAND (SM)
	5		5.9											
	7		8.3		27	12	15							Light brown clayey SAND (SC)
	10		9.5							24.8				

Boring terminated at 10 feet

.

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY

Ground Water Level
Hydrostatic Ground Water Level

SM
SC

N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN.,TSF

REMARKS:
NP: Non Plastic Materials
* Remolded Samples

Log of Boring B-2

AESCO

Project:	Western Municipal Water District Jefferson Avenue Interconnection, Murrieta, CA	**Location:**	Jefferson Ave, Murrieta, CA
Client:	MKN and Associates, Inc.	**Field Engineer:**	Aziz Trabolci
Date:	4/16/24	**Project No.**	20230665-H2565

WATER: None encountered

DRILLING: Hollow-Stem Auger

FIELD DATA		TESTS	LABORATORY DATA											
SOIL SYMBOL	DEPTH (FT)	N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp. TSF	Unconfined Comp. Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	DESCRIPTION OF STRATUM
														6" AC / 3" Base
			11.7		27	12	15			24.1				Brown clayey SAND (SC), with minor silt
	3													
		N=10	9.8											- Medium dense @ 3 ft.
	5													
C		N=7 P=3	9.0	118.1							160	28		- Loose @ 5 ft.
	7													
		N=18	12.8		26	12	14			38.0				- Increase in clay, Medium dense @ 8 ft.
	10													
C		N=47 P=4.25	5.8	102.9							192	30		- Dense @ 13 ft.
	15													
		N=48	7.5							15.8				- Increase in sand, Dense @ 13 ft.
	20													

Boring terminated at 20 feet

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY

Ground Water Level
Hydrostatic Ground Water Level

SM
SC

N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN.,TSF

REMARKS:
NP: Non Plastic Materials
* Remolded Samples
Blow Counts Corrected for California Modified Sampler (0.6 multiplier). Auto-Hammer. 8" HAS

Log of Boring B-3

AESCO

Project:	Western Municipal Water District Jefferson Avenue Interconnection, Murrieta, CA	**Location:**	Jefferson Ave, Murrieta, CA
Client:	MKN and Associates	**Field Engineer:**	Aziz Trabolci
Date:	04/16/24	**Project No.**	20230665-H2565

WATER: None encountered

DRILLING: Hand Auger

FIELD DATA		TESTS	LABORATORY DATA											**DESCRIPTION OF STRATUM**
SOIL SYMBOL	DEPTH (FT)	N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp. TSF	Unconfined Comp. Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	
	3		9.1							39.0				Brown clayey SAND (SC), with minor silt
	5		9.7											
	7		5.4		24	10	14							
	10		8.1							17.6				- less clay

Boring terminated at 10 feet

.

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY

Ground Water Level
Hydrostatic Ground Water Level

N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN.,TSF

SM
SP/SM

REMARKS:
NP: Non Plastic Materials
* Remolded Samples

Log of Boring B-4

AESCO

Project:	Western Municipal Water District Jefferson Avenue Interconnection, Murrieta, CA	**Location:**	Jefferson Ave, Murrieta, CA
Client:	MKN and Associates	**Field Engineer:**	Aziz Trabolci
Date:	04/16/24	**Project No.**	20230665

WATER: None encountered

DRILLING: Hand Auger

FIELD DATA		TESTS	LABORATORY DATA											
SOIL SYMBOL	DEPTH (FT)	N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp. TSF	Unconfined Comp. Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	DESCRIPTION OF STRATUM
	3		10.0		22	12	10			26.6				Brown clayey SAND (SC)
	5		15.9											
	7		10.7							26.7	250*	34*		- Dense
	10		13.9		27	12	15			30.6				

Boring terminated at 10 feet

.

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY

Ground Water Level

Hydrostatic Ground Water Level

N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN.,TSF

SM

SC

REMARKS:
NP: Non Plastic Materials
* Remolded Samples

Log of Boring B-5

AESCO

Project:	Western Municipal Water District Jefferson Avenue Interconnection, Murrieta, CA	**Location:**	Jefferson Ave, Murrieta, CA
Client:	MKN and Associates, Inc.	**Field Engineer:**	Aziz Trabolci
Date:	4/16/24	**Project No.**	20230665-H2565

WATER: None encountered

DRILLING: Hollow-Stem Auger

FIELD DATA		TESTS	LABORATORY DATA											
SOIL SYMBOL	DEPTH (FT)	N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp. TSF	Unconfined Comp. Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	**DESCRIPTION OF STRATUM**
														4" AC / 3" Base
			12.9		29	16	13			29.5				**Brown clayey SAND (SM)**
	3													
C	5	N=7 P=3	11.0	109.7										**- Loose @ 3 ft.**
	7	N=12	12.1											**- Medium dense @ 5 ft.**
C	10	N=13 P=4.5	11.3	122.3							650	37		**- Increase in clay & density, Medium dense @ 8 ft.**
	15	N=27	11.6							38.8	710	34		**- Medium dense @ 13 ft.**
	20	N=22	9.5							28.0				**Medium dense @ 18 ft.**

Boring terminated at 20 feet

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY

Ground Water Level
Hydrostatic Ground Water Level

N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN.,TSF

SM SC

REMARKS:
NP: Non Plastic Materials
* Remolded Samples
Blow Counts Corrected for California Modified Sampler (0.6 multiplier). Auto-Hammer. 8" HAS

Appendix E

RCNM Roadway Construction Noise Modeling Results

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/12/2024
Case Description: Jefferson Ave Interconnection Project - Trenching

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Residential	Residential	75	75	75

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Compactor (ground)	No	20		83.2	100	0
Excavator	No	40		80.7	100	0
Excavator	No	40		80.7	100	0

	Results	
	Calculated (dBA)	
Equipment	*Lmax	Leq
Compactor (ground)	77.2	70.2
Excavator	74.7	70.7
Excavator	74.7	70.7
Total	77.2	75.3

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/12/2024
Case Description: Jefferson Ave Interconnection Project - Trenching

				---- Receptor #1 ----
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residential	Residential	75	75	75

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compactor (ground)	No	20		83.2	240	0
Excavator	No	40		80.7	240	0
Excavator	No	40		80.7	240	0

Results

	Calculated (dBA)	
Equipment	*Lmax	Leq
Compactor (ground)	69.6	62.6
Excavator	67.1	63.1
Excavator	67.1	63.1
Total	69.6	67.7

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/12/2024
Case Description: Jefferson Ave Interconnection Project - Paving

				---- Receptor #1 ----
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residential	Residential	75	75	75

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Paver	No	50		77.2	100	0
Paver	No	50		77.2	100	0
Vacuum Street Sweeper	No	10		81.6	100	0
Paver	No	50		77.2	100	0

Results

Calculated (dBA)

Equipment	*Lmax	Leq
Paver	71.2	68.2
Paver	71.2	68.2
Vacuum Street Sweeper	75.6	65.6
Paver	71.2	68.2
Total	75.6	73.7

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/12/2024
Case Description: Jefferson Ave Interconnection Project - Paving

				---- Receptor #1 ----
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residential	Residential	75	75	75

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	240	0
Paver	No	50		77.2	240	0
Vacuum Street Sweeper	No	10		81.6	240	0
Paver	No	50		77.2	240	0

Results

	Calculated (dBA)	
Equipment	*Lmax	Leq
Paver	63.6	60.6
Paver	63.6	60.6
Vacuum Street Sweeper	68	58
Paver	63.6	60.6
Total	68	66.1

*Calculated Lmax is the Loudest value.