Lyon and Sequoia Avenue Pipelines Project

Initial Study – Mitigated Negative Declaration

prepared by

San Lorenzo Valley Water District
13060 CA-9
Boulder Creek, California 95006

prepared with the assistance of

Rincon Consultants, Inc.
437 Figueroa Street, Suite 203
Monterey, California 93940

January 2019

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Environmental Scientists | Planners | Engineers
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Table of Contents

Tables

Figures

Appendices

Initial Study

1. Project Title

Lyon and Sequoia Avenue Pipelines Project

2. Lead Agency Name and Address

San Lorenzo Valley Water District (SLVWD)
13060 CA-9
Boulder Creek, California 95006

3. Contact Person and Phone Number

Jen Michelsen
Environmental Programs Manager
San Lorenzo Valley Water District
(831) 430-4627

4. Project Location

The project site is composed of two locations in northwestern Santa Cruz County within the census-designated place of Boulder Creek. The Lyon Pipeline location extends from the Big Steel, Lyon, and Little Lyon Reservoirs along State Route (SR) 236, Pine Street, and Lomond Street, ending at the intersection of Central Avenue and Lomond Street. The Sequoia Avenue Pipeline location extends along Sequoia Avenue from its intersection with Hoot Owl Way. Both pipeline locations are composed of existing roadway rights-of-way (ROW) and utility easements. Figure 1 shows the two pipeline locations in a regional context. Figure 2 and Figure 3 depict the pipeline locations and surrounding areas at a local scale.

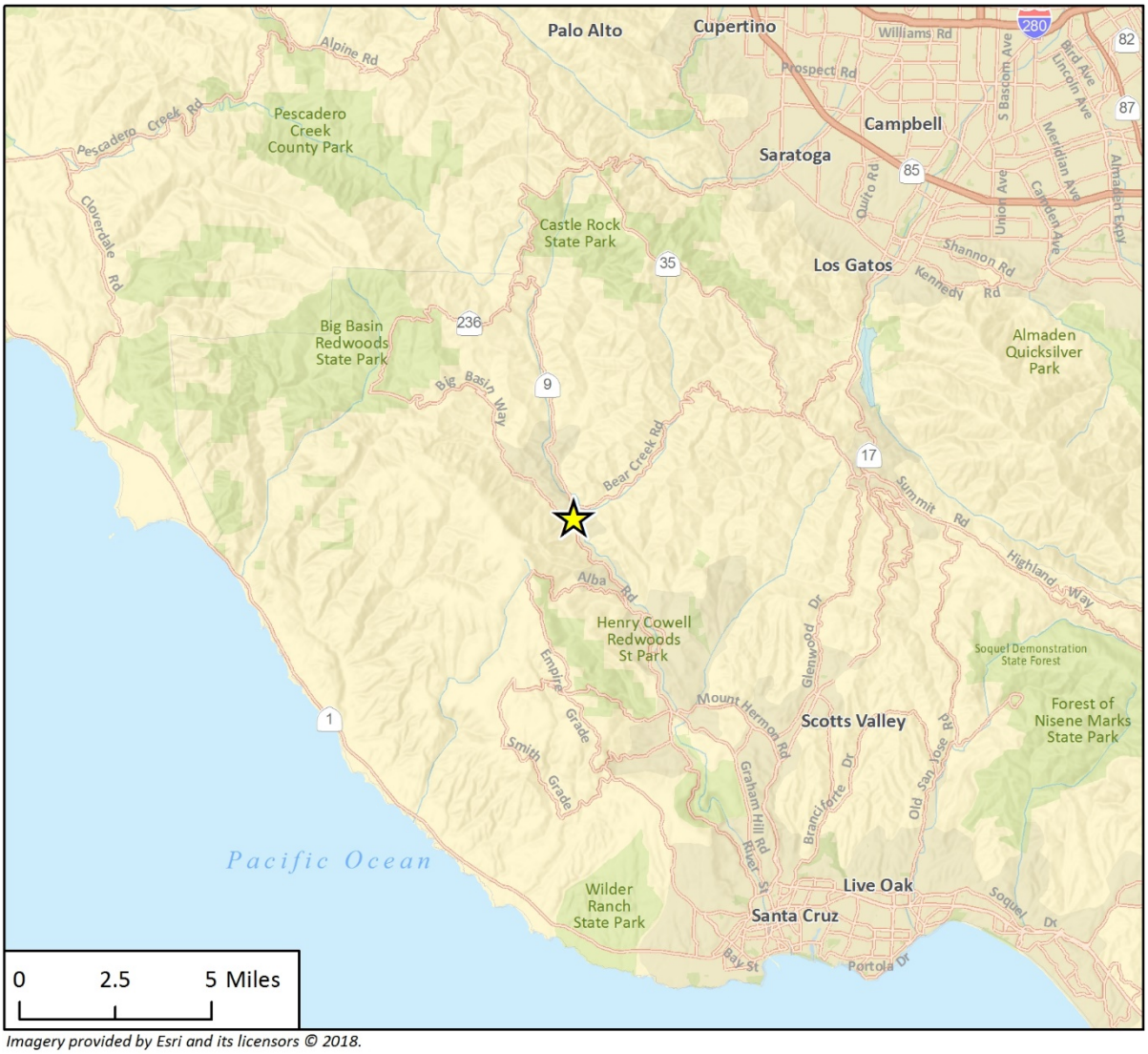
5. Project Sponsor's Name and Address

San Lorenzo Valley Water District (SLVWD)
13060 CA-9
Boulder Creek, California 95006

6. General Plan Designation

The Lyon Pipeline location is within land designated by the County of Santa Cruz General Plan/Local Coastal Program (GP/LCP) as Resource Conservation, Rural Residential, Suburban Residential, and Community Commercial. The Sequoia Avenue Pipeline location is within land designated by the County of Santa Cruz GP/LCP as Rural Residential and Mountain Residential (County of Santa Cruz 2018a).

Figure 1 Regional Location Map



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Project Location

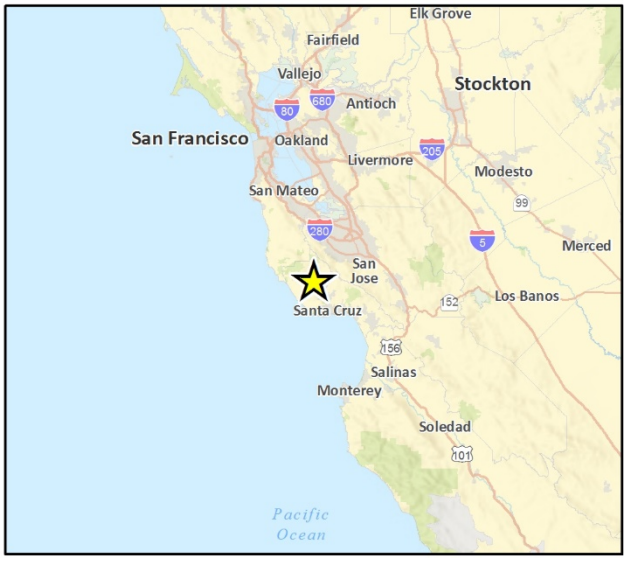

Figure 2 Lyon Pipeline Location

Figure 3 Sequoia Avenue Pipeline Location

Imagery provided by Google and its licensors © 2018.

ISMNDFig 3 Sequoia Pipeline Project

7. Zoning

The Lyon Pipeline location is zoned as Parks, Recreation, and Open Space (PR); Special Use (SU); Residential Agricultural (RA); Single-Family Residential, Minimum Lot Size of 6,000 Square Feet (R-1-6); Single-Family Residential, Minimum Lot Size of 15,000 Square Feet (R-1-15); and Community Commercial with Historic Landmark Designation (C-2-L). The Sequoia Avenue Pipeline location is zoned as R-1-15 and SU (County of Santa Cruz 2018a).

8. Description of Project

The Lyon and Sequoia Avenue Pipelines Project (herein referred to as "proposed project" or "project") would include installation and operation of approximately 6,400 linear feet (LF) of potable water pipelines and appurtenance structures as well as abandonment of an existing pipeline and removal of approximately 800 LF of existing pipeline within two locations. The purpose of the proposed pipelines is to reduce water losses, improve the adequacy and resiliency of the existing water supply system, and reduce routine maintenance and repair impacts to private property and environmentally-sensitive habitat.

The Lyon Pipeline would be constructed from April 2020 through July 2020, and the Sequoia Avenue Pipeline would be constructed in July 2021. Construction of the Lyon Pipeline would entail conventional, open trench construction while construction of the Sequoia Avenue would entail aboveground pipeline installation on supports. Construction would occur within existing utility easements and roadway ROW. Typical construction activities include traffic control, surveying the alignments, setting up stormwater pollution prevention measures, sawcutting the existing pavement along the trench alignment, and excavating an open trench to five to six feet total depth. Project construction would also include installing new pipeline (including valves, blow-offs, and hydrants), pressure testing and disinfection of the new water main, tying into the existing distribution system, switching over customer services to the new pipeline, backfilling the trench and repairing the pavement, abandoning the existing pipeline in-place or removing the existing pipeline, and restoring any damaged features to pre-construction condition or better.

Lyon Pipeline

The Lyon Pipeline would consist of approximately 5,600 LF of 12-inch ductile iron pipe (DIP). Figure 2 shows the Lyon Pipeline location. The proposed Lyon Pipeline would parallel an existing eight-inch main line. The northwestern terminus of the Lyon Pipeline would be located at the Big Steel, Lyon, and Little Lyon Reservoirs. From the reservoirs, the alignment would proceed east to SR 236, then continue along the SR 236 ROW in a generally southeast direction. The pipeline would turn south at the intersection of SR 236 and Pine Street, proceed along Pine Street to the intersection of Pine Street and Lomond Street, turn west and proceed along Lomond Street, and end at the intersection of Central Avenue and Lomond Street. The southeastern terminus of the Lyon Pipeline would connect to the existing eight-inch asbestos-cement main that runs along Highway 9 (also known as Central Avenue).

In conjunction with construction of the Lyon Pipeline, the existing six-inch steel distribution pipeline in the Lyon Pipeline location would be abandoned in place. The existing pipeline generally runs in a northwest to southeast direction from the Little Lyon Reservoir. The existing pipeline would be cut and capped at its western terminus adjacent to the Little Lyon Reservoir and at its connection point located just north of the intersection of SR 236 and Redwood Avenue.

Sequoia Avenue Pipeline

The Sequoia Avenue Pipeline would consist of approximately 800 LF of an eight-inch high density polyethylene (HDPE) water main and appurtenances along the Sequoia Avenue (an abandoned road) ROW. Figure 3 shows a map of the Sequoia Avenue Pipeline location. The project would also remove 800 feet of existing six-inch aboveground pipeline along Sequoia Avenue, which includes segments of original cast iron and replacement plastic pipe. The Sequoia Avenue Pipeline would run in a northeast to southwest direction along the Sequoia Avenue ROW with an elevation gain of approximately 72 feet. The northwestern terminus would connect at the intersection of Hoot Owl Way and Sequoia Avenue. The new pipeline would be constructed aboveground on supports. Construction would include connections to existing service laterals and fire hydrants as requested by the Fire Department or SLVWD standards, and other appurtenances as described by SLVWD standards.

9. Surrounding Land Uses and Setting

The pipeline locations primarily traverse residential, commercial, and open space areas. Specifically, land uses in and around the project site are predominantly residential areas, commercial uses including retail stores, offices, and restaurants, and heavily forested open space.

10. Other Public Agencies Whose Approval is Required

- California Water Resources Control Board, Drinking Water Branch: Review/Approval of Change in Water System Operation Permit
- County of Santa Cruz: Potential Encroachment Permit for Work in Public Right-of-Way

As a public water service district, SLVWD is not required to obtain development permits from the County of Santa Cruz (pursuant to Santa Cruz County Code Section 13.10.140(b) and California Government Code Section 53091(e)).

Environmental Factors Potentially Affected

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

☐	Aesthetics	☐	Agriculture and Forestry Resources	☐	Air Quality
■	Biological Resources	☐	Cultural Resources	■	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/Traffic	☐	Tribal Cultural Resources	☐	Utilities and Service Systems
☐	Mandatory Findings of Significance				

Determination

Based on this initial evaluation:

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

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

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

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

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

Signature

1/18/19
Date

Jennifer Michelsen
Printed Name

Environmental Manager
Title

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	■	☐
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	■	☐
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	■	☐
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 proposed project is located within the census-designated place of Boulder Creek in the County of Santa Cruz. The Lyon Pipeline location is surrounded by residential and commercial uses as well as heavily forested open space. The Sequoia Avenue Pipeline location is surrounded by rural residential uses and heavily forested open space. The Conservation and Open Space Element of the County of Santa Cruz GP/LCP identifies visual resources as vistas from designated scenic roads, Coastal Special Scenic Areas, ocean views, agricultural fields, wooded forests, open meadows, mountain hillside views, and unique hydrologic, geologic, and paleontological features. The Conservation and Open Space Element also includes scenic protection policies for preserving open beaches and blufftops and significant trees. Scenic roads designated by the GP/LCP in the project site vicinity are SR 236 and Highway 9 (County of Santa Cruz 1994). No mapped scenic resources are located on or near the project site (County of Santa Cruz 2017a). However, SR 236 and Highway 9, both of which are designated scenic roads according to the GP/LCP, run through or near the project site. Vistas from scenic roads near the Lyon Pipeline location consist primarily of redwood forest and mixed forest woodland hillsides visible from SR 236 and views of the town of Boulder Creek from Highway 9. Although Highway 9 also runs near the Sequoia Avenue Pipeline location, intervening topography and mature woodlands obstruct views of the project site from Highway 9. Therefore, no scenic vistas are present in the immediate vicinity of the Sequoia Avenue Pipeline location.

During construction of the Lyon Pipeline, scenic vistas from SR 236 and Highway 9 would be temporarily impaired by the staging and operation of construction equipment; however, once construction is complete, the Lyon Pipeline would not result in permanent aesthetic changes that would alter scenic vistas from their existing conditions because it would be entirely underground. Therefore, the Lyon Pipeline would not interrupt or impede a scenic vista. In addition, no trees would be removed due to construction of the project, and any damaged features, including vegetation and roadway pavement, would be restored to pre-construction condition or better. Therefore, project 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?

There are no officially designated State scenic highways in the vicinity of the project site. SR 236, which runs adjacent to the Lyon Pipeline location, is eligible for designation as a State scenic highway but is not officially designated by the California Department of Transportation (Caltrans; Caltrans 2017). Although SR 236 and Highway 9 are not designated State scenic highways, it is noted that these two highways are identified as scenic roads in the Conservation and Open Space Element of the County of Santa Cruz GP/LCP (County of Santa Cruz 1994).

Construction of the Lyon Pipeline could temporarily impair views of scenic resources from SR 236 and Highway 9 by staging and operating construction equipment in the immediate field of view. Upon completion of construction, the Lyon Pipeline would not be visible near SR 236 or Highway 9 because the pipeline would be entirely underground, and the pipeline location would be restored to pre-construction conditions or better. Although Highway 9 also runs near the Sequoia Avenue Pipeline location, intervening topography and mature woodlands obstruct views of the pipeline location from Highway 9. Therefore, no scenic vistas are present in the immediate vicinity of the Sequoia Avenue Pipeline location.

In summary, the project would not impact scenic resources within an officially designed State scenic highway, and project impacts to scenic resources visible from eligible State scenic highways and County-designated scenic roads would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Construction of the proposed project would be visible from surrounding land uses and would temporarily alter the existing visual character and quality of the project area and vicinity. The visual character of the Sequoia Avenue Pipeline location consists of redwood forest, mixed woodlands, and a paved roadway. The visual character of the Lyon Pipeline consists of dense redwood forest, mixed woodlands, paved roadways, rural and suburban residential neighborhoods, and low-intensity commercial development. See Figure 4 through Figure 15 for representative site photographs of the Lyon and Sequoia Avenue Pipeline locations.

A temporary change in visual character would result from the presence of construction equipment and material, stockpiles of soil, and construction vehicles during laydown of the pipeline, but this change would end once project construction is complete. Pipeline installation would occur at a rate of approximately 200 LF per day over a period of approximately four months for the Lyon Pipeline and approximately one month for the Sequoia Avenue Pipeline. Thus, the visual character of the

Figure 4 Lyon Pipeline – View from Large Water Tank

Figure 5 Lyon Pipeline – View of Existing Pipeline from Water Tank

Figure 6 Lyon Pipeline – View of Entrance Gate

Figure 7 Lyon Pipeline – View of Shoulder

Figure 8 Lyon Pipeline – View of Existing Pipeline

Figure 9 Lyon Pipeline – View of Ravine Where Existing Pipeline Is Located

Figure 10 Lyon Pipeline – View along Road

Figure 11 Lyon Pipeline – View along Road

Figure 12 Sequoia Avenue – View of End of Alignment

Figure 13 Sequoia Avenue Pipeline – View of End of Alignment

Figure 14 Sequoia Avenue Pipeline Location

Figure 15 Sequoia Avenue Pipeline Location

surrounding areas would be affected for short durations only, and the alteration of visual character and quality from pipeline construction would be temporary, short-term, and not substantial.

The proposed project would not substantially alter the visual character and quality of the project site in the long-term. The Lyon Pipeline would be entirely underground and would not be visible once installed and the disturbed areas are restored to pre-construction conditions or better. The Sequoia Avenue Pipeline location currently contains an existing pipeline that is aboveground, which includes segments of original cast iron and replacement plastic pipe. The existing pipeline would be removed and replaced by a new aboveground pipeline constructed on supports. Accordingly, the Sequoia Avenue Pipeline would not substantially impact the visual character and quality of the alignment area because it would replace the existing aboveground pipeline with similar infrastructure.

In summary, the project would not substantially degrade the visual character or quality of the pipeline alignments or their surroundings, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The proposed project would not create a new source of light or glare once construction is complete because the Lyon Pipeline would be underground, and the aboveground Sequoia Avenue Pipeline would not include any light sources and would be constructed of non-reflective material.

Construction would occur during the daytime hours, although nighttime construction may be required in an emergency. If emergency nighttime construction is required, lights may be visible from surrounding roadways and residential and other land uses. However, the lighting would not face toward adjacent uses and would be directed down towards construction activities. Any necessary lights during construction activities would create a new temporary light source that would otherwise not be present. Because the proposed project involves installation of a linear pipeline, the active construction area would be continuously moving along the length of the alignment as each segment of pipeline is installed. As such, the active construction area would not typically be in the same location for more than five days.

In summary, the project would not create a new source of permanent substantial light or glare that would adversely affect daytime or nighttime views in the vicinity of the project site. Therefore, impacts related to light and glare would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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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, 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, Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

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

The project site is not located on or near land mapped as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance under the California Department of Conservation's (CDOC) Farmland Mapping and Monitoring Program (FMMP; CDOC 2016a). Furthermore, the project site is not on land enrolled under the Williamson Act or zoned for agricultural use (CDOC 2016b). Due to the absence of agricultural land at the project site, the project would not involve changes to the existing environment that could result in conversion of Farmland to a non-agricultural use. No impact to agricultural resources would occur.

Part of the Lyon Pipeline location is zoned Parks, Recreation, and Open Space, which permits timber harvesting, and both pipeline locations contain second growth redwood forest and mixed woodlands. Construction of the proposed project would not require removal or damage to any existing trees. In addition, the Lyon Pipeline would be entirely underground, and the existing aboveground Sequoia Avenue Pipeline would be removed and replaced with an aboveground pipeline. Therefore, the project would not substantially change the existing conditions of the on-site forest land and would not cause the loss of forest land or conversion of forest land to non-forest use. No impact to 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. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	■	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	■	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	■	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	■	☐

Air Quality Standards and Attainment

The project site is within the North Central Coast Air Basin (NCCAB), which consists of Monterey, Santa Cruz, and San Benito counties and forms an area of more than 5,100 square miles (Monterey Bay Air Resources District [MBARD] 2008). The NCCAB is under the regulatory jurisdiction of the MBARD, which is the local air quality management agency that is required to monitor air pollutant levels to ensure that National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) are met and, if they are not met, to develop strategies to meet the standards.

Depending on whether or not the standards are met or exceeded, the NCCAB is classified as being in "attainment" or "nonattainment" for a particular air pollutant. The MBARD's 2016 Air Quality Management Plan (AQMP) assesses the attainment status of the NCCAB. The NAAQS and CAAQS attainment statuses for the NCCAB are listed in Table 1. As shown in the table, the NCCAB is in nonattainment only for the State standards for eight-hour ozone (O_3) and particulate matter 10 microns in diameter or less in size (PM_{10}; MBARD 2017). The NCCAB is in attainment or unclassified for all other State and federal ambient air quality standards.

Table 1 North Central Coast Air Basin Attainment Status

Pollutant	Standard	Designation
1-Hour Ozone	NAAQS	Attainment
	CAAQS	Attainment
8-Hour Ozone	NAAQS	Attainment
	CAAQS	**Nonattainment**
CO	NAAQS	Attainment
	CAAQS	Attainment/Unclassified[1]
NO_2	NAAQS	Attainment
	CAAQS	Attainment
SO_2	NAAQS	Attainment
	CAAQS	Attainment
PM_{10}	NAAQS	Attainment
	CAAQS	Nonattainment
$PM_{2.5}$	NAAQS	Attainment
	CAAQS	Attainment
Lead	NAAQS	Attainment
	CAAQS	Attainment

NAAQS: National Ambient Air Quality Standards
CAAQS: California Ambient Air Quality Standards
CO: carbon monoxide
PM_{10}: particulate matter 10 microns in diameter or less in size
$PM_{2.5}$: particulate matter 2.5 microns in diameter or less in size
NO_2: nitrogen dioxide
SO_2: sulfur dioxide
[1] Monterey County is classified as in Attainment and San Benito and Santa Cruz counties are listed as Unclassified.
Source: MBARD 2017

Air Quality Management

Under California law, the MBARD is required to prepare a plan for air quality improvement for pollutants for which the MBARD is in non-compliance. In March 2017, the District adopted the *2012-2015 Air Quality Management Plan* (2016 AQMP), which assesses and updates elements of the 2012 AQMP, including the air quality trends analysis, emission inventory, and mobile source programs. The 2016 AQMP addresses ways in which the MBARD can achieve attainment of the state 8-hour ozone standard in the NCCAB. In 2012, the United States Environmental Protection Agency designated the NCCAB as attainment for the current national 8-hour ozone standard of 0.075 parts per million (ppm). In October 2015, the national standard was reduced to 0.070 ppm. However, the NCCAB continues to be in attainment with the federal ozone standard (MBARD 2017).

Air Emission Thresholds

The MBARD has issued criteria for determining the level of significance for project-specific impacts within its jurisdiction in accordance with the NAAQS and CAAQS. Based on criteria set forth in the

MBARD's *CEQA Air Quality Guidelines* (MBARD 2008), the proposed project's impacts on criteria air pollution would be significant if the project would be inconsistent with the adopted AQMP or would result in air pollutant emissions during construction or operation that exceed the thresholds in Table 2.

Table 2 Criteria Pollutant Thresholds of Significance

Pollutant/Precursor	Maximum Construction Emissions (lbs/day)	Maximum Operational Emissions (lbs/day)
VOC/NO_X	n/a	137
CO	n/a	550
SO_X	n/a	150
PM_{10}	82[1]	82

Notes: lbs/day = pounds per day; CO = carbon monoxide; NO_X = oxides of nitrogen; SO_X = oxides of sulfur; PM_{10} = particulate matter with a diameter of 10 microns or less; VOC = volatile organic compounds (also referred to as reactive organic gases [ROG]).

[1] This threshold only applies if construction is located nearby or upwind of sensitive receptors. In addition, a significant air quality impact related to PM_{10} emissions may occur if a project uses equipment that is not "typical construction equipment" as specified in Section 5.3 of the MBARD's *CEQA Air Quality Guidelines*.

Source: MBARD 2008

Sensitive receptors typically include residences, schools, healthcare facilities, and other live-in housing facilities such as prisons or dormitories. The closest sensitive receptors to the project site are residences.

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

A project may be inconsistent with the AQMP if it would generate population growth exceeding the forecasts used in the development of the AQMP. The project does not include new housing or businesses, nor would operation and maintenance of the project components require new employees; therefore, the project would not directly result in population growth. The proposed project would expand the conveyance capacity of existing water infrastructure by increasing the width of pipelines that currently serve existing customers. The project would not directly induce population growth because the increased capacity is intended to serve existing demand, accommodate planned growth, improve performance reliability, and add flexibility to utilize multiple supply sources throughout SLVWD's service area rather than to serve additional new growth. The MBARD *CEQA Air Quality Guidelines* (2008) states that indirect emissions from a proposed non-residential project that is intended to meet the needs of the population are consistent with the AQMP if the current population of the County does not exceed the AQMP population forecasts. The current population of the County of Santa Cruz is estimated at 276,864, and according to the Association of Monterey Bay Area Governments (AMBAG), the population of the County of Santa Cruz is forecast to reach 308,582 by 2035 (California Department of Finance 2018; AMBAG 2014). Therefore, the project would not indirectly induce population growth above anticipated by the AQMP and would not conflict with or obstruct implementation of the AQMP. No impact would occur.

NO IMPACT

b. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

c. 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 (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

The project would generate short-term emissions associated with project construction due to the operation of heavy construction equipment, dust from excavation, haul trips, and construction worker trips, and long-term emissions associated with SLVWD employee vehicle trips to check and maintain the pipelines. Construction and operational project emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2. CalEEMod is used by jurisdictions throughout California to quantify criteria pollutant emissions. Complete CalEEMod assumptions and results are contained in Appendix A.

Construction Emissions

Project construction would generate temporary air pollutant emissions. These impacts are associated with fugitive dust and exhaust emissions from heavy construction equipment. The excavation phase of the project would involve the largest use of heavy equipment and generation of fugitive dust.

The Lyon Pipeline would be constructed from April 2020 through July 2020, and the Sequoia Avenue Pipeline would be constructed in July 2021. For the purposes of modeling, this analysis relied upon the following assumptions:

- Underground pipelines would be constructed via open trench excavation measuring two feet in width and five to six feet in depth
- Construction of the proposed project would disturb approximately 0.8 acre in total and would occur in segments at the following rates:
  - 750 LF of site preparation/clearing per day
  - 750 LF of grading/trenching/backfilling per day
  - 200 LF of pipeline installation per day
  - 1,000 LF of asphalt paving and restoration per day
- Approximately 2,274 cubic yards (cy) of soil would be exported and approximately 1,466 cy of soil would be imported
- Construction crews would work five days per week for up to ten hours per day

Table 3 summarizes maximum daily pollutant emissions during construction of the project.

Table 3 Estimated Maximum Construction Daily Emissions

	Maximum Emissions (lbs/day)				
Construction Year	**VOC**	**NO_x**	**CO**	**PM_{10}**	**$PM_{2.5}$**
2020	2.4	21.1	21.4	2.2	1.6
2021	1.1	16.9	10.3	1.4	0.8
Annual Maximum	2.4	21.1	21.4	2.2	1.6
MBARD Thresholds (lbs/day)	N/A	N/A	N/A	82	N/A
Threshold Exceeded?	N/A	N/A	N/A	No	N/A

Notes: All emissions were estimated using CalEEMod. See Appendix A for calculations.

As shown in Table 3, project construction emissions would not exceed the MBARD's construction emission thresholds. Compliance with the MBARD's Rule 400 (Visible Emissions), Rule 403 (Particulate Matter), Rule 425 (Use of Cutback Asphalt), and Rule 426 (Architectural Coatings) would reduce emissions of dust particulates and VOCs during construction activity. During construction the project sites would be watered once daily to control fugitive dust emissions, which would further reduce PM_{10} and $PM_{2.5}$ emissions.

In addition, the MBARD recommends the use of the following best management practices (BMPs) for the control of short-term construction emissions (MBARD 2008). These measures were not included in CalEEMod so as to provide a more conservative estimate of air pollutant emissions; however, if adhered to, these BMPs would further reduce air pollution emissions.

- Water all active construction areas at least twice daily; frequency should be based on the type of operation, soil, and wind exposure
- Prohibit all grading activities during periods of high wind (over 15 miles per hour)
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days)
- Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydroseed areas
- Haul trucks shall maintain at least two feet of freeboard
- Cover all trucks hauling soil, sand, and other loose materials
- Plant tree windbreaks on the windward perimeter of construction projects if adjacent to open land
- Plant vegetative ground cover in disturbed areas as quickly as possible
- Cover inactive storage piles
- Install wheel washers at the entrance to construction sites for all existing trucks
- Sweep streets, if visible soil material is carried out from the construction site
- Post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the MBARD shall be visible to ensure compliance with Rule 402 (Nuisance)
- Limit the area under construction at any one time

Therefore, construction-related air quality impacts would be less than significant.

Operational Emissions

Although the proposed project would result in an upgrade of the pipelines' conveyance capacity, long-term emissions generated by increased electricity demand from the pump stations and appurtenances are not included in this analysis because these emissions are emitted elsewhere, and air quality is a local issue. In addition, electricity suppliers are regulated separately by MBARD as stationary sources. This analysis conservatively assumes that the proposed project would result in a net increase of twelve, 10-mile employee trips to each of the two project sites every year for as-needed maintenance and for checking meters. However after construction, the proposed project would likely not require more trips to the pipeline locations than are currently occurring because the existing pipelines also require trips for maintenance. Nonetheless, as shown in Table 4, maintenance trips would not generate substantial operational emissions, and emissions would not exceed the MBARD thresholds for any criteria pollutant. Therefore, operation of the proposed project would have a less than significant operational air quality impact.

Table 4 Operational Emissions (pounds/day)

	Estimated Maximum Daily Emissions (pounds/day)				
Emissions Source	**VOC**	**NO_X**	**CO**	**SO_X**	**PM_{10}**
Area	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mobile	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total Operational Emissions	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
MBARD Thresholds	137	137	550	150	82
Threshold Exceeded?	No	No	No	No	No

ROG: reactive organic gases; NO_X: nitrogen oxides; CO: carbon monoxide; SO_X: sulfur oxides; PM_{10}: particulate matter 10 microns in size or less

See Appendix A for modeling details and CalEEMod results.

Notes: Emissions presented are the highest of the winter and summer modeled emissions. Numbers may not add up due to rounding.

LESS THAN SIGNIFICANT IMPACT

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

Certain population groups, such as children, the elderly, and people with health problems, are particularly sensitive to air pollution. Sensitive receptors are defined as land uses that are more likely to be used by these population groups and include health care facilities, retirement homes, school and playground facilities, and residential areas. As previously stated, the pipeline locations are near sensitive receptors. Residences are adjacent to and in the immediate vicinity of both pipeline locations; and two schools are within 0.15 mile of the Lyon Pipeline location.

As discussed under items 3(b) and 3(c) above, the project's construction emissions would not exceed the applicable MBARD threshold, which is designed to be protective of public health.

Traffic-congested roadways and intersections have the potential to generate high localized carbon monoxide (CO) levels (i.e., CO hotspots). In general, CO hotspots occur in areas with poor circulation or areas with heavy traffic. As discussed above, operation of the project would generate nominal new pollutant emissions, including CO emissions, because pipeline maintenance already occurs on the existing pipelines and the proposed pipelines would not require substantial additional maintenance trip beyond current conditions. Therefore, the project would not result in CO hotspots on adjacent roadways. The project would not expose sensitive receptors to substantial pollutant concentrations, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

e. Would the project create objectionable odors affecting a substantial number of people?

The Lyon Pipeline and Sequoia Avenue Pipeline would convey potable water and would not create objectionable odors during operation. The project would generate oil or diesel fuel odors during construction from equipment. The odors would be limited to the time that construction equipment is operating and would be temporary. Because the proposed project involves installation of a linear pipeline, the active construction area would be continuously moving along the length of the alignment as each segment is installed. As such, the active construction area would not typically be in the same location for more than five days. Accordingly, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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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 federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	■	☐
d. Interfere substantially with the movement of any 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?	☐	☐	☐	■

The impact analysis presented in this section is based on field reconnaissance survey of the project site and review of background information including pertinent primary literature and review of natural resource occurrence databases and resource agency special status species lists. Occurrence records from the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (9-quad search area). The California Native Plant Society Inventory of Rare and Endangered Plants, and the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation were reviewed to identify sensitive species known to occur in the region.

Existing Conditions

The eastern portion of the Lyon Pipeline project is located predominantly along the urban streets of the town of Boulder Creek. The central section is located along the SR 236 in areas of residential development with associated ruderal habitat on the road shoulder and disturbed redwood woodland in which much of the typical understory has been replaced by features of residential development such as houses, garages, driveways and yards. The western-most portion of the corridor is developed residential areas that are surrounded by disturbed second growth coast redwood (*Sequoia sempervirens*) woodland with highly disturbed understory. The last several hundred feet of the western end of the corridor is within partially disturbed coast redwood woodland where the line departs from the existing paved road to connect to an existing water tank. Tree species found within the redwood woodland along the sections of this corridor outside of the town of Boulder Creek include coast redwood, California bay (*Umbellularia californica*), and bigleaf maple (*Acer macrophyllum*). The last several hundred feet on the west side of the proposed Lyon pipeline include mixed forest habitat and understory of tan oak (*Notholithocarpus densiflorus*), canary ivy (*Hedera canariensis*), western sword fern (*Polystichum munitum*), and Himalayan blackberry (*Rubus americanus*).

The Sequoia Avenue Pipeline project site is located entirely within young redwood forest habitat that includes a dense understory dominated by tan oak, poison oak (*Toxicodendron diversilobum*), English ivy (*Hedera helix*), French broom (*Genista monspessulana*), hazelnut (*Corylus cornuta*) and wood fern (*Dryopteris argute*).

Special Status Species

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 USFWS and National Marine Fisheries Service under the federal Endangered Species Act; 2) listed or proposed for listing as Rare, Threatened, or Endangered by the CDFW under the California Endangered Species Act; 3) recognized as Species of Special Concern by the CDFW; and/or 4) occurring on lists 1 and 2 of the CDFW California Rare Plant Rank system.

The areas surrounding the Lyon Project work area and the Sequoia Project work area provides suitable habitat for a number of special status plant and wildlife species that are known to occur in the region. Through a review the resource agency occurrence databases, a total of 91 special status species (59 plants and 32 animals) were evaluated for their potential to occur in the project areas (Appendix B. Of these, 72 have been excluded based on the lack of suitable habitat or because the project areas are outside of their current geographic distribution. The remaining species were evaluated for potential impacts as a result of project development.

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

Impacts to Special Status Plants

Nine special status plants were evaluated for potential impacts from project development (Appendix B). None of those species with potential to occur within the project work area are state or federal listed species. Impacts to non-listed species would only be considered significant under CEQA if those impacts were to result in an adverse effect (i.e. jeopardize the long-term viability) of a local or regional population. The proposed work activity in natural habitat areas of the Sequoia project site would be limited to minor vegetation clearing to allow for the placement of pipe along the surface of the ground. No excavations or trenching would occur and vegetation removal would be temporary, and limited to a narrow corridor on Sequoia. Vegetation removal at the Lyon project would be limited to a short stretch of natural habitat between Medrone Drive and the existing tank to allow for trenching. Vegetation would be allowed to recover following pipeline placement. As such, loss of small numbers of any non-listed rare plants that may be present in the areas proposed for clearing are not likely to represent a significant proportion of a regional or local population, and as such would not result in jeopardy of a local or regional population.

Impacts to Special Status Animals

Ten (10) special status animals have potential to occur within the project work areas. Of these, one is federally threatened (California red-legged frog) and one is a state candidate for listing as threatened (foothill yellow-legged frog) (Appendix B). The remaining nine species include two amphibians (California giant salamander [*Dicamptodon ensatus*] and Santa Cruz Black Salamander [*Aneides flavipunctatus niger*]), two birds (white-tailed kite [*Elanus leucurus*] and Cooper's hawk [*Accipiter cooperii*]) and five mammals (San Francisco dusky-footed woodrat [*Neotoma fuscipes annectens*], hoary bat [*Lasiurus cinereus*], Townsend's big-eared bat [*Corynorhinus townsendii*] and pallid bat [*Antrozous pallidus*]).

Special Status Birds

White tailed kite has a moderate potential to inhabit and nest within the proposed work areas, and Cooper's hawk has a high potential to inhabit and nest within the proposed work areas, especially the dense woodland sections of the Sequoia Avenue Pipeline alignment. Because no tree removal is proposed for this project, raptor nests, if present in or near the work area would not be damaged or destroyed; however, construction activity and noise could result in nest abandonment of these raptors, both of which would likely be highly sensitive to human activity near a nest. Nest abandonment and loss of nestlings would be considered a significant impact under CEQA, but could be mitigated to a less than significant level through implementation of mitigation measures BIO-1 and BIO-2.

Other Nesting Migratory Birds

Both projects sites have the potential to support nesting birds that are protected under the California Fish and Game Code (CFGC). Construction activity and noise that disrupts nesting behavior and damage or destruction of active nests within the work areas would be considered a violation of the CFGC. Implementation of measures BIO-1 and BIO-2 would prevent violation of the CFGC.

Special Status Bats

Hoary bat, Townsend's big-eared bat and pallid bat all have a moderate to high potential to occur on site both during foraging and for roosting. However, as no trees are proposed for removal and work would occur during daylight hours, when bats are not foraging, no impacts to special status bats would occur.

San Francisco Dusky-footed Woodrat

This species has a high potential to occur in the wooded areas of the Sequoia Avenue Pipeline alignment. If middens are present and damaged or destroyed resulting in injury or death of individual woodrats, that impact would be significant under CEQA. Implementation of measures BIO-1 and BIO-3 would reduce impacts to less than significant.

California Red-Legged Frog and Foothill Yellow-legged Frog

The project sites also occur in the vicinity of suitable breeding habitat for California red-legged frog (CRLF) and foothill yellow-legged frog (FYLF); however, the species would only be expected to occur during dispersal and would not be expected to inhabit natural areas on the project site. These species are both highly aquatic and require permanent or nearly permanent pools for larval development. These species typically require rain events for dispersal and have been found at significant distances from breeding sites during rain events. Both species have a low potential to occur on the project site during dispersal. If frogs were to be injured or killed by construction activity the impact would be significant under CEQA. Potential impacts to these species can be reduced to less than significant level with implementation of measures BIO-1 and BIO-4.

California Giant Salamander and Santa Cruz Black Salamander

Both of these species may occur in leaf litter or under rocks in moist upland habitat near suitable aquatic breeding habitat at both project sites, and both have a low potential to occur on paved roadways near aquatic breeding habitat during dispersal. These species could be injured or killed by construction activity within natural areas, especially during clearing for pipeline installation. Implementation of measures BIO-1 and BIO-4 would reduce impacts to a less than significant level.

Mitigation Measures

The following mitigation measures would reduce impacts to candidate, sensitive, and special status species to a less than significant level.

BIO-1 Worker Environmental Awareness Program

If potential impacts to special status species are identified by the BRA, prior to initiation of construction activities (including staging and mobilization), all personnel associated with project construction shall attend WEAP training, conducted by a qualified biologist, to aid workers in recognizing special status resources that may occur in the project area. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the projects. All employees shall sign a form provided by the trainer documenting they have attended the WEAP and

understand the information presented to them. The form shall be submitted to SLVWD to document compliance.

BIO-2 Preconstruction Nesting Raptor and Bird Surveys and Avoidance

To avoid impacts to nesting bird species and raptors, all initial ground-disturbing activities and tree removal should be limited to the time period between September 15 and February 1. If initial ground-disturbing activities and tree removal cannot be limited to this time period, the project contractor shall complete a pre-construction survey to determine if active nests are within the project area limits, or sufficiently close to project activity to be disturbed by construction activities. Surveys shall be conducted by a qualified biologist.

Construction activity shall be scheduled so that no more than fourteen (14) days elapse between the pre-construction survey and the commencement of any activity that would potentially disturb trees or shrubs in the nesting zone. The pre-construction survey should determine if birds are breeding and/or nesting in the construction zone or within 300 feet (500 feet for raptors) of the construction zone. Pre-construction nesting bird and raptor surveys shall be conducted during the time of day when birds are active and shall be of sufficient duration to reliably conclude presence/absence of nesting birds and raptors on site and within the designated vicinity.

If no nests are found, no further action is required. If nests are found, an avoidance buffer will be established by the qualified biologist. The size of the buffer shall be based upon the species, presence of screening vegetation, the proposed work activity, ambient levels of human activity, and existing disturbances associated with land uses outside of the site to ensure the nesting activity is not disrupted. The avoidance buffer shall be demarcated by the biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary until the adults and young are no longer reliant on the nest site. The qualified biologist shall monitor construction activities that occur near active nest areas to ensure that no inadvertent adverse impacts affect the nest.

BIO-3 Preconstruction Surveys for Woodrat and Relocation/Avoidance

Prior to vegetation clearing within woodland areas of the project sites, a qualified biologist shall conduct a preconstruction survey for San Francisco dusky-footed woodrat middens. If no middens are found that would be damaged or destroyed by project activity, or that occur within 25 feet of proposed project activity, no further action would be required. If woodrat middens are found that would be damaged by project activity, the qualified biologist shall dismantle middens by hand allowing any occupying woodrats to escape unharmed. Middens within 25 feet of proposed project activity shall be demarcated with a 25-foot avoidance buffer to ensure the midden is not inadvertently damaged during construction activity.

BIO-4 Preconstruction Amphibian Surveys and Avoidance

The following procedures shall be implemented to ensure that impacts to listed and non-listed amphibian species are less than significant.

- Prior to start of project activities, a qualified biologist should conduct a “tailgate” education session to familiarize all personnel conducting project activities with the identification and life-history of listed and non-listed amphibian species.
- Ground disturbance would not begin until written approval is received from the USFWS and CDFW that project biologist(s) are qualified to conduct the work.

- If feasible, initial ground disturbing activities should be conducted between May 1 and October 31 during dry weather conditions to minimize the potential for encountering listed and non-listed amphibian species. Work should be restricted to daylight hours.
- A qualified biologist should conduct a survey of the project site within 48 hours of initial ground disturbing activities. The survey area should include the proposed disturbance area and all proposed ingress/egress routes, plus a 100-foot buffer. If any life stage of CRLF is found within the survey area, the USFWS should be consulted to determine the appropriate course of action. If any life stage of FYLF is found within the survey area, the CDFW should be consulted to determine the appropriate course of action.
- Biological monitoring is required under the following conditions:
  - A biological monitor shall be present for all construction activity in naturally vegetated areas no matter the time of year (applies to the naturally vegetated areas of the Sequoia and Lyon pipelines).
  - During the rainy season (November 1 through April 30), a biological monitor shall be present for all construction activity in paved areas that are located adjacent to a creek, river or drainage where there is potential for CRLF or FYLF to occur during dispersal events. This would include the following locations:
    - The portion of the Lyon Pipeline project between Hazel Avenue and the northwest end of the project alignment at the tank.
- If construction must occur between November 1 and April 30, the qualified biologist should conduct a pre-activity clearance sweep prior to start of project activities within 48 hours after any rain events of 0.1 inch or greater or if wet conditions are present on site. The clearance survey would allow any frog, if found on-site, to leave of its own volition before any construction activities would begin. No relocation of frogs would occur without written authorization of the USFWS and/or CDFW, or by any individuals not specifically authorized by the USFWS for handling of CRLF or from CDFW for handling FYLF.
- SLVWD or its contractor would cover dirt or sand piles left overnight with tarps or plastic to prevent CRLF/FYLF from sheltering in the material. All holes and trenches would be inspected each morning by a biological monitor.
- Vegetation disturbance should be the minimum necessary to achieve the goals of the project.
- In case of vegetation disturbance, project sites would be re-vegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials would be used to the extent practicable. Invasive, exotic plants would be controlled to the maximum extent practicable. This measure would be implemented in all areas disturbed by activities associated with the project, unless the USFWS and SLVWD determine that it is not practical.
- To control sedimentation during and after project implementation, SLVWD would implement best management practices outlined in any authorizations or permits issued under the authorities of the Clean Water Act that it receives for the specific project. If best management practices are ineffective, the project proponent would attempt to remedy the situation immediately, in coordination with the USFWS or CDFW as applicable.
- Unless approved by the USFWS and/or CDFW, water would not be impounded in the course of project activities in a manner that may attract CRLF or FYLF.
- If a work site is to be temporarily dewatered by pumping, intakes would be completely screened with mesh not larger than 0.2 inch to prevent CRLF/FYLF from entering the pump system. Water

would be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any diversions or barriers to flow would be removed in a manner that would allow flow to resume with the least disturbance to the substrate. Alteration of the stream bed would be minimized to the maximum extent possible; any imported material would be removed from the stream bed upon completion of the project.

- All trash should be removed from the site daily and disposed of properly to avoid attracting potential predators to the site.
- No pets should be permitted on-site during project activities.
- All vehicles should be in good working condition and free of leaks. All leaks should be contained and cleaned up immediately to reduce the potential of soil/vegetation contamination.
- All refueling, maintenance, and staging of equipment and vehicles should occur at least 100 feet from riparian habitat or water bodies and in a location from where a spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water).
- The number of access routes, size of staging areas, and the total area of the activity should be limited to the minimum necessary to achieve the project goals.
- To ensure that diseases are not conveyed between work sites by the qualified biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force should be followed at all times.
- No herbicide should be use on-site.
- A County-approved biologist shall be present on site during initial ground disturbance. If any life stage of CRLF or FYLF is found, work shall cease within 100 feet of the CRLF or FYLF and the USFWS (for CRLF) or CDFW (for FYLF) shall be contacted immediately to determine the appropriate course of action.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

The Lyon Pipeline location would cross two streams that drain into Boulder Creek from the south. However, all construction activities would occur in the roadways in these areas and would not directly alter or damage riparian habitat. Impacts to riparian habitat would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The Lyon Pipeline location would cross through two riverine features that drain from the surrounding watershed into Boulder Creek. The USFWS National Wetlands Inventory classifies both features as R4SBC, which identifies them as intermittent riverine streambed systems that are seasonally flooded. However, project activity will not directly affect federally protected wetlands. No jurisdictional water features are present in the vicinity of the Sequoia Avenue Pipeline location.

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?

The project sites are located within an area mapped as an Essential Connectivity Area by CDFW (CDFW 2010). Construction would be temporary and would be occurring over no more than 1,000 LF at any given time. The Lyon Pipeline would be entirely underground and the disturbed areas would be restored to preconstruction conditions. The Sequoia Avenue Pipeline would replace an existing aboveground pipeline constructed on supports and would not result in any kind of significant barrier to wildlife movement. Therefore, once construction is complete, the Sequoia Avenue Pipeline and Lyon Pipeline would not result in permanent changes that would impair wildlife movement as compared to the existing condition. The project sites do not contain any essential fish habitat suitable for aquatic nurseries. Impacts to wildlife movement and the use of native wildlife nursery sites would be less than significant impacts.

LESS THAN SIGNIFICANT IMPACT

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

No trees are proposed for removal at either the Lyon Pipeline or Sequoia Avenue Pipeline locations.

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 project site is not located within the jurisdiction of an adopted Habitat Conservation Plan, Natural Community Plan, or other approved local, regional, or state habitat conservation plan (CDFW 2017). Thus, 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 as defined in §15064.5?	☐	☐	■	☐
b. Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☐	■	☐
c. Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☐	■	☐
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	■	☐

This section is based on information provided in the Phase I cultural resources report (2018; Appendix C) prepared by Rincon. The significance of cultural and/or paleontological resources and impacts to those resources is determined by whether or not those resources can increase collective knowledge of the past. The primary determining factors are site content and degree of preservation.

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

The project would be constructed within existing roadways and utility easements through residential, commercial, and open space areas. The Lyon Pipeline would be completely underground, and the Sequoia Avenue Pipeline would replace the existing aboveground pipeline, which includes segments of original cast iron and replacement plastic pipe, with an aboveground pipeline constructed on supports.

Cultural resources records searches of the California Historical Resources Information System were conducted at the Northwest Information Center located at Sonoma State University to identify all previously recorded cultural resources and previously recorded cultural resources studies within the project site and a 0.5-mile radius around it. The Phase I Cultural Resources Report did not identify any cultural resources within the Sequoia Avenue study area. However, one built environment property (P-44-000405) that is considered a historic property and historical resource under Section 106 of the National Historic Preservation Act and CEQA, respectively, was identified within the Lyon Pipeline's study area. P-44-000405 is composed of the full length of SR 236, extending approximately 18 miles from its northern intersection with Highway 9 at Waterman Gap to its southern intersection with Highway 9 in Boulder Creek. The highway was first recorded in its entirety in 1999 but was not evaluated for historical significance. In 2002, an approximately 200-

foot segment was again recorded and found eligible for the National Register of Historic Places under Criteria A and C for its association with Big Basin Redwoods State Park. The associated records for this resource are included in Appendix C of Phase I cultural resources report (included as part of this document). Local historic organizations were contacted, but no additional information regarding historical resources on the project site was provided.

SR 236 is historically significant for its role in facilitating early and ongoing tourism in Big Basin Redwoods State Park, California's oldest state park. Those character-defining features that are essential in this resource's ability to convey its significance relate less to its physical materials but rather to its alignment and setting. The Lyon Pipeline, which would be installed in the SR 236 ROW, would be constructed entirely underground and would not introduce any aboveground elements that would affect the features that contribute to the historical significance of SR 236. Although trenching may result in the partial removal of asphalt from the road surface, this material is not original or considered character defining, and it would be replaced in kind. The roadway and its immediate surroundings have been subject to continual improvements since its construction, and the proposed project would be consistent with this ongoing maintenance. Therefore, the proposed project would have a less than significant impact to historical resources.

LESS THAN SIGNIFICANT IMPACT

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

No archaeological resources were identified within the project APE during the records search, Native American outreach, and pedestrian survey. The project APE has been heavily disturbed by the grading and construction of the existing roadways. Although no archaeological resources have been previously identified within the project site, there is potential for unknown, buried archaeological resources to be discovered during ground disturbing activities. Section 01560 Part 1.09 of the SLVWD's construction contractor specifications require the contractor to conform to the applicable requirements of the National Historic Preservation Act of 1966 as it relates to the preservation of cultural resources. If potential archaeological resources are discovered during subsurface excavations at the construction sites, SLVWD's construction contractor specifications require that the contractor halt construction operations at the location of the find and contact a qualified archaeologist to assess the value of the potential cultural resources. In addition, measures CR-1 and CR-2 are recommended as standard best management practices to be implemented during project construction to further reduce this already less than significant impact.

Recommended Best Management Practices

The following best management practices from the Phase I Cultural Resources Report (Appendix C) are recommended in the event an unanticipated discovery of cultural resources occurs during project construction.

CR-1 Worker's Environmental Awareness Program

A qualified archaeologist shall be retained to conduct a Worker's Environmental Awareness Program training for archaeological sensitivity for all construction personnel prior to the commencement of any ground disturbing activities. Archaeological sensitivity training should include a description of the types of cultural material that may be encountered, cultural sensitivity issues, regulatory issues, and the proper protocol for treatment of the materials in the event of a find.

CR-2 Unanticipated Discovery of Cultural Resources

If cultural resources are encountered during ground-disturbing activities, work in the immediate area shall be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for California Register of Historical Resources eligibility. If the discovery proves to be significant under CEQA and cannot be avoided by the project, additional work such as data recovery excavation and Native American consultation and archaeological monitoring may be warranted to mitigate any significant impacts to cultural resources.

LESS THAN SIGNIFICANT IMPACT

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

The County of Santa Cruz has identified and mapped areas that contain hydrological, geological, and paleontological resources which stand out as rare or unique and representative in the County of Santa Cruz because of their scarcity, scientific or educational value, aesthetic quality or cultural significance. None of these resources exist on the project site; therefore, impacts to paleontological resources would be less than significant (County of Santa Cruz 2017b).

LESS THAN SIGNIFICANT IMPACT

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

While the project site is unlikely to contain human remains, the potential for the recovery of human remains is always a possibility during ground disturbing activities. However, based on the disturbed nature of the project site and the lack of any identified cultural resources within the study area, the potential to encounter human remains is considered low. Impacts to human remains would be less than significant.

Nevertheless, there always remains a possibility of identifying unanticipated human remains during ground disturbing activities. Therefore, measure CR-3 is recommended as a standard best management practice to be implemented during project construction to further reduce this already less than significant impact.

Recommended Best Management Practice

The following best management practice from the Phase I Cultural Resources Report (Appendix C) is recommended in the event an unanticipated discovery of human remains occurs during project construction.

CR-3 Unanticipated Discovery of Human Remains

The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a most likely

descendant (MLD). The MLD shall complete their inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site.

LESS THAN SIGNIFICANT IMPACT

6 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Expose people or structures to potentially 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 made unstable as a result of the project, and potentially result in on or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	■	☐	☐
d. Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial 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?	☐	☐	☐	■

Santa Cruz County is located in the Coast Ranges physiographic province of California, which is characterized by a series of low mountain ranges, coastal terraces, alluvial valleys, and steep foothills. The northwest-southeast structural grain of the Coast Ranges is controlled by a complex of

active faults within the San Andreas fault system (City of Santa Cruz 2011). The Santa Cruz Mountains, within which the project site is located, are between the San Andreas strike-slip fault system to the northeast and the San Gregorio-Nacimiento strike-slip fault system to the southwest (County of Santa Cruz 2017c). The three major active faults in the region are the Zayante-Vergeles Fault, the San Andreas Fault, and the San Gregorio Fault, all of which are associated with Holocene activity (movement in the last 11,000 years; City of Santa Cruz 2011). The Public Safety and Noise Element of the County of Santa Cruz GP/LCP requires a review of geologic hazards for all discretionary development projects in the Zayante fault zone (Policy 6.1.1) and a full engineering geology report by a certified engineering geologist whenever a significant potential geologic hazard is identified within a designated fault zone (Policy 6.1.3). Elevation along the Lyon Pipeline location ranges from approximately 495 to 720 feet above mean seal level (MSL). Elevation along the Sequoia Avenue Pipeline location ranges from approximately 655 to 735 feet above MSL.

a.1. Expose people or structures to 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. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The Sequoia Avenue Pipeline and Lyon Pipeline locations are situated north and south of the Zayante Fault, respectively. Neither pipeline location is located within an Alquist-Priolo Earthquake Fault Zone (CDOC 2015). However, the Lyon Pipeline location is within a County-designated fault zone for the Zayante Fault (County of Santa Cruz 2009a).

Although the project site is located in a seismically active area, the project would not expose people to seismically induced risk. The proposed project involves construction of an underground pipeline, an aboveground pipeline, and associated minor appurtenance structures; the project would not involve any habitable structures. A large seismic event, such as a fault rupture, seismic shaking, or ground failure, could result in breakage of the proposed pipelines, failure of joints, and/or underground leakage from the pipelines. In such an event, the pipelines would be inspected and repaired as soon as possible. Additionally, the project would be required to comply with the California Building Standards Code (CCR Title 24). The project has been designed to incorporate appropriate standard engineering practices and specifications to minimize risk of structural failure in a seismic event and reduce secondary impacts that may occur as a result. Design and construction of the project would also adhere to American Water Works Association Standards for protection from thrust and earth movement.

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

LESS THAN SIGNIFICANT IMPACT

a.3. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

a.4. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The project site is located adjacent to landslide hazard areas mapped by the County of Santa Cruz (County of Santa Cruz 2009b). The Sequoia Avenue Pipeline location is not within a liquefaction hazard zone, but the County of Santa Cruz ranks liquefaction susceptibility along the eastern portion of the Lyon Pipeline location as "Moderate" (County of Santa Cruz 2009c). However, the Lyon Pipeline would be located underground and adjacent to an existing pipeline, and the Sequoia Avenue Pipeline would replace an existing aboveground pipeline and would be constructed on supports. Neither project component would destabilize the terrain in a manner that would increase the risk of liquefaction or landslides. Trenching would be limited to a maximum depth of 5.5 feet, and construction activities would include the lining and appropriate backfilling of trenches to minimize potential effects associated with subsidence. In addition, Sections 01540 and 02221 of the SLVWD's construction contractor specifications require contractors to submit and implement a detailed plan that includes sheeting, shoring, bracing, or other excavation supports to prevent caving of the trenches. Therefore, the project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, liquefaction, or landslides, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Both pipeline locations have steep slopes that would increase the potential for soil erosion. The Lyon Pipeline location has an average slope of approximately 4 percent with a maximum slope of approximately 33 percent, and the Sequoia Avenue Pipeline location has an average slope of 11 percent with a maximum slope of 53 percent. The pipeline locations have been previously disturbed; however, construction activities involving soil disturbance, such as excavation, stockpiling, and grading, could result in increased erosion and sediment transport by stormwater and wind to surface waters. Therefore, the proposed project's erosion impacts would be potentially significant. Implementation of Mitigation Measure GEO-1 would be required to reduce impacts to a less than significant level.

Mitigation Measure

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

GEO-1 Erosion Control Plan

The project contractor shall prepare and implement an Erosion Control Plan for construction activities to minimize soil erosion. The Erosion Control Plan shall contain BMPs that include the following components:

- Excavation shall be limited to the dry season of the year (i.e., April 15 to November 1).
- Exposed soils shall be watered twice daily to prevent wind erosion.
- Silt fencing, straw bales composed of rice straw (that are certified to be free of weed seed), fiber rolls, gravel bags, mulching erosion control blankets, soil stabilizers, and storm drain filters shall

be used, in conjunction with other methods, to prevent erosion throughout the entire project site and siltation of stream channels and detention basins.

- Temporary berms and sediment basins shall be constructed to avoid unnecessary siltation into local waterways during construction activities.
- Erosion controls that protect and stabilize stockpiles and exposed soils shall be used to prevent movement of materials. Potential erosion control devices include plastic sheeting held down with rocks or sandbags over stockpiles, silt fences, or berms of hay bales.
- Temporary stockpiling of excavated material shall be minimized. However, excavated material shall be stockpiled in areas where it cannot enter the waterways along the Lyon Pipeline location. Available stockpiling sites at or near the project site shall be determined prior to the start of construction.
- Frequency of sediment removal from detention basins, location of spoil disposal, locations and types of erosion and sediment control structures, and materials that would be used on-site during construction activities shall be specified.
- Upon completion of project construction, all exposed soils present in and around the project site shall be stabilized within seven days. Exposed soils shall be mulched to prevent sediment runoff and transport. All mulches, except hydro-mulch, shall be applied in a layer not less than two inches deep. Where feasible, all mulches shall be kneaded or tracked-in with track marks parallel to the contour, and tackified as necessary to prevent excessive movement. All exposed soils and fills shall be revegetated with deep-rooted, native, drought-tolerant species to minimize slope failure and erosion potential. Geotextile binding fabrics shall be used if necessary to hold slope soils until vegetation is established.
- An adequate supply of erosion control materials (gravel, straw bales, shovels, etc.) shall be maintained on-site to facilitate a quick response to unanticipated storm events or emergencies.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

The proposed project involves installation of an underground pipeline primarily within public ROW and an aboveground pipeline constructed on supports. As discussed previously, although the proposed project would be located in a seismically active area, the project is not anticipated to adversely affect soil stability or increase the potential for local or regional landslides, subsidence, liquefaction, or collapse. Sections 01540 and 02221 of the SLVWD's construction contractor specifications require contractors to submit and implement a detailed plan that includes sheeting, shoring, bracing, or other excavation supports to prevent caving of the trenches. As discussed under item 6(b), implementation of Mitigation Measure GEO-1 would control erosion and stabilize on-site soils. Therefore, impacts would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

The project site located in the Coast Ranges physiographic province (City of Santa Cruz 2011). Based on the United States Department of Agriculture (USDA) Soil Survey, the project site contains three primary mapped soil units: Sur-Catelli complex soils, Ben Lomond-Catelli-Sur complex soils, and Ben Lomond sandy loam soils. These soils are well-drained and do not exhibit frequent flooding or ponding (USDA 2017). Additionally, according to the County of Santa Cruz, the project site is not underlain by expansive soils (County of Santa Cruz 2009d). Therefore, the project would not introduce risk 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 would not include the use of septic tanks or alternative wastewater disposal systems. No impact would occur.

NO IMPACT

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7 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 any applicable plan, policy, or regulation adopted for the purposes of reducing the emissions of 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. The term "climate change" is often used interchangeably with the term "global warming," but "climate change" is preferred to "global warming" because it helps convey there are other changes in addition to rising temperatures. The baseline to which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming during the past 150 years. Per the United Nations Intergovernmental Panel on Climate Change (IPCC), the understanding of anthropogenic (human caused) warming and cooling influences on climate has led to a high confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-twentieth century (IPCC 2007).

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), fluorinated gases such as hydrofluorocarbons (HFC) and perfluorocarbons (PFC), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills.

Human-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6 (California Environmental Protection Agency [CalEPA] 2006). Different

types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO_2e), and is the amount of a GHG emitted multiplied by its GWP. CO_2 has a 100-year GWP of one. By contrast, CH_4 has a GWP of 25, meaning its global warming effect is 25 times greater than CO_2 on a molecule per molecule basis (IPCC 2007).

The accumulation of GHGs in the atmosphere regulates Earth's temperature. Without the natural heat-trapping effect of GHGs, Earth's surface would be about 34 degrees Celsius cooler (CalEPA 2006). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations. The primary GHGs of concern include CO_2, CH_4, N_2O, and fluorinated gases (HFCs, PFCs), and SF_6. These all contribute to climate change on a global scale and climate change affects numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns.

Individual projects would generate GHG emissions through the burning of fossil fuels and/or other means, thus potentially contributing to cumulative impacts related to climate change. In response to an increase in human-made GHG concentrations over the past 150 years, California implemented Assembly Bill (AB) 32, the "California Global Warming Solutions Act of 2006." AB 32 codifies the Statewide goal of reducing emissions to 1990 levels by 2020 (essentially a 15 percent reduction below 2005 emission levels) and the adoption of regulations to require reporting and verification of statewide GHG emissions. Furthermore, on September 8, 2016, the governor signed Senate Bill (SB) 32 into law, which requires the State to further reduce GHG emissions to 40 percent below 1990 levels by 2030. SB 32 extends AB 32, directing the California Air Resources Board (CARB) to ensure that GHG emissions are reduced to 40 percent below the 1990 level by 2030.

On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with a Statewide per capita goal of 6 metric tons (MT) of CO_2e by 2030 and 2 MT of CO_2e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the State.

The majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that 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]).

In 2013, the County of Santa Cruz adopted a Climate Action Strategy (CAS) to establish goals and policies that incorporate sustainability and GHG reduction into its management processes. The first step in completing the CAS was to complete a GHG emissions inventory. The County of Santa Cruz's 2009 inventory amounted to 791,278 MT of CO_2e community-wide and 34,267 MT of CO_2e from municipal operations. As of 2013, the County had already achieved the State's AB 32 goal of reducing GHG emissions to below 1990 levels by 2020 because of the cessation of manufacturing at

the Davenport Cement Plant. Therefore, the County of Santa Cruz has set a goal to reduce emissions to 18 percent below 2009 levels by 2020, 30 percent below 2009 levels by 2035, and 59 percent below 2009 levels by 2050 (County of Santa Cruz 2013).

Neither the State nor the MBARD has adopted GHG emissions thresholds. The MBARD is currently in the process of developing GHG emissions thresholds for evaluating projects under CEQA. Where the MBARD is the lead agency, they have adopted a threshold of 10,000 MT of CO_2e per year for stationary source projects or compliance with an adopted GHG Reduction Plan/Climate Action Plan (MBARD 2016). However, the MBARD does not have formally adopted thresholds for projects where it is not the lead agency.

As identified in Section 15064.7(c) of the CEQA Guidelines, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence. In April 2012, the San Luis Obispo County Air Pollution Control District (SLOAPCD), whose jurisdiction is adjacent to the MBARD's jurisdiction to the south, adopted quantitative thresholds for GHG emissions for most land use projects (SLOAPCD 2012). The SLOAPCD *CEQA Handbook* includes a bright-line threshold of 1,150 MT of CO_2e, as well as an efficiency threshold of 4.9 MT of CO_2e per service population (SP) per year (service population is the total residents and employees accommodated by a project). The analysis herein uses the bright-line threshold of 1,150 MT CO_2e. Direct GHG emissions were estimated using CalEEMod version 2016.3.2.

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

Construction emissions are confined to a relatively short period of time in relation to the overall life of the proposed project because the total construction period would only last approximately five months. Air districts such as the South Coast Air Quality Management District (SCAQMD) have recommended amortizing construction-related emissions over a 30-year period in conjunction with a project's operational emissions (SCAQMD 2008). In accordance with the SCAQMD's recommendation, GHG emissions from project construction were amortized over a 30-year period and added to annual operational emissions to determine the proposed project's total annual GHG emissions. As shown in Table 5, construction activities would generate approximately 50 MT of CO_2e, which amortized over 30 years is approximately 2 MT of CO_2e per year, and operational emissions from vehicle trips would generate less than 0.0001 MT of CO_2e per year. In total, the project would directly generate approximately 2 MT of CO_2e per year.

Expansion of the proposed pipelines' conveyance capacity (due to increased diameters of the proposed pipelines compared to the existing pipelines) would also result in indirect GHG emissions from increased electricity usage due to elevated pump station activity. However, SLVWD's total (direct and indirect) systemwide GHG emissions were approximately 708 MT of CO_2e in 2010, which is well below the SLOAPCD's recommended significance threshold of 1,150 MT of CO_2e per year (SLVWD 2012). Therefore, given that SLVWD's 2010 total systemwide emissions were substantially less than the significance threshold, the incremental increase in electricity usage by SLVWD as a result of increased pipeline capacity associated with the proposed project would not cause SLVWD to exceed the GHG significance threshold. Therefore, impacts related to construction and operational GHG emissions would be less than significant.

Table 5 Estimated Project GHG Emissions

Year	Emissions (CO_2e)
Total Construction Emissions	49.9 MT
Amortized Construction Emissions (over 30 years)	1.7 MT/year
Total Annual Operational Emissions	< 0.0001 MT/year
Total Annual Emissions	**1.7 MT/year**
SLOAPCD Recommended Threshold	1,150 MT/year
Exceed Threshold?	No

See Appendix A for CalEEMod results. Values are approximations and have been rounded.

LESS THAN SIGNIFICANT IMPACT

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

The County of Santa Cruz's CAS (2013) establishes GHG reduction strategies to be incorporated at the county level. Strategy E-8 calls for a reduction of energy use for water supply through water conservation measures, including adoption of a water conservation ordinance, adoption of a water-efficient landscape ordinance, and promotion of residential greywater irrigation systems. The proposed project would upgrade existing aging infrastructure and reduce the potential for water loss due to leaking pipes, thereby supporting Strategy E-8 of the CAS. Although the proposed project would increase the existing water system's conveyance capacity, the purpose of this project is to serve existing demand, accommodate projected growth in the County of Santa Cruz, improve performance reliability, and add flexibility to utilize multiple supply sources throughout the District rather than to serve new growth. The proposed project is therefore consistent with the County of Santa Cruz's CAS. The project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and the proposed project would have a less than significant impact.

LESS THAN SIGNIFICANT IMPACT

8 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 for people residing or working in the project area?	☐	☐	☐	■
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	■

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	■	☐	☐
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	■	☐	☐

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

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Construction of the proposed project would temporarily increase the transport and use of hazardous materials in the area during the use of construction vehicles and equipment. Limited quantities of miscellaneous hazardous substances, such as diesel fuel, oil, solvents, and other similar materials, would be transported to the project site, used, and stored during the construction period. These materials would be disposed of off-site in accordance with all applicable laws pertaining to the handling and disposal of hazardous waste. In addition, ground-disturbing activities could cause an accidental upset or accident condition of hazardous materials in use during construction. If such conditions cause a release of hazardous materials into the environment, potential impacts could occur. However, Section 01010 Part 1.07, Section 01060 Part 1.08, and Section 01560 Part 1.07 of the SLVWD's construction contractor specifications state that the contractor must comply with the following procedures regarding hazardous materials, which would reduce hazardous materials impacts to a less than significant level:

- Properly store all volatile and hazardous wastes in covered metal containers and remove these wastes daily in accordance with all applicable disposal regulations, local ordinances, and anti-pollution laws.
- Store hazardous materials in covered, leak-proof containers when not in use, away from storm drains and heavy traffic areas, and in areas protected from rainfall infiltration.
- Store hazardous materials on a surface that prevents spills from permeating the ground surface and in an area secure from unauthorized entry at all times.
- Collect, remove, and legally dispose of waste oil, used oil filters, other waste petroleum materials, and any other hazardous waste generated by the contractor at suitable disposal facilities off-site.

- Construct on-site temporary fuel storage facilities to comply with current regulations. Ensure that fuel storage facilities are diked to contain any fuel spills and are properly grounded.
- Provide oil drip pans to contain any oil leakage from construction vehicles.

In the unlikely event that unanticipated, existing soil or groundwater contamination is discovered during construction of the proposed project, SLVWD has set forth construction contractor specifications that require appropriate treatment, handling, and notification of unanticipated hazardous environmental conditions. Article 4 of the *General Conditions* of SLVWD's construction contractor specifications states that if the construction contractor encounters a hazardous environmental condition, the construction contractor shall immediately secure or otherwise isolate such condition, stop all work in connection with such condition and in any area affected thereby, and notify SLVWD and the District Engineer of the hazardous environmental condition. The construction contractor shall not be required to resume work in connection with such condition or in any affected area until after SLVWD has obtained any required permits related thereto and delivered written notice to the construction contractor specifying that such condition and any affected area is or has been rendered safe for the resumption of work and specifying any special conditions under which such work may be resumed safely.

Project construction activities would comply with all applicable regulations, including the enforcement of hazardous materials treatment, handling, notification, and transportation regulations and implementation of BMPs as required by SLVWD's construction contractor specifications. As such, hazardous materials impacts would be less than significant.

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?

Boulder Creek Elementary School and Little People's School are located near the Lyon Pipeline location. Boulder Creek Elementary School is located at 400 West Lomond Street (500 feet west of the pipeline location), and Little People's School is located at 13171 Railroad Avenue (410 feet east of the pipeline location). As described under items 8(a) and 8(b), an accidental spill or release of hazardous or potentially hazardous materials such as vehicle and equipment fuels could occur during project construction. However, implementation of SLVWD's construction contractor specifications would ensure that significant impacts would be avoided. Therefore, potential impacts associated with an accidental emission or release of hazardous materials in proximity to a school would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project be located on a site included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Government Code Section 65962.5 requires the CalEPA to develop an updated Cortese List. The California Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. The analysis for this section included a review of the following resources on July 27, 2018 to provide hazardous material release information:

- State Water Resources Control Board (SWRCB) GeoTracker database
- DTSC EnviroStor database

There are no known active hazardous materials sites located within the project site. SWRCB's GeoTracker database lists a number of closed case hazardous waste cleanup sites within 0.25 mile of the project site (see Table 6). Because no hazardous materials sites are located on the project site and all nearby identified hazardous waste cleanup sites have been completed and closed, 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 for people residing or working in the project area?

f. For a project near a private airstrip, would it result in a safety hazard for people residing or working in the project area?

The closest public airport to the project is the Norman Y. Mineta San Jose International Airport, located approximately 19.5 miles northeast of the project site. The closest private airstrip to the project is the Bonny Doon Airport, located approximately 3.6 miles south of the project site. Neither pipeline location is within an airport land use plan. Given the distance of the airport and airstrip from the project site, the project would not result in an impact to safety hazards for people residing or working in the project area due to proximity to an airport or airstrip.

NO IMPACT

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

The County of Santa Cruz has published a draft Operational Area Emergency Management Plan that establishes a comprehensive, all-hazards approach to incident management for activities including prevention, preparedness, response, and recovery. The Operational Area Emergency Management Plan primarily focuses on organizational structure and chain of command and does not include policies specific to the project site (County of Santa Cruz 2015); therefore, this analysis focuses on the proposed project's potential to generally interfere with emergency response activities in the project vicinity.

Construction of the proposed project may require temporary lane or road closures that could impede emergency response. The Traffic Control Plan required under Mitigation Measure T-1 (see Section 16, *Transportation/Traffic*) would implement safe and effective traffic control measures at the construction sites and would address any potential interference with emergency response and/or evacuation plans. Operation of the pipelines would not interfere with emergency response because the Lyon Pipeline would be entirely underground, and the aboveground Sequoia Avenue Pipeline would be located in an area of open space with no roadways or structures. With implementation of the Traffic Control Plan, potential impacts related to the impairment of implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Table 6 Hazardous Waste Cleanup Sites Located within 0.25 Mile of the Pipeline Locations

Site Name	Address	Type of Site	Contaminant of Concern	Distance from Pipeline Location (feet)	Contamination Type	Clean-up Status	Date
San Lorenzo Rockery	13215 Pine Street	LUST Cleanup Site	Gasoline	160	Groundwater contamination by benzene and petroleum hydrocarbons	Completed - Case Closed	5/18/2000
Schafir Property	13265 Big Basin Way	LUST Cleanup Site	Gasoline	75	Groundwater contamination	Completed - Case Closed	3/1/2002
Former Olympic Station	13250 Big Basin Way	LUST Cleanup Site	Benzene, gasoline	60	Soil contaminated by gasoline hydrocarbon products and groundwater contamination by petroleum hydrocarbons	Completed - Case Closed	7/23/2014
Boulder Creek Texaco	13211 Highway 9	LUST Cleanup Site	Gasoline	160	Soil contaminated by petroleum hydrocarbons and groundwater contamination by petroleum hydrocarbons, benzene, and methyl-tertiary-butyl-ether (MTBE)	Completed - Case Closed	8/23/2012
Arco Station	13057 Highway 9	LUST Cleanup Site	Not listed	180	Soil contamination	Completed - Case Closed	3/3/1993
Olympian Oil Company	13250 Highway 9	LUST Cleanup Site	Gasoline	480	Groundwater contamination	Completed - Case Closed	7/8/1991

LUST = leaking underground storage tank

Source: SWRCB 2018

h. Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

According to the California Department of Forestry and Fire Protection (CAL FIRE), the Lyon Pipeline location is within the Moderate and High Fire Hazard Severity Zones, and the Sequoia Avenue Pipeline location is within the Moderate Fire Hazard Severity Zone in the State Responsibility Area (CAL FIRE 2007). The nearest fire station, Boulder Creek Fire Department, is located on Pine Street approximately 0.1 mile east of the Lyon Pipeline location, and approximately 2.6 miles (driving distance) south of the Sequoia Avenue Pipeline location.

During construction activities, the use of spark-producing construction machinery within or adjacent to areas of moderate and high fire hazard could potentially create hazardous fire conditions and expose people to wildfire risks. However, implementation of Mitigation Measure HAZ-1 would reduce impacts related to potential risk of loss, injury, or death associated with wildland fires to less than significant levels. Operation of the project would not increase the population or introduce any project elements that would potentially increase the risk of loss, injury, or death associated with wildland fires. Therefore, this impact would be less than significant with mitigation incorporated.

Mitigation Measure

With implementation of the following mitigation measure, potential impacts related to wildland fires would be reduced to less than significant levels.

HAZ-1 Prevention of Fire Hazards

During construction of the project, staging areas, welding areas, and areas designated for construction shall be cleared of dried vegetation and other materials that could ignite. Construction equipment with spark arrestors shall be maintained in good working order. In addition, construction crews shall have a spotter during welding activities to minimize potentially dangerous situations, such as accidental sparks. Other construction equipment, including those with hot vehicle catalytic converters, shall be kept in good working order and used only within cleared construction areas. The creation and maintenance of approved fire access roads to work areas shall be required in accordance with applicable fire regulations. During construction of the project, contractors shall require vehicles and crews to have access to functional fire extinguishers.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

9 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?	☐	■	☐	☐
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering or the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	■
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	■	☐
d. Substantially alter the existing drainage pattern of the site or area, including the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	■	☐
e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	■	☐
f. Otherwise substantially degrade water quality?	☐	■	☐	☐

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g. Place housing in a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map, or other flood hazard delineation map?	☐	☐	☐	■
h. Place structures in a 100-year flood hazard area that would impede or redirect flood flows?	☐	☐	☐	■
i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including that occurring as a result of the failure of a levee or dam?	☐	☐	☐	■
j. Result in inundation by seiche, tsunami, or mudflow?	☐	☐	■	☐

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

The project site is located in the Monterey Bay Watershed (Hydrologic Unit Code 18060015). The Lyon Pipeline location runs parallel to Boulder Creek, which is an intermittent stream located approximately 200 feet from the project alignment. The Lyon Pipeline location crosses Foreman Creek, which is an intermittent stream, as well as an unnamed ephemeral stream. Both Foreman Creek and the unnamed ephemeral stream are tributaries to Boulder Creek, which feeds into the San Lorenzo River (United States Geological Survey 2018).

The project site overlies the Santa Margarita Groundwater Basin, which is bordered by the West Santa Cruz Terrace Basin and the Santa Cruz Mid-County Basin to the south and the Corralitos – Purisma Highlands Basin to the east. No groundwater basins are present to the north or west (California Department of Water Resources [DWR] 2018). Groundwater in the basin is replenished naturally, primarily by percolation from the Santa Margarita River and by infiltration of precipitation (DWR 2004). Average groundwater recharge in this area is high because of high aquifer transmissivity, high average rainfall, and sandy soils with low runoff, low evapotranspiration and high infiltration capacity. Key production aquifers of the basin include the Santa Margarita and Lompico aquifers. SLVWD maintains eight active groundwater wells between Ben Lomond and

Scotts Valley (SLVWD 2016). Maximum groundwater depth within the aquifers is 3,000 feet, and total basin storage is estimated at approximately 61,600 acre-feet (DWR 2004). Sustainable yield is estimated at 3,400 acre-feet per year (Kennedy/Jenks Consultants 2016). Due to overdraft conditions in the early 20th century, the basin was adjudicated in 1966 and has been managed under an AB 3030 Groundwater Management Plan since 1994 (DWR 2004, Santa Margarita Groundwater Agency 2018). The basin is currently managed by the Santa Margarita Groundwater Sustainability Agency.

a. Would the project violate any water quality standards or waste discharge requirements?

f. Would the project otherwise substantially degrade water quality?

Excavation, grading, and construction activities associated with construction of the proposed project would result in soil disturbance that could cause water quality violations through potential erosion and subsequent sedimentation of streams that intersect the project area. Because the proposed project would disturb less than one acre, the project would not be subject to the NPDES Construction General Permit. Section 01560 Part 1.08 of SLVWD's construction contractor specifications require contractors to implement effective wind erosion control measures and to provide effective soil cover for inactive areas and all finished slopes, open space, utility backfill, and completed areas. Contractors must also establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site. Furthermore, contractors must effectively manage all run-on, all runoff within the site, and all runoff that discharges off the site. Run-on from off-site must be directed away from all disturbed areas.

However, as discussed in Section 6, *Geology and Soils*, both project sites have steep slopes that would increase the potential for soil erosion. The Lyon Pipeline location has an average slope of approximately 4 percent across the entire site with a maximum slope of approximately 33 percent, and the Sequoia Avenue Pipeline location has an average slope of 11 percent with a maximum slope of 53 percent. Implementation of Mitigation Measure GEO-1 would reduce erosion-related impacts to water quality.

Construction activities could also cause water quality violations in the event of an accidental fuel or hazardous materials leak or spill. If precautions are not taken to contain contaminants, construction activities could result in contaminated stormwater runoff that could enter nearby streams. Therefore, the proposed project would result in potentially significant impacts to water quality, and implementation of Mitigation Measure HWQ-1 would be required to reduce impacts to a less than significant level.

During operation of the project, the pipelines would convey potable water that would be treated in accordance with applicable drinking water regulations set forth by the SWRCB. No impacts to water quality associated with operation would occur.

Mitigation Measure

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

HWQ 1 Stormwater Pollution Prevention

- Storm water runoff and nuisance flow drainage shall be directed away from riparian habitat and into a temporary stormwater filter constructed to remove pollutants before being allowed to discharge into riparian areas.
- The collection and disposal of any and all pollutants originating from construction equipment shall be identified. During construction activities, washing of concrete, paint, or equipment shall occur only in designated areas greater than 100 feet from riparian areas where polluted water and materials can be contained for subsequent removal from the site. Washing shall not be allowed within 100 feet of riparian areas. Plastic shall be placed over any ground surface where fueling or equipment maintenance is to occur. Drip pans shall be placed under equipment parked on-site.
- Temporary storage of construction equipment shall be limited to a minimum of 100 feet away from Foreman Creek, the unnamed ephemeral stream, and Boulder Creek.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

Project construction would require trenching to approximately six feet in depth. Groundwater is not likely to be encountered at a depth of six feet and no dewatering activities would occur. Therefore, project construction would have no impact on groundwater supplies.

SLVWD currently has eight active groundwater wells that constitute a substantial portion of the District's water supply. In 2015, groundwater supplied 56 percent of the District's total water supply with 994 acre-feet of groundwater extracted. SLVWD forecasts that groundwater extraction will decrease to 906 acre-feet per year by 2035 and will constitute approximately 41 percent of the District's total water supply at this time (SLVWD 2016). As a result, although the proposed project would increase SLVWD's potable water system conveyance capacity, the project would not deplete groundwater supplies because SLVWD intends to reduce total groundwater extraction in favor of other water supply sources in the future.

Furthermore, the Lyon Pipeline would be located entirely underground adjacent to an existing pipeline, and the aboveground Sequoia Avenue Pipeline would replace an existing aboveground pipeline, which would be removed. Therefore, the project would not significantly reduce the amount of groundwater recharge that is potentially occurring on the project site. Impacts to groundwater resources would be less than significant.

NO IMPACT

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?

d. Would the project substantially alter the existing drainage pattern of the site or area, including the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?

e. Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The Lyon Pipeline would consist of an underground pipeline generally located within an existing paved public ROW with the exception of a segment that would be located within an existing unpaved utility easement. Although construction activities would involve possible trenching and other pipeline installation methods that would disturb both paved roadways and unpaved land within the project site, this disturbance would be temporary. After construction, the project area would be restored to its original condition, and any drainage pattern would be the same as it was prior to project construction activities. Therefore, the project would not substantially alter the existing drainage pattern or the course of a stream or river and would therefore not result in substantial erosion or siltation on or offsite.

The Lyon Pipeline would be constructed entirely underground, and the aboveground Sequoia Avenue Pipeline would replace an existing aboveground pipeline and would be constructed on supports. Therefore, the project would not permanently alter the existing drainage pattern or increase the rate or amount of surface runoff. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

g. Would the project place housing in a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map, or other flood hazard delineation map?

The proposed project would not construct housing in a 100-year floor hazard area; therefore, no impact would occur.

NO IMPACT

h. Would the project place structures in a 100-year flood hazard area that would impede or redirect flood flows?

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, portions of the Lyon Pipeline location are within a 100-year flood hazard area (Zone A). However, because the Lyon Pipeline would be located entirely underground, it would not impede or redirect flows, nor expose people or structures to a significant risk of loss, injury or death involving flooding. The Sequoia Avenue Pipeline project site is not located within a 100-year flood hazard area (FEMA 2012). No impact would occur.

NO IMPACT

i. Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including that occurring as a result of the failure of a levee or dam?

The Newell 23-002 Dam is located approximately three miles southeast of the project site. However, in the event of a dam failure, intervening topography would direct flows in a southerly direction away from the project site (County of Santa Cruz 2009e). The Sempervirens 1-02 Dam is located approximately 6.4 miles northwest of the project site. Given the small size of the reservoir associated with the Sempervirens 1-02 Dam and the intervening topography between the dam and the project site, failure of this dam would not result in substantial flooding of the project site. Furthermore, the project does not include development of habitable structures, and no impacts related to exposure of people or structures to a significant risk due to failure of a levee or dam would occur as a result of the project.

NO IMPACT

j. Would the project result in inundation by seiche, tsunami, or mudflow?

The project sites are not located within a Tsunami Inundation Area as mapped by the CDOC. The nearest mapped tsunami inundation areas are located approximately 8.7 miles southwest (CDOC 2009). As discussed under item 9(i), the project sites are located at least three miles from the nearest large water bodies, and intervening topography would direct any flows from a potential seiche away from the project sites. The project area is characterized by mountainous terrain with frequent changes in elevation; therefore, mudflow is a potential issue. However, the Lyon Pipeline would be located underground adjacent to an existing pipeline and the Sequoia Avenue Pipeline would replace an existing aboveground pipeline and would be constructed on supports. Neither pipeline would destabilize the terrain in a manner that would increase the risk of mudflow. Therefore, no impact related to seiche or tsunami would occur, and impacts related to mudflow would be less than significant.

LESS THAN SIGNIFICANT IMPACT

10 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. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	■
c. Conflict with an applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	■

a. Would the project physically divide an established community?

Project facilities would mainly consist of replacement potable water pipelines and appurtenances that would bolster system reliability and efficiency in a residential and commercial area of unincorporated Santa Cruz County in the census-designated place of Boulder Creek. Construction staging would occur adjacent to the proposed pipeline locations. The presence of construction equipment and workers would temporarily change the existing character of the project vicinity to that of a construction zone. Construction staging would maintain local access for businesses and residences near the proposed Lyon Pipeline location to the extent practicable throughout construction of the proposed project. In addition, construction would be short-term in nature, and because the proposed project involves installation of a linear pipeline, the active construction area would be continuously moving along the length of the alignment as each segment is installed. As such, the active construction area would not typically be in the same location for more than five days. Therefore, construction of the proposed project would not physically divide an established community. In addition, operation of the pipelines would not physically divide an established community because the Lyon Pipeline would be located entirely underground, and the Sequoia Avenue Pipeline would replace an existing aboveground pipeline located in an open space area. Accordingly, no impact would occur.

NO IMPACT

b. Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The project would involve water infrastructure improvements that would result in improved maintenance access and enhanced system reliability. The project would also help realize water conservation efforts by reducing leaks, breakage, and other inefficiencies in the existing water delivery system. The County of Santa Cruz Boulder Creek Specific Plan does not include any objectives, policies, or programs related to the provision of water supplies or water infrastructure. The Parks, Recreation, and Public Facilities Element of the County of Santa Cruz GP/LCP includes the following objectives and policies related to water systems and water conservation (County of Santa Cruz 1994):

> **Objective 7.18a. Domestic Water Service.** To ensure a dependable supply of high quality domestic water to meet the needs of communities that obtain water service from municipal water systems, County water districts and small water systems.
>
> **Objective 7.18c. Water Conservation.** To maximize the County's water conservation potential through a coordinated program with water purveyors and water management agencies involving public education, financial incentives to conserve, voluntary and mandatory conservation measures, retrofit programs, run-off management and water waste regulations and enforcement.
>
> > **Policy 7.18.4. Improvement of Water Systems**. Support water system improvement programs for storage, treatment and distribution facilities to meet necessary water supply and fire suppression requirements.
> >
> > **Policy 7.18.6. Water Conservation Requirements.** Utilize the best available methods for water conservation in new developments. Work with all water purveyors to implement demand management programs and water conservation measures. In areas where shortage or groundwater overdraft has been substantiated by the water purveyor, require water conservation measures for new and existing uses. Require the use of water-saving devices such as ultra low-flow fixtures and native drought-resistant planting in new development projects to promote ongoing water conservation.

Furthermore, the land use and zoning designations in which the project site is located allow for construction of potable water pipelines. Therefore, the proposed project would not conflict with an applicable land use plan, policy, or regulation and is supported by policies in the County of Santa Cruz GP/LCP. No impact would occur.

NO IMPACT

c. Would the project conflict with an applicable habitat conservation plan or natural community conservation plan?

As discussed under *Biological Resources,* the project site is not located within the jurisdiction of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan (CDFW 2017). Therefore, no impact would occur.

NO IMPACT

11 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 Conservation and Open Space Element of County of Santa Cruz GP/LCP recognizes State classification and designation of mineral resource areas (County of Santa Cruz 1994). According to Mineral Land Classification Maps prepared by the CDOC, part of the Lyon Pipeline location is designated as Mineral Resource Zone (MRZ) 1, which indicates that no significant mineral deposits are present (CDOC 1982). The remainder of the project site is located in an area designated as MRZ 4, which indicates insufficient evidence for designation. However, the Lyon Pipeline would be constructed adjacent to an existing pipeline, and the Sequoia Avenue Pipeline would replace an existing pipeline. As such, construction and operation of the proposed project would not preclude the potential for future mineral recovery activities that may occur near the project site. In addition, the majority of land use and zoning designations in the vicinity of the project site are residential and commercial, which would not be compatible with mineral mining activities. Therefore, no impact associated with mineral resources would occur.

NO IMPACT

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12 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	■	☐	☐
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	■	☐	☐
c. A substantial permanent increase in ambient noise levels above those existing prior to implementation of the project?	☐	■	☐	☐
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	■	☐	☐
e. For a project located 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 expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■
f. For a project near a private airstrip, would it expose people residing or working in the project area to excessive noise?	☐	☐	☐	■

Background

Noise is defined as unwanted sound. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (similar to the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz).

Sound pressure level is measured on a logarithmic scale with the 0 dBA level based on the lowest detectable sound pressure level that people can perceive. Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of 3 dBA. In general, a 3 dBA change in the ambient noise level is noticeable, while changes that are less than 2 dBA generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40 to 50 dBA, while areas adjacent to major streets are typically in the 50 to 60+ dBA range. Normal conversational levels are usually in the 60 to 65 dBA range and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels from point sources, such as those from individual pieces of machinery, typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from the noise source. Noise levels may be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source can reduces noise levels by about 5 dBA, while a solid wall or berm can reduce noise levels by 5 to 10 dBA (Federal Transit Administration [FTA] 2006). The manner in which homes in California are constructed generally provides a reduction of exterior-to-interior noise levels of approximately 20 to 25 dBA with closed windows (FTA 2006).

The duration of noise is important because sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (Leq). The Leq 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 of time (essentially, the average noise level). Typically, Leq is summed over a one-hour period.

The time period in which noise occurs is also important since nighttime noise tends to disturb people more than daytime noise. Community noise is frequently measured using the Day-Night Average Level (Ldn), which is the 24-hour average noise level with a 10-dBA penalty for noise occurring during nighttime hours (10:00 p.m. to 7:00 a.m.) hours.

Some land uses are more sensitive to ambient noise levels than other uses due to the amount of noise exposure and the types of activities involved. The Public Safety and Noise Element of the County of Santa Cruz GP/LCP considers residences, hospitals, nursing homes, schools, and parks to be noise-sensitive land uses (County of Santa Cruz 1994). Noise-sensitive land uses in the vicinity of the Lyon Pipeline location include residential areas along SR 236, Boulder Creek Elementary School, and Little People's School. Noise-sensitive land uses in the vicinity of the Sequoia Avenue Pipeline location include residences.

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

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

Regulatory Setting

County of Santa Cruz General Plan Public Safety and Noise Element

The Public Safety and Noise Element of the County of Santa Cruz GP/LCP contains the following policy that pertains to construction noise:

> **Policy 6.9.7. Construction Noise.** Require mitigation of construction noise as a condition of future project approvals.

Santa Cruz County Noise Ordinance

Chapter 8.30 of the Santa Cruz County Code states that no person shall make, cause, suffer, or permit to be made any offensive noise, which can include construction noise (County of Santa Cruz 2017d). According to Section 8.30.010(C)(1)(a), noise that occurs during daytime and evening hours (8:00 a.m. to 10:00 p.m.) is considered to be offensive if one or more of the following occurs:

- Noise is clearly discernable at a distance of 150 feet from the property line of the property from which the sound is broadcast
- Noise is in excess of 75 dBA at the property line of the property from which the sound is broadcast

According to Section 8.30.010(C)(2)(b) of the Santa Cruz County Code, noise that occurs during nighttime hours (10:00 p.m. to 8:00 a.m.) is considered offensive if one or more of the following occurs:

- Noise is made within 100 feet of a building regularly used for sleeping
- Noise is clearly discernable at 100 feet from the property line of the property from which the sound is broadcast
- Noise is in excess of 60 dBA at the property line from which the sound is broadcast

However, Section 8.30.010 of the Santa Cruz County Code also states that the necessity of the noise shall be considered when determining if a violation of the noise ordinance exists and specifically lists permitted construction activities as an example of necessary noise.

Additionally, Chapter 13.10.345(A)(6) of the Santa Cruz County Code states that no use except for temporary construction operation shall be permitted which creates vibration detectable by the human senses beyond the boundaries of a site in an M-1 industrial district or beyond the boundaries of an M-2 industrial district.

a. Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

c. Would the project result in a substantial permanent increase in ambient noise levels above levels existing without the project?

d. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

The proposed project would construct two water pipeline replacements that would bolster system reliability and efficiency. The project would generate temporary construction noise associated with

site preparation, grading/trenching, pipeline construction/installation, and paving. The nearest sensitive receptors to the Lyon Pipeline location are residential parcels along SR 236 and Pine Street located approximately 15 feet away. The nearest sensitive receptors to the Sequoia Avenue Pipeline location are residences along Sequoia Avenue located approximately 10 feet away.

Construction noise at nearby sensitive receptors was modeled using the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM). Equipment for each phase of project construction was based on a construction equipment list provided by SLVWD. Table 7 summarizes the maximum construction noise levels at the nearest sensitive receptor for both the Lyon Pipeline and Sequoia Avenue Pipeline locations based on the combined construction equipment anticipated to be used concurrently during each phase of construction.

Table 7 Maximum Construction Noise Levels by Construction Phase

		Estimated Noise at Nearest Sensitive Receptors (dBA Leq)	
Construction Phase	**Anticipated Equipment**	**Lyon Pipeline[1]**	**Sequoia Avenue Pipeline[2]**
Site Preparation	Backhoe	84.0	87.6
Grading/Trenching	Backhoes (2), Dozer, Concrete Saw	95.0	98.5
Pipeline Construction/Installation	Crane, Forklifts (2), Backhoes (2)	96.3	99.8
Paving	Cement Mixers (4), Backhoes (2), Paver, Roller	92.8	96.3

See Appendix D for RCNM data sheets.

[1]Nearest sensitive receptors are residential properties along SR 236 and Pine Street, approximately 15 feet from project site.

[2]Nearest sensitive receptors are residential properties along Sequoia Avenue, approximately 10 feet from project site.

As shown in Table 7, construction noise could be as high as approximately 96 dBA Leq at residential property lines near the Lyon Pipeline location and 100 dBA Leq at residential property lines near the Sequoia Avenue Pipeline location. Therefore, construction noise would exceed the 75 dBA Santa Cruz County Code daytime noise standard at the nearest sensitive receptors located near the proposed project locations.

Construction noise would be temporary in nature. Because the proposed project involves installation of a linear pipeline, the active construction area would be continuously moving along the length of the alignment as each segment is installed. As such, the active construction area would not typically be in the same location for more than five days. Furthermore, construction activities would be in accordance with the Section 8.30.010 of the County's Noise Ordinance, which lists permitted construction activities as an example of necessary noise when considering whether a violation of the Noise Ordinance exists. Policy 6.9.7 of the Santa Cruz County General Plan Public Safety and Noise Element requires mitigation of construction noise as a condition of project approval; therefore, implementation of Mitigation Measure N-1 is required to reduce potential impacts related to construction noise.

During operation, the proposed project would not result in a substantial increase in ambient noise levels. The Lyon Pipeline would be located entirely underground and would not result in operational

noise. The Sequoia Avenue Pipeline would replace an existing aboveground pipeline and would not generate operational noise above that of the existing pipeline. The proposed project would require approximately 12 maintenance trips per year (or one trip per month) for each pipeline, which would represent a negligible increase in traffic on area roadways. As such, the increase in roadway noise associated with the project would be incremental, and the project would not result in a substantial permanent increase in ambient noise levels. Therefore, operational noise impacts would be less than significant.

Mitigation Measures

The following mitigation measure is required to reduce construction noise impacts to a less than significant level.

N-1 Construction Noise Mitigation

To reduce noise during construction, the contractor shall implement the following noise control measures:

- **Construction Hours Limits.** Construction shall be limited to Monday through Friday from 8:00 a.m. to 6:00 p.m., and Saturday from 9:00 a.m. to 6:00 p.m. No noise-generating work shall occur on Sundays or federal holidays.
- **Construction Staging Areas and Stationary Equipment Locations.** The contractor shall select equipment staging areas and stationary noise-generating construction equipment locations as far as practicable from sensitive receptors.
- **Equipment Maintenance**. All contractors, as a condition of contract, shall be required to maintain and tune-up all construction equipment to minimize noise emissions.
- **Idling Prohibition and Enforcement.** Unnecessary idling of internal combustion engines shall be prohibited. In practice, this would mean turning off equipment if it would not be used for five or more minutes.
- **Stationary Equipment Shielding.** Stationary equipment areas with appropriate acoustic shielding shall be designated on building and grading plans. Equipment and shielding shall be installed prior to construction and remain in designated location throughout construction activities. Pneumatic impact tools and equipment used at the construction site shall have intake and exhaust mufflers recommended by the manufacturers. Impact noise producing equipment (i.e., jackhammers and pavement breaker[s]) shall be equipped with noise attenuating shields, shrouds, or portable barriers or enclosures to reduce operating noise.
- **Mufflers.** All diesel equipment shall be operated with closed engine doors and shall be equipped with properly operating and maintained residential grade mufflers.
- **Electrically-Powered Tools and Facilities.** Whenever feasible, electrical power shall be used to run air compressors and similar power tools rather than diesel equipment.
- **Temporary Sound Barriers.** When construction is occurring within 50 feet of the nearest residential property line, temporary sound barriers shall be erected along the boundaries of the project site between active on-site construction work using heavy equipment and adjacent sensitive receptors (residential parcels). Such barriers shall be of sufficient height (approximately 6 feet) to break the line-of-sight between noise-generating equipment and the noise-sensitive receptor, and shall be continuous with no gaps or holes between panels or the ground. Temporary sound barriers may include noise curtains, sound blankets, or solid temporary barriers.

- **Pre-Construction Notification.** Prior to construction, written notification that identifies the type, duration, and frequency of construction activities shall be provided to residents within 100 feet of the Lyon and Sequoia Avenue Pipeline locations.

Installation of temporary sound attenuating barriers between construction activities and adjacent sensitive receptors typically provides up to 10 dBA attenuation. Installation of sound shielding, residential grade mufflers have been proven to reduce noise levels by at least 20 dBA at 50 feet (see Appendix D for manufacturer equipment specifications). As shown in Table 7, the highest noise level associated with construction activity would be approximately 96 dBA Leq at residential property lines near the Lyon Pipeline location and 100 dBA Leq at residential property lines near the Sequoia Avenue Pipeline location. Implementation of Mitigation Measure N-1 would reduce construction noise by approximately 30 dBA, which would result in maximum construction noise levels of approximately 66 dBA Leq at residential property lines near the Lyon Pipeline location and 70 dBA Leq at residential property lines near the Sequoia Avenue Pipeline location. This analysis conservatively assumes that a number of pieces of construction equipment would be operating simultaneously during each phase of construction, and that there would not be any obstructions to line-of-sight that would further attenuate construction noise. Staggered operation of equipment would further reduce construction related noise.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

The County of Santa Cruz has not adopted any thresholds for construction or operational groundborne vibration impacts; therefore, the following vibration thresholds established by the Federal Transit Administration (FTA) were applied to the project.

- 72 VdB for residences and buildings where people normally sleep, including hotels
- 75 VdB for institutional land uses with primary daytime use, such as churches and schools
- 94 VdB for physical damage to fragile buildings
- 98 VdB for non-engineered timber and masonry buildings
- 102 VdB for reinforced concrete steel, or timber buildings

Certain types of construction equipment can temporarily generate high levels of groundborne vibration. Construction of the proposed project would potentially utilize a large bulldozer during grading/trenching, loaded trucks during most construction phases, and a vibratory roller during the paving phase. The Lyon Pipeline location is within approximately 15 feet of residences along SR 236 and Pine Street in Boulder Creek and within approximately 430 feet of the nearest school (Little People's School). The Sequoia Avenue Pipeline location is within approximately 40 feet of residences along Sequoia Avenue. Table 8 shows typical vibration levels associated with standard construction equipment that could be used for the project.

Table 8 Groundborne Vibration for Typical Construction Equipment

Equipment	Approximate Vibration Level (VdB) at 15 Feet[1]	Approximate Vibration Level (VdB) at 430 Feet
Vibratory Roller	101	57
Large Bulldozer	94	50
Loaded Truck	92	49

VdB: vibration decibels
[1] Distance to nearest residence.
[2] Distance to nearest school.
Source: FTA 2006

As shown in Table 8, at a distance of 15 feet (i.e., distance to the nearest residence from the Lyon Pipeline location), a vibratory roller would generate a vibration level of 101 VdB, a large bulldozer would generate a vibration level of 94 VdB, and a loaded truck would generate a vibration level of 92 VdB. Such vibration levels would exceed FTA's recommended threshold of 72 VdB for residences during normal sleep hours and 98 VdB for non-engineered timber and masonry buildings. Pursuant to Mitigation Measure N-1, construction activities would be limited to 8:00 a.m. to 6:00 p.m., Monday through Friday, and 9:00 a.m. to 6:00 p.m. on Saturday. Although vibration levels would exceed 72 VdB, construction activities would be limited to daytime hours and vibration impacts would not occur during normal sleep hours. In addition, as discussed under items 12(a), 12(c), and 12(d), construction vibration impacts would be temporary as the active construction site moves along the length of the pipeline alignment. Nevertheless, because vibration levels may exceed 98 VdB, construction vibration impacts to nearby residences would be potentially significant. Implementation of Mitigation Measure N-2 would be required to reduce construction-related vibration impacts to less than significant levels.

As shown in Table 8, at a distance of 430 feet (i.e., distance to the nearest school from the Lyon Pipeline location), a vibratory roller would generate a vibration level of 57 VdB, a large bulldozer would generate a vibration level of 50 VdB, and a loaded truck would generate a vibration level of 49 VdB. Such vibration levels would not exceed FTA's recommend threshold of 75 VdB for institutional land uses with primary daytime use. Therefore, construction vibration impacts to nearby schools would be less than significant.

The proposed project would construct potable water pipelines, which would not generate vibration; therefore, no operational vibration impacts would occur.

Mitigation Measures

The following mitigation measure would reduce groundborne vibration impacts to residences in proximity to the Lyon and Sequoia Avenue Pipeline locations to less than significant levels.

N-2 Use of Non-Vibratory or Pneumatic Tired Rollers

Construction activities shall use non-vibratory smooth wheel rollers or pneumatic tired rollers instead of vibratory rollers in order to reduce potentially significant groundborne vibration impacts on residences near the Lyon and Sequoia Avenue Pipeline locations.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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 expose people residing or working in the project area to excessive noise levels?

f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise?

As discussed under Section 8, *Hazards and Hazardous Materials,* the closest public airport to the project is the Norman Y. Mineta San Jose International Airport, located approximately 19.5 miles northeast of the project site. The closest private airstrip to the project is the Bonny Doon Airport, located approximately 3.6 miles south of the project site. The project site is not located within an airport land use plan or in the vicinity of a private airstrip. Therefore, the project would not expose people residing or working in the area to excessive noise related to air-traffic, and no impact would occur.

NO IMPACT

13 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial 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 amounts of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

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

The proposed project would involve replacement of existing potable water pipelines. The project does not propose construction of new homes and would therefore not directly induce population growth in the service area. Although the proposed project would expand the conveyance capacity of existing water infrastructure by increasing the diameter of the pipelines that currently serve existing customers, the purpose of this project is to serve existing demand, accommodate projected growth in Santa Cruz County, improve performance reliability, and add flexibility to utilize multiple supply sources throughout the District rather than to serve new growth. The project would not result in acquisition of additional water supplies, and the project would not expand service beyond areas presently served by existing infrastructure. Furthermore, the pipelines would be maintained by existing SLVWD employees and would not indirectly induce population growth as a result of new employment opportunities. Therefore, the project would not indirectly support population growth. No impact related to substantial population growth would occur.

NO IMPACT

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

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

The proposed water pipelines would primarily be constructed within existing roadways and public ROW and would not displace any existing housing or people. No impact would occur.

NO IMPACT

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14 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.1-5 Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered 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, and/or other public facilities?

As discussed in Section 13, *Population and Housing*, construction and operation of the proposed project would not result in direct or indirect population growth. In addition, the proposed project would replace existing pipelines and would not result in new permanent facilities that would generate the need for additional fire or police protection services, schools, parks, or other public facilities. No impact to public services would occur.

NO IMPACT

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15 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 discussed in Section 13, *Population and Housing*, the proposed project would not directly or indirectly support substantial population growth. Therefore, the proposed project would not increase the need for or use of neighborhood and regional parks or other recreational facilities. No impact to recreational facilities would occur.

NO IMPACT

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16 Transportation/Traffic

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit?	☐	■	☐	☐
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	■	☐	☐
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	■
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	■	☐	☐
e. Result in inadequate emergency access?	☐	■	☐	☐
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities?	☐	■	☐	☐

a. Would the project conflict with an applicable plan, ordinance or policy establishing a measure of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit?

b. Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

f. Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities?

The proposed project involves construction and operation of potable water pipelines that would not conflict with policies, plans, ordinances, or programs regarding the performance of the circulation system, public transit, bicycle, or pedestrian facilities. The proposed project would be constructed within roadways and public ROW located primarily in suburban residential, rural residential, and open space areas. The Lyon Pipeline would also involve construction through a commercial area of Boulder Creek. The only transit stop located near the project site is the Big Basin Way and Redwood Avenue stop along SR 236, served by the Santa Cruz Metropolitan Transit District Line 35.

Pipeline installation would occur using open trench construction methods at a rate of approximately 200 LF per day. Traffic impacts during project construction would be associated primarily with lane closures or disruptions caused by construction activity in the roadways as well as with construction-related vehicle trips by construction workers traveling to and from the project work areas, soil haul trucks, and other trucks associated with equipment and material deliveries. Road closures are not anticipated; however, single lane closures and on-street parking limitations may be necessary at some locations, including Madrone Drive, Redwood Drive, SR 236, Pine Street, and Lomond Street for the Lyon Pipeline location and Sequoia Avenue for the Sequoia Avenue Pipeline location. Lane closures could reduce roadway capacities, particularly west of central Boulder Creek along SR 236, which is a two-lane highway. Any potential closures would be temporary and phased as construction progresses along the pipeline alignments. Project construction may temporarily block access to the Big Basin Way and Redwood Avenue stop along SR 236; therefore, impacts to public transit facilities would be potentially significant. Implementation of Mitigation Measure T-1, which requires the project contractor to identify transit stops impacted by project construction in the Traffic Control Plan and relocate them, as necessary, would reduce impacts to public transit facilities to less than significant levels.

Traffic generated by construction workers would be spread out within the project area and would vary depending on which segment is under construction. Based on outputs from CalEEMod, construction of the Lyon Pipeline would generate up to 20 worker vehicle trips per day, and construction of the Sequoia Avenue Pipeline would generate up to 10 vehicle trips per day. Based on total soil import and export estimates and a 16-cubic yard (cy) truck capacity, the Lyon Pipeline would require approximately 207 total round-trip haul trips, and the Sequoia Avenue Pipeline would require approximately 25 total round-trip haul trips. Haul trips would occur throughout the construction period and would roughly equate to approximately 12 haul trips per day during the trenching and backfilling phases for the Lyon Pipeline and approximately six round-trip haul trips per day during the trenching and backfilling phases for the Sequoia Avenue Pipeline, which would be a nominal impact to traffic. Construction vehicle traffic could result in a reduction of roadway

capacities due to slower movements and larger turning radii of the trucks compared to passenger vehicles.

Soil haul trips and equipment/material delivery trips would occur throughout the day. Any construction-related traffic occurring between 7:00 a.m. and 9:00 a.m. or between 4:00 p.m. and 6:00 p.m. would coincide with peak hour traffic and could temporarily impede traffic and transit flow. Travel during these timeframes would primarily consist of workers traveling to and from the project site, because deliveries would likely occur throughout the day. Access to the construction area would vary depending on where pipeline installation is occurring.

Construction-related traffic impacts would be short-term and temporary at any one location because the active construction area would be continuously moving along the length of the alignment as each segment is installed. In addition, per the SLVWD's construction contractor specifications, contractors would be responsible for basic traffic control measures to ensure the safety of vehicle traffic and material delivery, including providing flag persons at affected roadway segments and/or intersections and traffic control signage.

Nonetheless, construction-related impacts to the transportation system would be potentially significant. As such, implementation of Mitigation Measure T-1 would be required to reduce construction-related traffic impacts to less than significant levels. Mitigation Measure T-1 requires construction contractors to prepare and implement a Traffic Control Plan that addresses and mitigates impacts associated with the temporary closures of traffic lanes, parking lanes, or other public ROW within the project area, as necessary.

Operation of the project would require approximately 12 employee vehicle trips each year to check and maintain the pipelines, which is a conservative assumption given that employee vehicle trips are currently occurring to maintain the existing pipelines. These vehicle trips would represent a negligible increase in traffic and would not impact the performance of the transportation system. In addition, operation of the proposed project would not interfere with the transportation system, including public transit, bicycle, and pedestrian facilities, because the Lyon Pipeline would be located entirely underground and the aboveground Sequoia Avenue Pipeline would be located in an open space area. Operational traffic impacts would be less than significant.

Mitigation Measures

The following mitigation measure would reduce temporary construction traffic impacts to a less than significant level.

T-1 Traffic Control Plan

Prior to construction or the issuance of applicable permits, the contractor shall submit a Traffic Control Plan to SLVWD, the County of Santa Cruz, and any other agency with jurisdiction over roadways affected by project construction for review and approval. This plan shall:

- Describe the proposed lane closures, detours, staging areas, and routes of construction vehicles, including the timing and duration of anticipated closures.
- Describe traffic control measures that will be implemented to manage traffic and reduce potential traffic impacts in accordance with stipulations of the most recent version of the California Manual of Uniform Traffic Control Devices. Traffic control measures may include, but are not limited to, flag persons, warning signs, lights, barricades and cones to provide safe passage of vehicles (including cars and buses) and bicycle and pedestrian traffic.

- Demonstrate the location of bicycle routes and transit stops and routes, including that of Santa Cruz Metropolitan Transit District Line 35, that will be temporarily impacted by construction activities. Recommend places to temporarily relocate bicycle routes and transit stops and routes, if necessary.
- Require written notification of the timing, location, and duration of construction activities, and the location of lane closures or detours (if any) to all emergency service providers (fire and police) prior to road closure. Emergency service vehicles shall be given priority for access.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

As discussed under Section 8, *Hazards and Hazardous Materials,* the project site is not located near a public or private airport/airstrip or in an area covered by an airport land use plan. The proposed project would include the replacement of existing pipelines. The Lyon Pipeline would be located entirely underground, and the Sequoia Avenue Pipeline would be located aboveground on supports. Neither pipeline would create an obstruction of air traffic patterns. As such, no impact would occur.

NO IMPACT

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

The proposed project may temporarily change the configuration of intersections and roadways within the project site if lane closures are required during pipeline construction. Construction of the pipeline would occur at a rate of approximately 200 LF per day, limiting lane closures to relatively small areas at any given time. Because lane closures could increase the potential for roadway hazards during project construction, impacts could be significant. However, with the implementation of the Traffic Control Plan (Mitigation Measure T-1), construction-related impacts would be reduced to less than significant levels. In addition, operation of the project would not create or substantially increase a traffic hazard due to a design feature because the Lyon Pipeline would be located entirely underground and the aboveground Sequoia Avenue Pipeline would be located in an open space area.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

e. Would the project result in inadequate emergency access?

Lane closures and other potential traffic impacts caused by construction activities associated with the proposed project could potentially impede emergency access. The Boulder Creek Fire Department Station is located approximately 300 feet from the Lyon Pipeline location. No project construction would be required in front of or adjacent to the station. Therefore, the station would not be directly affected by construction activities. The Traffic Control Plan required by Mitigation Measure T-1 would include specific traffic control measures to address emergency access routes and notify emergency service providers of road or lane closures and detours in advance. Implementation of Mitigation Measure T-1 would reduce potential construction-related impacts to emergency access to less than significant levels. In addition, operation of the project would not result in inadequate emergency access because the Lyon Pipeline would be located entirely

underground and the aboveground Sequoia Avenue Pipeline would be located in an open space area.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

f. Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities?

The proposed project involves construction and operation of potable water pipelines that, once constructed, would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. The pipelines would be installed below existing roadways and public ROW. The only transit stop located near the project site is the Big Basin Way and Redwood Avenue stop along SR 236, served by the Santa Cruz Metropolitan Transit District Line 35. Project construction may temporarily block access to this bus stop; therefore, impacts to public transit facilities would be potentially significant. However, such disruption would be temporary and, pursuant to Mitigation Measure T-1, transit stops impacted by project construction would be identified in the Traffic Control Plan and relocated, as necessary. With incorporation of Mitigation Measure T-1, construction-related impacts to public transit, bicycle, and pedestrian facilities would be less than significant. In addition, operation of the project would not impact public transit, bicycle, or pedestrian facilities because the Lyon Pipeline would be located entirely underground and the aboveground Sequoia Avenue Pipeline would be located in an open space area.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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17 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, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	■
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 Cod Section 2024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significant of the resource to a California Native American tribe.	☐	☐	☐	■

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

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

1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be 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." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency. To date the District has not received any requests for notice of projects under SLVWD jurisdiction.

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

b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 2024.1?*

As noted above, to date no tribes have requested notice of projects under SLVWD jurisdiction; therefore consultation letters under AB 52 were not circulated by the District.

As part of the Phase I Cultural Resources Report (Appendix C), Rincon did contact the Native American Heritage Commission (NAHC) to request a review of the Sacred Lands File (SLF). The SLF search was returned on July 6, 2018 with negative results. As discussed in Section 5, *Cultural Resources*, Rincon reached out to the five Native American contacts provided by the NAHC to inquire about any potential cultural resources that may be impacted by the project as part of a federal consultation process under Section 106 of the National Historic Preservation Act. Two contacts responded with interest in the project; one contact indicated that she was not aware of any specific cultural resources within or near the project area.

No specific tribal cultural resources have been identified at this time. Therefore, no impact to tribal cultural resources would occur. Nonetheless, Measures CR-1 and CR-2, as described in Section 3, *Cultural Resources*, are recommended as standard best management practices to be implemented in the event of an unanticipated discovery of cultural resources, tribal or otherwise, during project construction.

NO IMPACT

18 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	■
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	■
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	■
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	■
e. 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?	☐	☐	☐	■
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	■	☐
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	■	☐

a. Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

b. Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

e. 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 proposed project would involve replacement of two existing potable water pipelines. The proposed pipeline replacements would reduce water loss from breakage and leaks, improve access for maintenance, and enhance system reliability by minimizing pressure loss. While the proposed project would expand the conveyance capacity of the Lyon Pipeline and Sequoia Avenue Pipeline by increasing pipeline diameter, this expansion would serve existing demand, accommodate planned growth, improve performance reliability, and add flexibility to utilize multiple supply sources rather than serve new growth. The project does not involve acquisition of new water supplies and would not expand potable water service beyond areas currently served by existing infrastructure. The proposed project would not alter existing wastewater infrastructure, increase wastewater generation, or substantially alter the composition of wastewater in the service area. Accordingly, no impacts to water and wastewater facilities would occur.

NO IMPACT

c. Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The proposed project would not require or result in the construction of new stormwater drainage facilities or the expansion of existing facilities. No impact would occur.

NO IMPACT

d. Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The proposed project would require the use of some water during construction for dust suppression. The source of water for dust suppression activities is anticipated to be potable water provided by SLVWD because the North Service Area of SLVWD is not currently served with reclaimed water (SLVWD 2016). Water consumption associated with dust suppression would be temporary and minimal because only disturbed areas would need to be watered.

Operation of the proposed project would not increase water consumption. The proposed pipeline replacements are intended to improve system reliability, enhance access for maintenance, and reduce water loss through inefficiencies such as breakage or leaks. The conveyance capacities of both the Lyon Pipeline and Sequoia Avenue Pipeline would be expanded to meet existing demand, reduce service interruptions due to pressure loss, and meet fire flow requirements. The project would improve potable water distribution using existing supplies, and acquisition of new water supplies is not proposed by or required for the project. Therefore, no impacts to water supplies would occur.

NO IMPACT

f. Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

g. Would the project comply with federal, state, and local statutes and regulations related to solid waste?

Construction of the proposed project would generate solid waste in the form of soil during site preparation, excavation, and trenching activities. Soil would be re-used on-site or hauled off-site and disposed of in accordance with solid waste disposal regulations. For the Lyon Pipeline, approximately 2,019 cy of the soil would be exported off-site for disposal. For the Sequoia Avenue Pipeline, approximately 225 cy of soil would be exported off-site for disposal. Excavated soil not used on-site would be transported to the Ben Lomond Santa Cruz County Transfer Station, approximately five miles from the Lyon Pipeline location and 6.5 miles from the Sequoia Avenue Pipeline location.

The Ben Lomond Santa Cruz County Transfer Station has a maximum permitted capacity of 300 tons per day (CalRecycle 2018). Soil export from the project would be expected to total approximately 283 tons for the Lyon Pipeline, and approximately 32 tons for the Sequoia Avenue Pipeline.[1] When distributed over the course of project construction for each segment, the Lyon Pipeline would generate approximately five tons per day of waste during construction, while the Sequoia Avenue Pipeline would generate approximately two tons of waste per day. In addition, 800 LF of aging pipeline at the Sequoia Avenue location would be removed and disposed of. Waste generation would be temporary, occurring only during project construction, and would be well below the 300 tons per day permitted capacity of the Ben Lomond Santa Cruz County Transfer Station. Therefore, the project would not result in significant impacts to a local landfill.

Additional solid waste that would be generated (e.g. by-products of roadway construction including asphalt and concrete) would be disposed of in accordance with all applicable federal, State, and local statutes and regulations. Once constructed, operation and maintenance activities would not generate solid waste. For this reason, operation of the proposed project would not exceed permitted capacity at local landfills. Solid waste impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

[1] Soil mass estimated based on Ben Lomond sandy loam—the predominant soil class in the project area—and a bulk density of 1.65 g/cm3 for sandy loam soils (United States Department of Agriculture 2017).

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19 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 reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	■	☐
b. 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 reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

As noted under Section 4, *Biological Resources,* construction impacts to nesting birds and sensitive species would be less than significant. Operation of the Lyon Pipeline would not impact biological resources because it would be located entirely underground. Operation of the Sequoia Avenue Pipeline would have less than significant impacts because it would replace an existing aboveground pipeline. As a result, the project would not have the potential to substantially reduce the habitat of fish and wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal.

The project site does not contain any known archaeological or tribal cultural resources. As discussed in Section 5, *Cultural Resources*, the Lyon Pipeline, which would be installed in the SR 236 ROW, which is considered a historical resource under CEQA. The Lyon Pipeline would be constructed entirely underground and would not introduce any above-ground elements that would affect these important features. Although trenching may result in the partial removal of asphalt from the road surface, this material is not original or considered character defining, and it would be replaced in kind. The roadway and its immediate surroundings have been subject to continual improvements since its construction, and the actions proposed under the current project are consistent with this ongoing maintenance. As a result, the proposed project would not eliminate an important example of major periods of California history or prehistory.

LESS THAN SIGNIFICANT 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)?

As described in the discussion of Sections 1 through 18, with respect to all environmental issues, the proposed project would have no impact, a less than significant impact, or a less than significant impact with mitigation incorporated. Construction-related impacts to biological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and transportation/traffic would be specific to the project site and mitigation would be implemented to reduce impacts to a less than significant level; therefore, impacts to these resources areas would not contribute to any significant cumulative impacts related to these issues. In addition, the proposed project would not directly result in population growth; therefore, it would not contribute to cumulative increases in traffic or demand for utilities such as water, wastewater, and solid waste service.

The proposed project would have no adverse long-term environmental impacts and, therefore, would not contribute to cumulative environmental changes that may occur due to planned and pending development. Rather, the proposed improvements would enhance the reliability of the potable water system, improve access for system maintenance, and reduce water losses from breakage and leaks in aging infrastructure. Consequently, the proposed project would not make a considerable contribution to any significant cumulative environmental impacts.

LESS THAN SIGNIFICANT IMPACT

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 air quality, hazards and hazardous materials, and noise impacts. As detailed in the preceding sections, the project would not result, either directly or indirectly, in adverse hazards related to air quality. Compliance with applicable rules and regulations and implementation of Mitigation Measure HAZ-1, N-1, and N-2 would reduce potential impacts on human beings to a less than significant level.

LESS THAN SIGNIFICANT IMPACT

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