Rancho Cañada Sewer Replacement Project

Initial Study – Mitigated Negative Declaration

prepared by

Carmel Area Wastewater District
P.O. Box 221428
Carmel, California 93922
Contact: Rachél Lather, PE

prepared with the assistance of

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

August 2020

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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Initial Study

1. Project Title

Rancho Cañada Sewer Replacement Project

2. Lead Agency Name and Address

Carmel Area Wastewater District
3945 Rio Road
Carmel, California 93922

3. Contact Person and Phone Number

Rachél Lather, PE
(831) 624-1248
lather@cawd.org

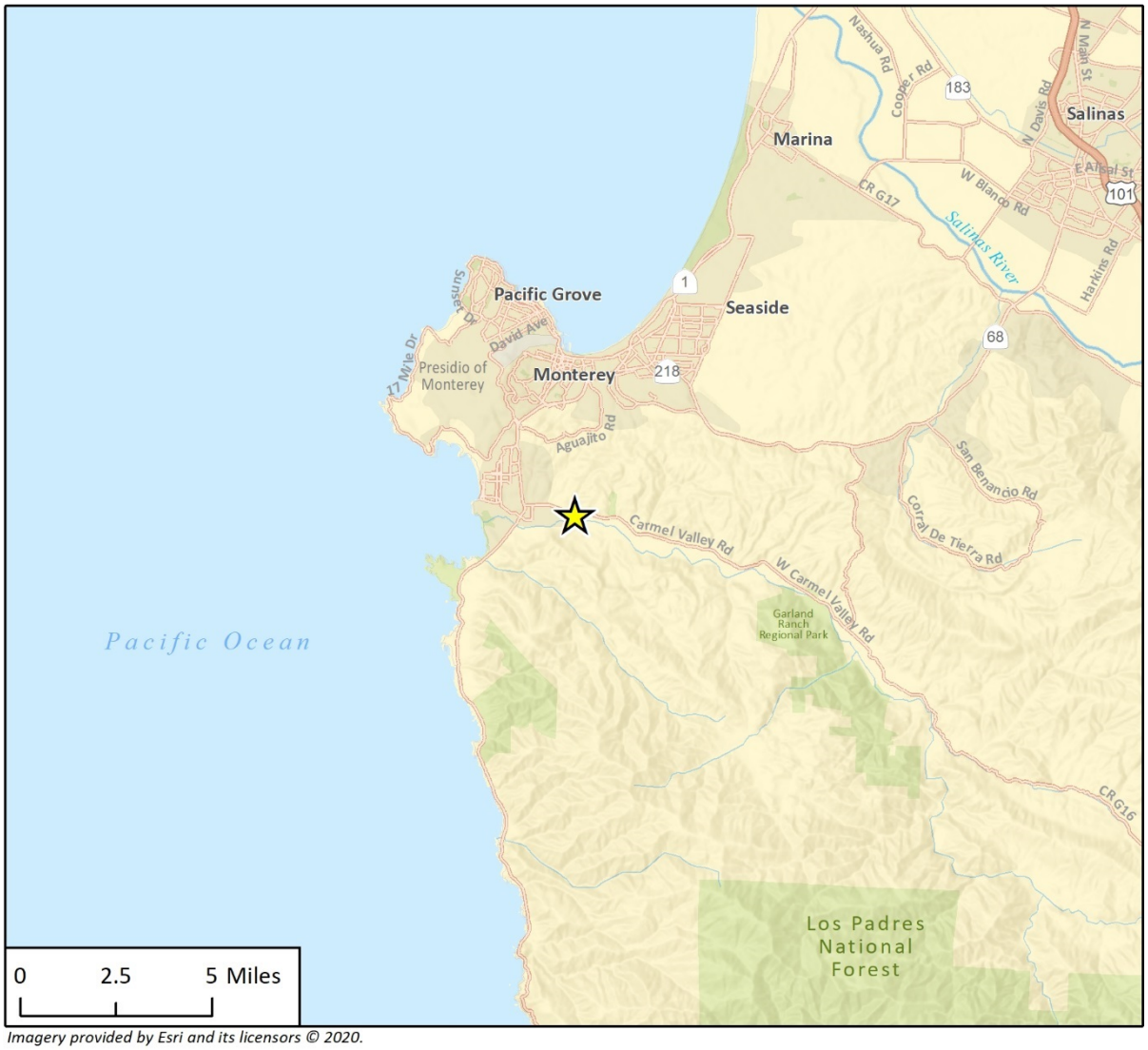
4. Project Location

The proposed alignment is located within Palo Corona Regional Park (PCRP) and private land east of the park in the Carmel Valley, within unincorporated Monterey County. The eastern portion of the alignment includes the public right-of-way of Mallorca Road and Via Petra Road. The alignment extends linearly from west to east for approximately 4,240 feet. The disturbance area would include both the alignment of the existing sewer pipeline as well as the alignment area for the new pipeline (herein referred to as the project site). The western portion of the project site passes through open space in PCRP, while the eastern portion passes through a residential area containing residences along both sides of Via Mallorca Road and Via Petra Road. The replacement pipeline location would generally coincide with the existing pipeline location but would be up to 100 feet apart in some areas. See Figure 1 for the regional location and Figure 2 for the project site location. Figure 3 shows the project site plan.

5. Project Sponsor's Name and Address

Rachél Lather, Principal Engineer
Carmel Area Water District
3945 Rio Road
Carmel, California 93922

Figure 1 Regional Location



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Project Location

N

Figure 2 Project Site

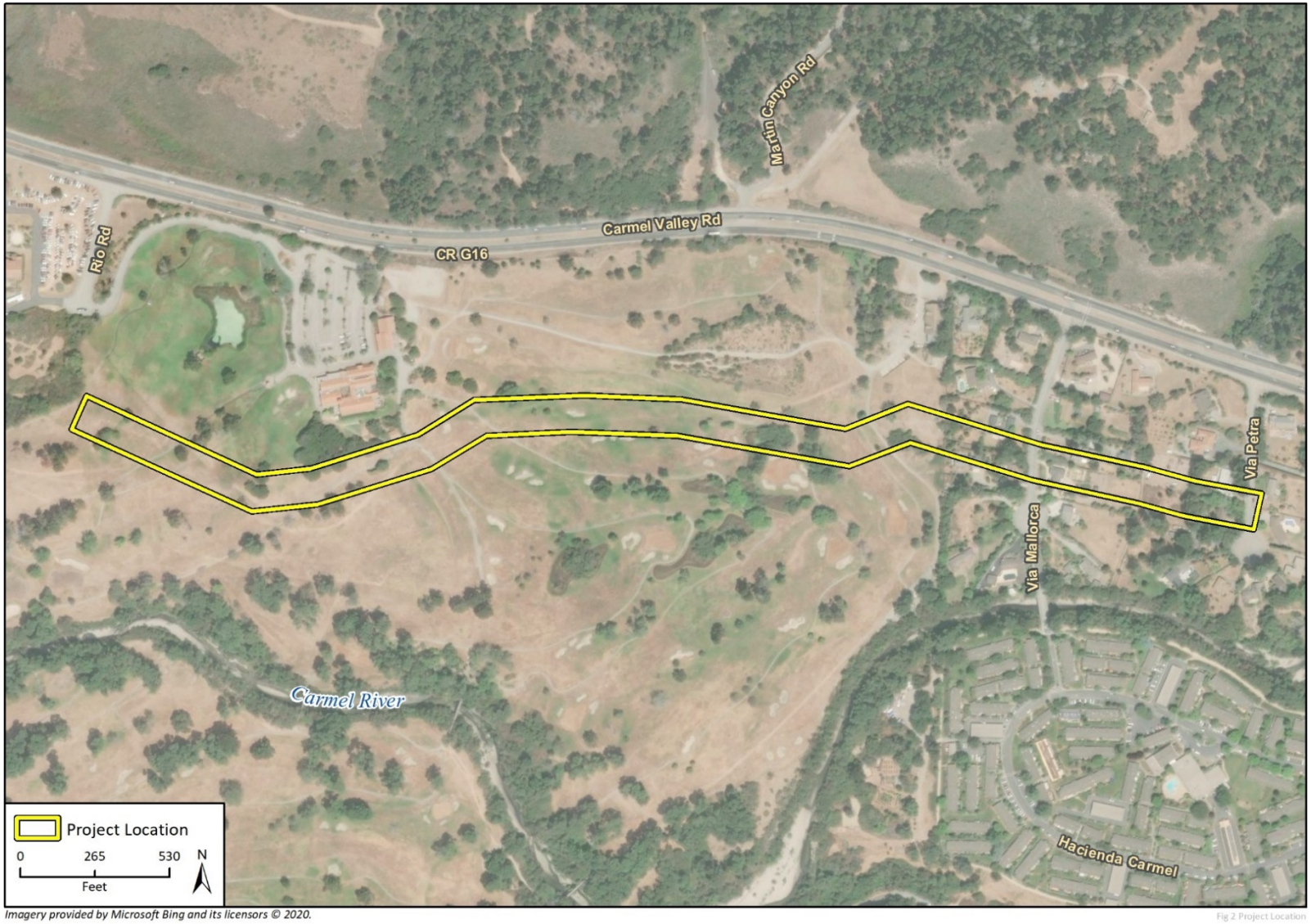
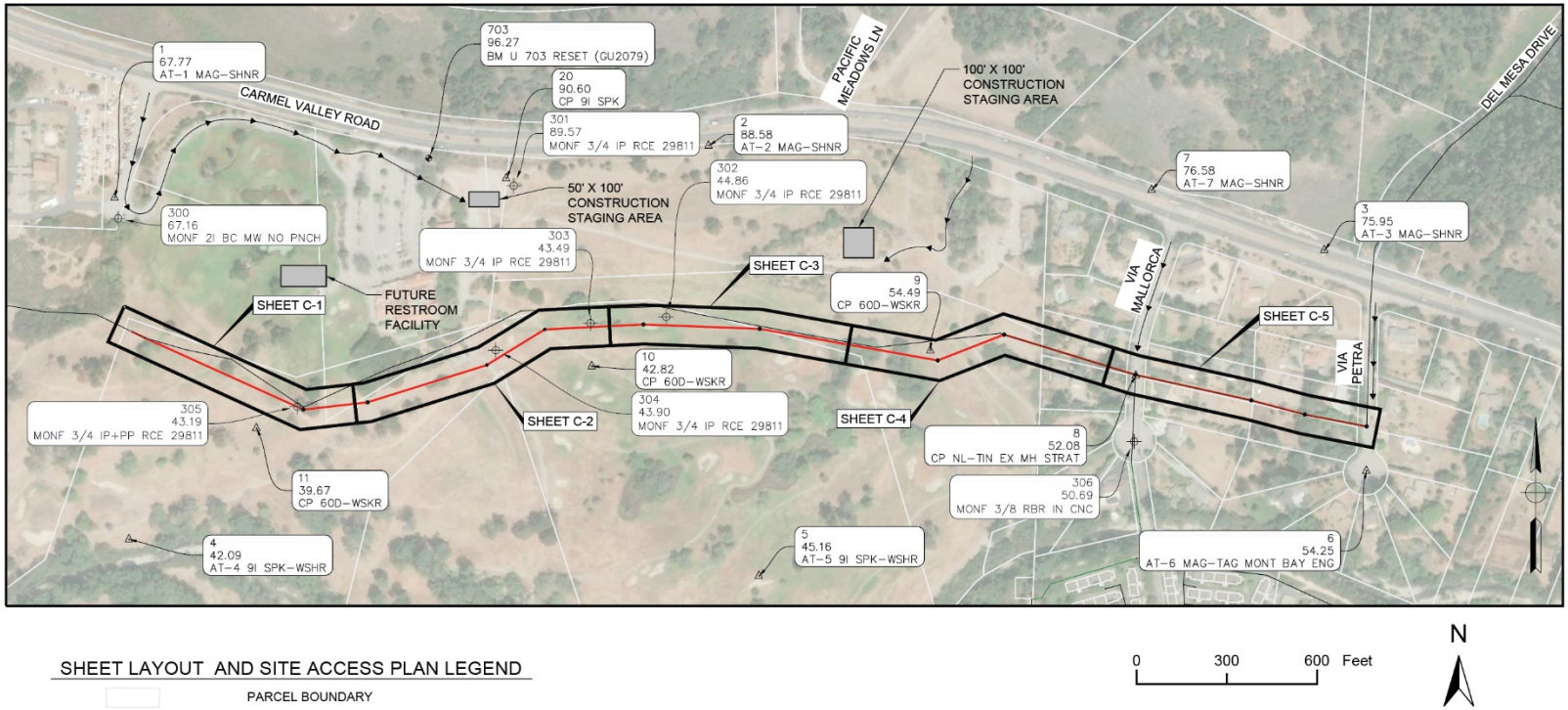


Figure 3 Site Plan



Source: MNS Engineers Inc., August 2020.

6. General Plan Designation

The project site is within the Carmel Valley Master Plan Area. The project site's land use designation pursuant to the Monterey County General Plan is public/quasi-public within PCRP, and low-density residential within the residential eastern portion of the site that crosses private property.

7. Zoning

The project site is zoned public/quasi-public (PQP) and low density residential (LDR).

8. Description of Project

The Rancho Cañada Sewer Replacement Project (herein referred to as "proposed project" or "project") would replace a Carmel Area Wastewater District (CAWD) sewer main. The purpose of the project is to upsize and regrade the existing pipeline to address capacity issues to handle current flows and address surcharging. The project would involve installation of a total of 4,240 linear feet of new gravity sewer mains, consisting of the following:

- Replacement of 3,120 linear feet of existing 10-inch diameter gravity sewer main along an alternate alignment with a new 15-inch sewer main using open trench installation methods
- Replacement of 330 linear feet of 10-inch truss sewer main with 15-inch sewer main
- Replacement of 790 linear feet of eight-inch truss sewer main with eight-inch polyvinyl chloride (PVC) sewer main by pipe bursting from the east side of PCRP to Via Mallorca Road and Via Petra Road

Two new eight-inch stub-outs would be installed at intermediate manholes to provide future service for a public restroom at PCRP and an emergency services staging area. At the downstream end of the project area, a 15-inch plugged connection and 5-foot long capped segment of 15-inch diameter sewer would be provided for future connection/rerouting of wastewater flows, and the existing 10-inch diameter manhole outlet plugged. Sewer lateral connections to the existing sewer main would be reconnected to the new sewer main. Environmental impacts related to the restroom have already been analyzed in the PCRP General Development Plan Initial Study Mitigated Negative Declaration (SCH No. 2019049161).

As shown in Figure 3, the majority of the new pipeline would be located alongside the existing alignment. The project includes physically abandoning the existing 10-inch sewer in accordance with CAWD standards. Abandonment includes filling existing pipelines with a concrete slurry. Manhole frames, covers, and cones would be removed, bases would be cracked if filled with aggregate, or filled with concrete slurry. The pipeline alignment would avoid existing wetlands, to the extent feasible, and avoid existing oak trees near the PCRP event center.

The majority of the construction area is within PCRP. The eastern portion of the alignment would cross Via Mallorca and Via Petra and traverse private property with residences located along those streets. In this area, replacement pipeline would be added via pipe bursting, a trenchless method of replacing buried pipelines, to reduce ground disturbance and associated environmental impacts.

Construction

The project would be constructed over approximately 90 days. Construction would occur during weekdays between 7:30 a.m. and 4:30 p.m. on the eastern portion of the project site outside of PCRP. Inside PCRP, the western portion of the project site, construction would occur during nighttime hours to reduce noise impacts at the event center and for recreational uses in PCRP. Construction would be conducted by a five-person crew requiring three vehicle round-trips (two crew trips plus one vendor trip) per day. Two construction staging areas have been designated within PCRP, one each to the west and east of the alignment. One staging area would be 100 foot by 100 foot in size, the other would be 100 foot by 50 foot in size, comprising a total area of 15,000 square feet for staging. See Table 1 for construction details. The project site would be accessed during construction via the PCRP Rio Road entrance (to access west staging area) and Via a private gate on the east side of PCRP (to access east staging area). Additional project access would be via Via Petra and Via Mallorca for work within the public right-of-way. Work would also occur on private property off Via Petra.

Maintenance

The pipeline would require occasional routine maintenance after installation. Maintenance needs would be reduced in comparison with existing conditions. The new pipe would have a steeper slope that would require less cleaning frequencies, in addition to being a new, better quality pipe material that does not have damage due to age. Further, the larger size of the pipeline would reduce surcharging further decreasing maintenance needs.

Table 1 Project Construction Summary

Pipeline	
Total length of new pipeline	4,240 feet
Depth of new pipeline	1 to 10 feet
Total disturbance area	10,160 square feet
Soil	
Total cubic yards (CY) of excavated (cut) soil	2,360 CY
Total CY of cut soil used as fill	1,530 CY
Total CY of soil exported	830 CY
Total CY of imported soil used as fill	650 CY
Total paved area	400 square feet

CY = cubic yards

9. Surrounding Land Uses and Setting

The project site is located within PCRP and a residential neighborhood to the east of PCRP. The existing sewer alignment runs west to east through a portion of the PCRP that was previously used as a golf course. The PCRP Discovery Center building is approximately 170 feet north of the alignment. Surrounding land uses include the Community Church of the Monterey Peninsula approximately 370 feet to the west; Carmel Valley Road and open space approximately 740 feet to

the north; the Hacienda Carmel housing community approximately 280 feet to the south; and the Carmel River and agricultural fields approximately 920 feet and 1,950 feet to the south, respectively.

10. Other Public Agencies Whose Approval is Required

The following approvals would be required from the County of Monterey:

- Encroachment Permit for Work in Public Right-of-Way
- Environmental Health Permit
- Erosion Control Plan per Monterey County Code (MCC) Chapter 16.12

Additionally, the State Water Resources Control Board would approve coverage under the National Pollutant Discharge Elimination System (NPDES) Construction General Permit and Board approval of the project would be required by CAWD. Additionally, the State Water Resources Control Board would approve coverage under the NPDES Construction General Permit.

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

. The following tribes were contacted for the project per the list provided by the Native American Heritage Commission: Amah Mutsun Tribal Band, Amah Mutsun Tribal Band of Mission San Juan Bautista, Costanoan Rumsen Carmel Tribe, Esselen Tribe of Monterey County, Indian Canyon Mutsun Band of Costanoan, and Ohlone/Costanoan-Esselen Nation.

The Esselen Tribe of Monterey County has requested consultation from CAWD pursuant to Public Resources Code Section 21080.3.1. In the letter, it was requested that during all excavation activities, a native American monitor be present.

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Environmental Factors Potentially Affected

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

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

Determination

Based on this initial evaluation:

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

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

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

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

☐ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier 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.

Rachél Lather
Signature

8/18/2020
Date

RACHÉL LATHER
Printed Name

Principal Engineer
Title

Environmental Checklist

1 Aesthetics

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

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

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

Locations that provide expansive views of a highly valued landscape for the benefit of the general public are considered to be scenic vistas. Scenic vistas may be informally recognized, or officially designated by a public agency. PCRP and the surrounding Carmel Valley are rich in visual resources, due to the coastal proximity and varied elevation. Scenic vistas from PCRP trails include views of the Pacific Ocean, Carmel Valley, and redwood and pine forests. PCRP's vistas are visible from the existing trail network at points of high elevation.

The project site is located within a non-urbanized area within a public park and on private property. The project would replace a pipeline that lies entirely underground. Following project construction

activities, the project site would not be substantially visibly altered in comparison to existing conditions as it would be naturally revegetated. The project would not include tree removal or other substantial or permanent alterations to the project site. Therefore, there would be no impact related to scenic vistas or public views.

NO 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?

State Route (SR) 1 is the closest state-designated scenic highway to the project site (California Department of Transportation [Caltrans] 2020). The project site is approximately one mile east of SR 1 and is not visible from the highway. Therefore, physical changes to the project site as a result of the project would not have any effect on views within a state scenic highway. There would be no impact.

NO IMPACT

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

Operation of the project would not add reflective surfaces, such as windows or car windshields, to the project site or its surroundings that would result in glare impacts. Project construction would include temporary night work in PCRP to reduce construction noise impacts at the event center and for park users. Nighttime construction would not occur in the eastern portion of the site outside of PCRP. Nighttime construction would be over 1,000 feet from the residences and the Community Church of the Monterey Peninsula west of the project site. Lighting used during nighttime project construction would be far from residences and community uses such that it would not significantly affect nighttime views. Additionally, nighttime construction would be temporary, lasting no more than 90 days. Therefore, impacts to daytime or nighttime views in the area would be less than significant.

LESS THAN SIGNIFICANT IMPACT

2 Agriculture and Forestry Resources

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

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

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 does not contain land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (DOC 2016). The project site is a portion of a park and private residential property not used for agriculture. The project would replace an existing sewer pipeline and would not alter any land use on or near the project site. There would be no impact.

NO IMPACT

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

The project site is zoned PQP and low density residential (LDR) and is within a park and on private property. There are no Williamson Act contracts on the project site (County of Monterey 2010a). The proposed project would not require a change in zoning and would not involve a change in land use. Therefore, there would be no impact regarding agricultural zoning or Williamson Act land.

NO IMPACT

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 forest land to non-forest use?

The project site is zoned PQP and LDR and is not used for timber production or zoned as forest land or timberland. The project site consists of grassed areas with dispersed trees, as discussed in Section 4, *Biological Resources*. Tree removal would not occur. The project would not conflict with zoning for forest land, would not result in loss of forest land, and would not change the environment in a manner that would result in conversion of forest land. Therefore, there would be no impact.

NO IMPACT

3 Air Quality

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

Air Quality Standards and Attainment

The project site is within the 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 MBARD (formerly known as the Monterey Bay Unified Air Pollution Control District [MBUAPCD]), 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. 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 2. As shown therein, the NCCAB is in nonattainment for the State standards for eight-hour ozone 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 2 North Central Coast Air Basin Attainment Status

Pollutant	Standard	Designation
1-Hour Ozone	NAAQS	Attainment
	CAAQS	Attainment
8-Hour Ozone	NAAQS	Attainment
	CAAQS	**Nonattainment – Transitional**[1]
CO	NAAQS	Attainment
	CAAQS	Attainment/Unclassified[2]
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] Areas are designated as nonattainment-transitional for ozone if no monitoring location in the nonattainment area has recorded more than three exceedance days during the previous calendar year (California Code Section 70303.5).

[2] Monterey County is classified as in Attainment and San Benito and Santa Cruz counties are classified as Unclassified.

Source: MBARD 2017

Air Quality Management

Under California law, MBARD is required to prepare a plan for air quality improvement for pollutants for which the NCCAB is in non-compliance. In March 2017, MBARD 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 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 in attainment for the then-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

MBARD has issued criteria for determining the level of significance for project-specific impacts within its jurisdiction in accordance with the NAAQS and CAAQS. To determine whether a significant air quality impact would occur, emissions generated by the proposed project were compared to MBARD's thresholds of significance for both construction and operational emissions shown in Table 3. The proposed project would be inconsistent with the 2016 AQMP, and therefore have a cumulatively considerable (significant) contribution to significant cumulative air quality impacts, if it would result in either of the following (MBARD 2008):

- Population growth generated by the proposed project would cause the population of Monterey County to exceed the population forecast for the appropriate five-year increment utilized in the 2016 AQMP; or[1]
- Construction and operational emissions of ozone precursors would exceed the significance thresholds established by the MBARD, which are intended to set the allowable limit that a project can emit without impeding or conflicting with the AQMP's goal of attainment ambient air quality standards.

Based on criteria set forth in the MBARD's (2008) *CEQA Air Quality Guidelines*, 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 3.

Table 3 Criteria Pollutant Thresholds of Significance

Pollutant/Precursor	Maximum Construction Emissions (lbs/day)	Maximum Operational Emissions (lbs/day)
VOC	N/A	137
NO_X	N/A	137
CO	N/A	550
SO_X	N/A	150
PM_{10}	82[1]	82[2]

[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*.

[2] The MBARD's operational PM_{10} threshold of significance applies only to on-site emissions, such as project-related exceedances along unpaved roads. These impacts are generally less than significant.

Notes: VOC = volatile organic compounds; NO_X = oxides of nitrogen; lbs/day = pounds per day; CO = carbon monoxide; SO_X = oxides of sulfur; PM_{10} = particulate matter with a diameter of 10 microns or less; N/A = not available – the MBARD has not adopted thresholds for construction emissions of VOC/NO_x, CO, and SO_x.

Source: MBARD 2008

TOXIC AIR CONTAMINANTS

In addition to criteria pollutants, MBARD regulates toxic air contaminants (TAC) from new or modified sources under Rule 1000. Rule 1000 applies to any source which requires a permit to

[1] In Monterey County, consistency with population forecasts is based on comparing a project's population with countywide forecasts to avoid confusion related to declining population forecasts for cities on the Monterey Peninsula (MBARD 2008).

construct or operate pursuant to District Regulation II (Permits) and has the potential to emit carcinogenic or noncarcinogenic TACs. MBARD also implements Rule 1003, Air Toxic Emissions Inventory and Risk Assessments, which establishes and implements the Air Toxics Hot Spots Act, and Rule 424, which applies to demolition and/or renovation activities which are subject to the asbestos National Emission Standards for Hazardous Pollutants (NESHAP) in Rule 306.

According to MBARD Guidelines, a project would have a significant impact if its TAC emissions resulted in an exceedance of health risk public notification thresholds adopted by MBARD. The guidelines also set forth the following thresholds, which are the same as the public notification thresholds (MBARD 2008):

- The hazard index is greater than 1 for acute or chronic impacts
- The cancer risk is greater than 10 in one million

CARBON MONOXIDE

The MBARD *CEQA Air Quality Guidelines* indicate that any of the following traffic effects should be assumed to generate a significant carbon monoxide (CO) impact, unless CO dispersion modeling demonstrates otherwise (MBARD 2008):

- Intersections or road segments that operate at level of service (LOS) D or better would operate at LOS E or F with the project's traffic
- Intersections or road segments that operate at LOS E or F where the volume-to-capacity (V/C) ratio would increase 0.05 or more with the project's traffic
- Intersections that operate at LOS E or F where delay would increase by 10 seconds or more with the project's traffic
- Unsignalized intersections which operate at LOS E or F where the reserve capacity would decrease by 50 or more with the project's traffic
- The project would generate substantial heavy-duty truck traffic or generate substantial traffic along urban street canyons or near a major stationary source of CO

The CO thresholds provided by MBARD are designed to screen out from further analysis projects that would have a less than significant impact from CO emissions; however, projects that exceed these thresholds would not necessarily result in a CO hotspot. Localized CO concentrations are primarily the result of the volume of cars along a road and the level of emissions generated by vehicles; restricted traffic flows (LOS D or worse) can contribute to higher volumes of vehicles on a given roadway in a period of time, but are not the cause of high CO concentrations. Stringent vehicle emission standards in California have reduced the level of CO emissions generated by vehicles over time such that CO hotspots are rarely a concern, except for roadways with very high traffic volumes.

Methodology

Construction Emissions

Construction emissions associated with the sewer line were estimated using the Roadway Construction Emission Model (RCEM), version 9.0. RCEM was developed by the Sacramento Metropolitan Air Quality Management District to calculate emissions from linear projects such as roadways, levees, or pipelines.

Project construction would generate temporary air pollutant emissions including fugitive dust and exhaust emissions from heavy construction equipment. The trenching/excavation phase of the project would involve the greatest use of heavy equipment and generation of fugitive dust. Construction for the proposed pipeline is assumed to start January 2021 and is expected to take 90 calendar days to complete. For the purposes of modeling, the analysis relied upon the following assumptions:

- Pipeline corridor working area would extend up to 20 feet in width
- The pipeline would be constructed at a rate of approximately 150 feet per day
- The depth of pipeline installation would range from two to six feet, with four pipe bursting pits six feet in depth and ten feet wide.
- Approximately 2,360 cubic yards of material would be excavated, 1,530 cubic yards of which would be reused as fill material
- Approximately 650 cubic yards of material would be imported for fill in the trench zone, and approximately 830 cubic yards of excavated material unsuitable for use as fill material would be exported
- Construction crews would work five days per week for nine hours a day (this does not account for breaks between the proposed construction hours)

Operational Emissions

Operational emissions would be comprised of mobile source emissions (i.e. vehicle emissions), energy emissions, area source emissions, and stationary sources (i.e. emergency generator testing). The pipeline itself would not generate new demand for electricity or result in any solid waste or water emissions beyond existing conditions. The pipeline would not require maintenance for the first few years after installation, after which would be visited once per year for maintenance and is expected to have a net reduction in current maintenance trips.

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

MBARD Rule 216, Permit Requirements for Wastewater and Sewage Treatment Facilities, requires that new or modified wastewater treatment facilities be consistent with the adopted AQMP. A project would conflict with or obstruct implementation of the AQMP for the Monterey Bay Region if it is inconsistent with the growth assumptions included in the 2012-2015 AQMP, in terms of population, employment, or regional growth in vehicle miles traveled (VMT) (MBARD 2017).

The proposed project is a sewer main project that would not directly generate population growth through construction of housing or creation of substantial employment opportunities. The project would accommodate approximately five new employees throughout the construction process; however, given the nature of the proposed project, it is likely that these employees would be drawn from the existing, local workforce and would not indirectly result in the relocation of people to Monterey County. Furthermore, the sewer is being upsized and regraded to address identified capacity issues to handle current flows and address surcharging issues. Therefore, the project would not indirectly induce population growth because it would not expand waste transport outside of the intended capacity size but rather enhance and increase the resiliency of the existing sewer main.

Project-related VMT would be associated with maintenance trips to the sewer line. Maintenance trips are anticipated to be reduced compared to existing conditions for the project site because the site would upgrade the existing pipeline. Due to a net decrease in trips for operation and maintenance, it is assumed project related VMT would decrease.

Therefore, the project does not fall within the population-inducing and high-VMT-generating categories of programs and projects that would have the potential to conflict with or obstruct implementation of the AQMP. Furthermore, none of the transportation control measures and land use planning strategies contained in the AQMP are applicable to the proposed project because they are primarily directed at residential, commercial, and mixed-use development projects. The proposed project would be consistent with AQMP growth assumptions and is therefore accommodated within and consistent with the AQMP. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Construction Emissions

Construction activities such as site preparation, grading, construction worker travel to and from project site, delivery and hauling of construction supplies and debris to and from project site, and fuel combustion by on-site construction equipment would generate emissions of ozone precursors (ROG and NO_X), CO, and fugitive dust (PM_{10} and $PM_{2.5}$). According to the MBARD guidelines, PM_{10} is the greatest pollutant of concern during construction.

The MBARD Guidelines provide project-level thresholds for construction emissions. If a project's construction emissions fall below the project-level thresholds, the project's impacts to regional air quality are considered individually and cumulatively less than significant. Table 4 shows the estimated maximum daily emissions for each year of construction of the project.

Table 4 Estimated Maximum Daily Construction Emissions-Maximum Daily Emissions (lbs/day)

Construction Year	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
2021	1.5	14.3	13.3	<0.1	1.7	0.8
Maximum Emissions (lbs/day)	**1.5**	**14.3**	**13.3**	**<0.1**	**1.7**	**0.8**
MBARD Thresholds	N/A	N/A	N/A	N/A	82[2]	N/A
Threshold Exceeded?	N/A	N/A	N/A	N/A	No	N/A

[2] 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 CEQA Guidelines.

N/A = Not applicable.

Notes: All numbers have been rounded to the nearest whole number. All emissions modeling was completed using RCEM. See Appendix A for modeling results. Some numbers may not add up due to rounding.

As shown in Table 4, construction of the project would generate maximum daily emissions of approximately 1.7 pounds of PM_{10}, which is well below the MBARD threshold of 82 pounds per day. Therefore, construction-related air quality impacts would be less than significant.

Although construction-related air quality impacts would be less than significant, 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 the modeling in order to provide a more conservative estimate of air pollutant emissions. However, if adhered to, these BMPs would further reduce air pollutant 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.
- Maintain at least two feet of freeboard on haul trucks.
- Cover all trucks hauling soil, sand, and other loose materials.
- Plant vegetative ground cover in disturbed areas as quickly as possible.
- Cover inactive storage piles.
- 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.

Operational Emissions

Long-term operational emissions associated with the proposed project are those attributed to vehicle trips due to operation and maintenance of the proposed project (mobile emissions). Because the project would result in a net decrease for maintenance as compared to exiting conditions, operational emissions would decrease as a part of the project and would not expose sensitive receptors to substantial pollutant concentrations. Operational emissions would not substantially contribute to the violation of other State or national AAQS. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Construction

Construction-related activities would result in temporary project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for site preparation, grading, pipeline and manhole construction, and other construction activities. DPM was identified as a toxic air contaminant (TAC) by the California Air Resources Board (CARB) in 1998 (CARB 2017).

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of the proposed project would occur in phases over approximately three months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the California Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of proposed construction activities (i.e., 0.25 years) is approximately 2.1 percent of the total exposure period used for health risk calculation. Current models and methodologies for conducting health-risk assessments are associated with longer-term exposure periods of nine, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities, resulting in difficulties in producing accurate estimates of health risk (BAAQMD 2017).

The maximum PM_{10} and $PM_{2.5}$ emissions would occur during open cut construction and trenchless construction activities. The DPM emissions would decrease for the remaining construction period because construction activities such as mobilization and paving would require less construction equipment. While the maximum DPM emissions associated trenchless construction and open cut construction activities would only occur for a portion of the overall construction period, these activities represent the worst-case condition for the total construction period. This would represent less than 0.03 percent of the total exposure period for health risk calculation. Therefore, given the aforementioned, DPM generated by project construction would not create conditions where the probability is greater than one in one million of contracting cancer for the maximally exposed

individual[2] or to generate ground-level concentrations of non-carcinogenic TACs that exceed a hazard index greater than one for the Maximally Exposed Individual. This impact would be less than significant.

Additionally, the project would not include any stationary sources of TACs that would expose both on-site and nearby off-site receptors to substantial TAC emissions. No operational TAC emissions would result from the project. Impacts related to TAC emissions would be less than significant.

Operation

As described under *Operational Emissions* above, the project would reduce the current number of operation and maintenance trips needed for the sewer line. Therefore, the project would not result in volumes of traffic that would create, or substantially contribute to, the exceedance of State and federal AAQS for CO. The project would not expose sensitive receptors to substantial pollutant concentrations related to CO hotspots. Impacts related to CO hotspots would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

During construction activities, temporary odors from vehicle exhaust and construction equipment. Construction-related odors would be short-term and would cease upon completion. In addition, MBARD Rule 402 prohibits the discharge of air contaminants or other materials which would cause a nuisance or detriment to a considerable number of persons or to the public, with the exception of odors from agricultural activities. Compliance with Rule 402 is required and would further reduce construction odor impacts. Therefore, construction the project would not result in significant impacts related to objectionable odors during construction.

Land uses typically producing objectionable odors include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (MBARD 2008). The sewer pipeline would be located entirely below the ground surface and would not have the potential to generate odors during operation except at manhole locations. In order to reduce odors at manhole locations, the manhole covers will be sealed covers. Operational odor emissions from the project would be limited to odors associated with vehicle and engine exhaust which is expected to have a net reduction from the amount of maintenance vehicle trips necessary for the current sewer line. Therefore, the proposed project would not expose sensitive receptors to substantial concentrations of odors and would not directly or indirectly generate any objectionable odors, or other emissions that would adversely affect a substantial number of people. Impacts related to objectionable odors would be less than significant.

LESS THAN SIGNIFICANT IMPACT

[2] Hypothetical person receiving the greatest exposure to DPM.

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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 state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	■	☐	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	■	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	■	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	■

Regulatory Setting

Regulatory authority over biological resources is shared by federal, State, and local authorities under a variety of statutes and guidelines. Primary authority for general biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, Monterey County and CAWD). The California Department of Fish and Wildlife (CDFW) is a trustee agency for biological resources throughout the state under CEQA and also has direct jurisdiction under the California Fish and Game Code (CFGC). Under the California and federal Endangered Species Acts (CESA/ESA), the CDFW and the U.S. Fish and Wildlife Service (USFWS) also have direct regulatory authority over species formally listed as Threatened or Endangered as well as native bird species listed under the Federal Migratory Bird Treaty Act (MBTA), and the Bald and Golden Eagle Protection Act (BGEPA). The U.S. Army Corps of Engineers (USACE) has regulatory authority over specific biological resources, namely wetlands and waters of the United States, under Section 404 of the Federal Clean Water Act (CWA). The CDFW and Regional Water Quality Control Boards (RWQCB) protect waters and streambeds at the state level. The analysis herein is guided by the requirements of these laws, and by the operating standards of the implementing agencies.

Monterey County 2010 General Plan

The Monterey County 2010 General Conservation and Open Space Element provide goals, policies, and objectives pertaining to biological resources applicable to this project. Goal OS-5 is focused on the avoidance, minimization and mitigation of significant impacts to biological resources. The associated policies with this goal include the promotion of conservation of listed species; conservation and maintenance of critical habitat; and avoidance, minimization, and mitigation of impacts to listed species and critical habitat. Carmel Valley Master Plan (CVMP; Monterey County, 2013) Policy CV-3.8 states that development shall be sited to protect riparian vegetation, minimize erosion, and preserve the visual aspects of the Carmel River. Furthermore, CVMP Policy CV-3.11 discourages the removal of native oak, madrone and redwood trees in the CVMP Area and requires a permit for the removal of these species.

Monterey County Ordinances

Some resources are afforded protection through local ordinances such as those that protect trees. Riparian corridors, and environmental sensitive habitats. The County of Monterey Zoning Ordinance 21.64.260 calls for the protection and preservation of oaks and other types of native trees. It should be noted that CAWD is not required to comply with Monterey County Municipal Code requirements. However, CAWD, as the Lead Agency, has elected to apply the county's tree protection ordinance for this project.

Methodology

Information contained in this section consists of a review of relevant literature and database query results, a field reconnaissance survey to determine what sensitive biological resources do or may occur at the site, and an evaluation of the proposed activity in the context of potentially occurring biological resources to determine potentially significant impacts under CEQA. The potential presence of special-status species is based on the literature review and a field survey designed to assess habitat suitability and presence of target species. The potential for impacts to these species was evaluated based on these findings, the proposed project description and known construction phase activity associated with the installation of new sewer line. The proposed project would install approximately 3,120 linear feet of new sewer line; however, a 13-acre project site was evaluated to

support siting and project design planning that would avoid sensitive biological resources if applicable (please refer to Figure 3).

Literature Review

Rincon reviewed relevant databases and literature for baseline information on biological resources occurring and potentially occurring at the project site and in the immediate surrounding area. The review included the following sources:

- U.S. Fish and Wildlife Service (USFWS) Information, Planning and Conservation (IPaC) Trust Resource Report (USFWS 2020)
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) for the Monterey, California USGS 7.5-minute quadrangle, and eight surrounding quadrangles; (CDFW 2020)
- California Native Plant Society Online Inventory of Rare and Endangered Vascular Plants (California Native Plant Society 2020)
- National Hydrography Dataset (NHD) (USGS 2020)
- National Wetlands Inventory (NWI) (USFWS 2020)
- United States Department of Agriculture (USDA) Natural Resources Conservation Services (NRCS) Web Soil Survey (NRCS 2020)
- A Manual of California Vegetation (Sawyer et al. 2009)
- Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986)

The CNDDB (CDFW 2020) was reviewed for recorded occurrences of special status plants and wildlife taxa in the region prior to conducting a reconnaissance-level field survey (described below). For this review, the search included all occurrences within the United States Geological Survey (USGS) 7.5-minute topographic quadrangle encompassing the project site (*Monterey*), and the four surrounding quadrangles (*Seaside*, *Mt. Carmel*, *Marina*, and *Soberanes Pt.*). The remaining quadrangles surrounding the project site consisted of the Pacific Ocean and were not included in the search. The NWI (USFWS 2020) and the NHD (USGS 2020) were reviewed for potential aquatic resources, including jurisdictional waters of the United States or water of the State.

Biological Surveys

A biological resource reconnaissance-level site visit was conducted on May 27, 2020 to assess the habitat suitability for potential special-status species, map vegetation communities and land-cover types, document and map the presence of any sensitive biological resources, identify potential jurisdictional waters or wetlands, document any wildlife connectivity/movement features, and record all observation of plant and wildlife species within the project site. Rincon conducted a site visit on May 27, 2020, between the hours of 0900 am and 1100 am. The temperature on-site was approximately 70°F. The biologist walked meandering transects over the entire 13-acre project site, inspecting the site for the potential to support special status species or biological resources.

Soils

The project site consists of four soil map units (USDA 2020): Lockwood channery loam, 2 to 9 percent slopes, MLRA 14; Pico fine sandy loam; Santa Ynez fine sandy loam, 2 to 9 percent slopes; Tujunga fine sand, 0 to 5 percent slopes.

- **Lockwood channery loam, 2 to 9 percent slopes, MLRA 14** is a well-drained loamy soil that occurs on terraces and alluvial fans. It is formed from fine-loamy alluvium derived from shale. A typical profile consists of channery loam to 40 inches and channery clay loam between 40 to 82 inches.
- **Pico fine sandy loam** is a well-drained loamy soil that occurs on flood plans. It is formed from coarse-loamy alluvium derived from sedimentary rock. A typical profile consists of fine sandy loam to 55 inches and stratified sand to silty clay loam between 55 to 72 inches.
- **Santa Ynez fine sandy loam, 2 to 9 percent slopes** is a moderately well-drained loamy soil that occurs on terraces. It is formed from fine-loamy alluvium derived from igneous and sedimentary rock. A typical profile consists of fine gravelly fine sandy loam to 18 inches and clay between 18 to 43 inches and sandy clay loam between 43 to 61 inches.
- **Tujunga fine sand, 0 to 5 percent slopes** is an excessively drained sandy soil that occurs on alluvial fans and flood plains. It is formed in sandy alluvium derived from sedimentary rock. A typical profile consists of fine sand to 60 inches.

All of the soils mapped within the site are listed as hydric soils; however, these soils also occur in upland areas as well as where hydrology and hydrophytic vegetation are not present.

Vegetation Communities

This section addresses the habitats and vegetation communities at the project site. Vegetation classification was based on Sawyer et al. (2009) and Holland (1986), modified as needed to accurately describe the existing habitats observed on-site. Six (6) vegetation communities or land-cover types are present on-site as shown in Figure 4. A brief discussion of each vegetation community is provided below.

Non-Native Annual Grassland

The project site is primarily comprised of non-native annual grassland, which has developed due to the former use of the site as a golf course and subsequent lack of golf course maintenance. This community includes a mixture of non-native annual grasses, ruderal herbs, and landscaped trees. This community most closely resembles the *Avena* (*barbara*, *fatua*) Semi-Natural Herbaceous Alliance described by Sawyer et al. (2009). Species composition in this community is highly variable and contain occasional native or ornamental trees and shrubs, however non-native grasses are dominant, including wild oats (*Avena fatua* and *Avena barbata*), Kikuyu grass (*Pennisetum clandestinum*), ripgut brome (*Bromus diandrus*), Italian rye (*Festuca perennis*), and foxtail barley (*Hordeum murinum*). Ruderal herbs observed in this community are dominated by mustard (*Brassica rapa*), Italian thistle (*Carduus pycnocephalus*), wild radish (*Raphanus sativus*), milk thistle (*Silybum marianum*), and poison hemlock (*Conium maculatum*). Other herbs observed include wild geranium (*Geranium dissectum*), bristly ox-tongue (*Helminthotheca echioides*), pineapple weed (*Matricaria discoidea*), bullthistle (*Cirsium vulgare*), and fennel (*Foeniculum vulgare*). Tree species include Monterey cypress (*Hesperocyparis macrocarpa*), coast redwood (*Sequoia sempervirens*), and Monterey pine (*Pinus radiata*). Monterey pine and Monterey cypress are native species considered sensitive when occurring in natural stands or woodlands; however, there are few naturally occurring stands of these species and individuals present within the project site are ornamental plantings.

Figure 4 Vegetation Communities, Waters, and Land Cover Types

Coast Live Oak Woodland

A small area of coast live oak woodland occurs near the west end of the project site, and most closely corresponds with the *Quercus agrifolia* Woodland Alliance described by Sawyer et al. (2009). This community is dominated by coast live oak (*Quercus agrifolia*) with an open understory of largely non-native species, including English ivy (*Hedera helix*), Italian thistle, wild radish, and mustard, with some poison oak (*Toxicodendron diversilobum*).

Landscaped

This land cover type is not naturally occurring and is not described in either the Holland (1986) or Sawyer et al. (2009) classification systems. It consists of primarily non-native species in ornamental plantings. Tree species found in this community are highly variable, and typically consist of either non-native (ornamental) species or native species that were planted, and not part of a natural community. The most commonly occurring tree species within this community include Monterey cypress, coast redwood, Monterey pine, and Peruvian pepper (*Schinus molle*). Bushes and shrubs in this community are variable by occurrence and include oleander (*Nerium oleander*), lantanas (*Lantana* spp.), and juniper (*Juniperus* spp.) among other ornamental species. Landscape grass species typically include turf grasses and nonnative species such as kikuyu grass (*Pennisetum clandestinum*), and English daisy (*Bellis perennis*).

Willow Thicket

This community occurs at the eastern end of the former golf course in a low depression and consists of a stand of arroyo willow (*Salix lasiolepis*), with some poison hemlock and curly dock (*Rumex crispus*). A review of aerial imagery shows this area has been disturbed by golf course maintenance activities in the past.

Developed

This land cover type is not naturally occurring and is not described in either the Holland (1986) or Sawyer et al. (2009) classification systems. This community consists of areas that have been modified such that most or all vegetation has been removed or only small areas of landscape vegetation are present. Driveways, roads, sidewalks, and former golf cart paths are included within this community.

Ruderal

An area at the east end of the project site was observed containing a mixture of weedy species typically observed in heavily disturbed areas. This community does not correspond well with either the Holland (1986) or Sawyer et al. (2009) classification systems. Ruderal areas have had visible disturbance of soil or vegetation and are mostly bare and colonized by weeds and disturbance-tolerant natives, such as wild radish, field mustards (*Hirschfeldia* spp., *Brassica* spp.), cheeseweed (*Malva parviflora*), and poison hemlock.

Drainages and Wetlands

Wetlands and waters in the project area include 1) an isolated ephemeral wetland; 2) forested willow wetlands adjacent to the isolated ephemeral wetlands; and 3) a concrete drainage.

Both wetland features are related to the golf course development and are man-made. The forested willow wetlands adjacent to the isolated ephemeral wetlands contain standing water and are connected to adjacent ephemeral wetlands. This community most closely resembles the red osier thickets, a *Cornus sericea – Salix lasiolepis* alliance described by Sawyer et al. (2009). Dominant species in this community include arroyo willow and red osier dogwood (*Cornus sericea* ssp. *sericea*). Species in the understory include poison hemlock (*Conium maculatum*) and fennel (*Foeniculum vulgare*).

The ephemeral wetlands are a feature of the golf course landscaping. This wetland contained a small area of open water with rushes (*Schoenoplectus* sp.) around the edges. The wetland and adjacent forested willow wetland form an isolated wetland complex. Because these features are isolated and man-made, they are not likely to be USACE jurisdictional, however they may fall under the jurisdiction of RWQCB and CDFW due to lack of maintenance in recent years.

A concrete drainage occurs at the east end of the project site and runs between private properties. This drainage is approximately 940 feet long and connects with a roadside ditch along Carmel Valley Road north of the project site, and with the Carmel River, approximately 350 feet south of the project site. This concrete drainage is man-made and does not support wetland or riparian species, it is therefore not likely to be under the jurisdiction of USACE but may be CDFW or RWQCB jurisdictional.

The willow thicket vegetation community recorded near the east end of the project site within the former golf course occurs in a low area that likely collects limited runoff from the surrounding golf course uplands. No standing water was observed at the time of the site visit; however, the topography is depressional and likely holds water for part of the year, as shown in Figure 4. The community also included poison hemlock, a facultative wetland plant species. The depressional area where this community occurs is likely man-made but may function as an isolated wetland due to lack of maintenance in recent years.

Special Status Species

Special status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) under the federal Endangered Species Act (FESA); those listed or proposed for listing as rare, threatened, or endangered by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act (CESA); animals designated as "Species of Special Concern," "Fully Protected," or "Watch List" by the CDFW; and plants with a California Rare Plant Rank (CRPR) of 1 or 2 which are defined as:

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

Queries of the IPaC (USFWS 2020), CNDDB (CDFW 2020), and CNPS Online Inventory of Rare, Threatened and Endangered Plants of California (CNPS 2020) were conducted to compare to the list special status species considered to have potential to occur within the project site.

Sensitive Communities and Critical Habitat

Plant communities are also considered sensitive biological resources if they have limited distributions, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in CNDDB. CNDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2010) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Some alliances with the rank of 4 and 5 have also been included in the 2019 sensitive natural communities list under CDFW's revised ranking methodology (2019b).

Red osier thickets, a *Cornus sericea – Salix lasiolepis* alliance have a CRPR of G4 S3?, and are considered sensitive by CDFW (2019b). Additionally, many alliances with the genus *Schoenoplectus*, are considered sensitive, including stands of California bulrush (S. *californicus*) S3S4, and American bulrush (S. *americanus*).

The Carmel River (Unit MNT-2) was federally designated as critical habitat for California red-legged frog (CRLF) in 2010 (USFWS 2010). MNT-2 is the largest designation within Monterey County and contains features that are essential for the conservation of the species. Furthermore, the unit contains permanent and ephemeral aquatic habitat for breeding and non-breeding activities, and upland habitat for foraging, dispersal activities, and shelter.

Critical habitat for Steelhead south-central California coast DPS occurs approximately 463 feet to the south of the project site, along the Carmel River (NMFS 2005).

Special Status Plants and Animals

Queries of the USFWS IPaC (USFWS 2020), CNDDB (CDFW 2020), and CNPS Online Inventory of Rare, Threatened and Endangered Plants of California (CNPS 2020) were conducted to obtain comprehensive information regarding special status species considered to have potential to occur on the project site or the vicinity.

Based on the queries above, 53 special-status plant species and 24 special-status wildlife species were evaluated for the potential to occur within the project site. The only semi-natural communities observed on-site include oak woodland, willow thicket, and the man-made wetlands (forested willow wetlands and isolated ephemeral wetlands). The man-made wetlands and willow thicket observed on-site are highly disturbed by previous maintenance of the golf course grounds and subsequent recruitment of weed species. The oak woodlands observed on-site are located adjacent to the clubhouse, and are maintained as part of landscaped areas. These communities are isolated by development from natural habitats. Therefore, due to the specific habitat requirements of special status plants and developed nature of the site as a former golf course and residential neighborhood (lacking natural native habitats) no special status plants are expected to occur in the project site (Appendix B). Eight special status wildlife species were found to have potential to occur or were observed in the vicinity of the project site. These species are discussed below.

Western Bumble Bee

Western bumble bee (*Bombus occidentalis*) is a state candidate for listing (Endangered). The historic range of this species covered much of the western United States, from the Pacific coast to the

Colorado Rocky Mountains. Western bumble bee are eusocial insects living in a colony with workers and one queen. They typically nest underground in rodent burrows or other cavities which may be lined with grass or bird feathers (Hatfield et al. 2015). The flight period for queens is early February through late November in California, peaking in late June through late September. The flight period for males and worker females is early April to early November. Most of the colony dies off at the start of winter, including the queen. A cast of reproductive females will continue to forage (gather nectar) and hibernate over the winter. These females will become queens and start new colonies the following spring. This species has a wide variety of plant associations, including but not limited to, species in the genera: *Melilotus, Cirsium, Trifolium, Centaurea, Chrysothamnus*, and *Eriogonum* (Koch, Strange, and Williams 2012).

There are two known occurrences of this species within five miles of the project site and flowering plants are present. Therefore, this species has a low potential to occur within the project site.

Smith's Blue Butterfly

Smith's blue butterfly (*Euphilotes enoptes smithi*) occur in scattered populations in association with coastal dune, coastal scrub, chaparral, and grassland habitats (Scott 1986). They spend their entire lives in association with two host buckwheat plants: cliff buckwheat (*Erigonum parviflorum*) and seaside buckwheat (E. *latifolium*). Both buckwheat host plants are utilized as larval and adult food plants.

There are 16 known occurrences of this species within five miles of the project site. However, no coastal sage brush habitat or host plants were observed in the project site. Therefore, this species has a low potential to occur within the project site only during foraging and dispersal, when it may incidentally move through the project site during the adult flight period between mid-June through early September.

California Red-Legged Frog

CRLF (*Rana draytonii*) is a federally threatened species that occurs in lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. It typically inhabits quiet pools of streams, marshes, and ponds. All life history stages are most likely to be encountered in and around breeding sites, which include coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, and ponded and backwater portions of streams, as well as artificial impoundments such as stock ponds, irrigation ponds, and siltation ponds. Eggs are typically deposited in permanent pools, attached to emergent vegetation. This species typically requires 11 to 20 weeks of permanent water for larval development and must have access to estivation habitat. Suitable upland habitat must provide sufficient moisture to prevent desiccation and sufficient cover to provide protection from predators. Typical upland habitat consists of downed woody vegetation, leaf litter, and small mammal burrows, densely vegetated areas, and even, man-made structures (i.e., culverts, livestock troughs, spring-boxes, abandoned sheds) (USFWS 2002).

There are 17 known occurrences of this species within five miles, including numerous sightings in the Carmel River. Additionally, a CRLF was observed in a pond on the former golf course approximately 318 feet north of the project site.

Upland habitat within the project site is generally marginal or unsuitable for long term usage: annual grasslands on-site provide little refuge for amphibians and residential areas are too developed to provide suitable upland habitat; however, the willow thicket and wetland areas do provide suitable upland habitat for the species. The species is presumed present in the vicinity of

the project site, has a high potential of occurring within suitable upland habitats, and may incidentally occur within grasslands and developed areas during dispersal in rain events and during nocturnal foraging.

Coast Range Newt

Coast range newt (*Taricha torosa*) is a CDFW species of special concern that inhabits terrestrial habitats such as oak woodlands, annual grassland, and chaparral where sufficient moisture is present. As adults they will migrate over 0.62 mile to breed in ponds, reservoirs and slow-moving streams. There are two known occurrences within five miles of the project site, and the Carmel River provides suitable habitat. This species may be present within the Carmel River and has a low potential to occur incidentally within grasslands and developed areas of the project site during dispersal in rain events.

Western Pond Turtle

Western pond turtle (*Emys marmorata*) is a CDFW species of special concern that is found in ponds, lakes, rivers, creeks, marshes, and irrigation ditches, with abundant vegetation. It requires basking sites of logs, rocks, cattail mats, or exposed banks. Western pond turtle is active from approximately February to November. It will estivate during summer droughts by burying itself in soft bottom mud. When creeks and ponds dry up in summer, some turtles will travel along the creek until they find an isolated deep pool, others stay within moist mats of algae in shallow pools, and many turtles move to woodlands above the creek or pond and bury themselves in loose soil. Pond turtle will overwinter underground until temperatures warm up and the heavy winter flows of the creek subside. They return to the creek in the spring.

There are six known occurrences of this species within five miles of the project site, including numerous sightings in the Carmel River. However, most of the project site lacks suitable aquatic habitat for this species. This species has a moderate potential to occur in the project site during upland movement, and may nest in non-native annual grassland, oak woodland, and ruderal areas within the project site.

Tri-Colored Blackbird

Tri-colored blackbird is a state endangered species. A colonial species that is largely endemic to, and a year-round resident in California. It requires open water, protected nesting substrate, and foraging areas with insect prey within a few kilometers of the colony. The species preferentially selects breeding sites that include open accessible water with protected areas for nesting. Sites generally need to support flooded nesting vegetation and suitable foraging areas within a few kilometers (Shuford and Gardali 2008).

There are no known occurrences recorded in the CNDDB within five miles of the project site; however, there are a several observations of the species on eBird from the Carmel Valley. Marginal nesting habitat is present within the emergent wetland vegetation on-site, and the species is unlikely to nest within the project site. Foraging habitat for tricolored blackbird is present in annual grasslands, and this species has low potential to occur during foraging in the project site.

Monterey Shrew

Monterey shrew (*Sorex ornatus salarius*) is a CDFW species of special concern, a small insectivore found in moist riparian habitats around the Monterey Bay Area. There are four known occurrences

of this species within five miles of the site, and marginally suitable, small, isolated habitat patches occurs within willow thicket and isolated willow wetland in the project site. This species has low potential to occur in forested wetland and willow thicket habitats within the project site.

American Badger

American badger (*Taxidea taxus*) is a CDFW species of special concern that is found in dry, open habitats including grassland and open woodland. It is a highly specialized, semi-fossorial mustelid (Quinn 2008). Suitable burrowing habitat requires dry, sandy soil. The species is most abundant in drier open stages of most shrub, forest, and herbaceous habitats with suitable soils to support burrows (Zeiner et al. 1990). Breeding occurs in summer and early fall, with young being born from March to April.

There is one occurrence recorded on the CNDDB of this species within five miles of the project site, and badgers have been observed in Carmel Valley (Counts 2007). The annual grassland in the project site provides marginal habitat due to the former use as a golf course, level of human presence, and no obvious sign of, or suitable burrows for this species were observed during the reconnaissance site visit. This species has a low potential to occur in the project site during upland movement.

Nesting Birds

Native bird nests are protected by CFGC Section 3503. Vegetated areas of the project site contain suitable nesting habitat for a variety of native avian species, including, but not limited to house finch (*Haemorhous mexicanus*), black phoebe (*Sayornis nigricans*), American Crow (*Corvus brachyrhynchos*), mallard (*Anas platyrhynchos*), scrub jay (*Aphelocoma californica*), chestnut-backed chickadee (*Poecile rufescens*), yellow-rumped warbler (*Setophaga coronata*)and California towhee (Melozone crissalis).

Wildlife Movement Corridors

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Other corridors may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

Habitats within a habitat linkage do not necessarily need to be identical to those habitats being linked. Rather, the linkage needs only to contain sufficient cover and forage to allow temporary utilization by species moving between core habitat areas. Habitat linkages are typically contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Some species may require specific physical resources (such as rock outcroppings, vernal pools, or oak trees) within the habitat link for the linkage to serve as an effective movement corridor, while other more mobile or aerial species may only require discontinuous patches of suitable habitat to permit effective dispersal and/or migration. Wildlife movement corridors may occur at either large or small scales.

Wildlife movement corridors can be both large and small scale. Riparian corridors and waterways including those adjacent to the Carmel River provide local scale opportunities for wildlife movement

through the project area. Open areas within the project site, such as the former golf course, also act as corridors for wildlife movement, particularly for relatively disturbance tolerant species such as fox, coyote, raccoon, skunk, deer, and bobcat. On a larger scale, an Essential Connectivity Area is mapped within the project site in the Biogeographic Information and Observation System (Spencer et al. 2010). This linkage connects Point Lobos State Reserve along the coastline with Big Sur and Los Padres National Forest along the Santa Lucia Mountain Range. The project site occurs primarily within developed areas and Carmel Valley Road is a moderate local barrier for wildlife movement, therefore, the project site is not likely to be a significant corridor for wildlife movement.

Impact Analysis

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

As described above, no special status plants are expected to occur in the project site due to the developed nature of the site and lack of suitable natural vegetation communities. Therefore, no impacts to special-status plant species are expected. As discussed above, the project site contains potentially suitable habitat for special-status species and nesting birds. Potential impacts for each species with potential to occur on-site are discussed below.

Western Bumble Bee

Impacts to western bumble bee may occur if a colony is present in undeveloped areas of the project footprint and could be destroyed through excavation or collapse by heavy equipment. Foraging individuals could also be injured or killed. With the implementation of Mitigation Measures BIO-1, BIO-2, and BIO-6, impacts to western bumble bee would be reduced to less than significant with mitigation.

Smith's Blue Butterfly

No Smith's blue butterfly host plants or suitable coastal scrub habitats were observed in the project site; therefore, no impacts to the host plant or larva/eggs are expected. If work occurs during the adult flight period (mid-June through early September) impacts through injury or mortality may occur if individuals enter the work area while foraging. With the implementation of Mitigation Measure BIO-1, impacts to Smith's blue butterfly would be reduced to less than significant with mitigation.

California Red-Legged Frog

CRLF are presumed present in riparian areas and wetlands within the project site; however, no direct impacts to these areas are expected. There is potential for CRLF to occur in the work area during upland movement during rain events or humid conditions. Impacts could include injury or mortality if individuals fall into open excavations or take refuge under equipment or construction materials. Because CRLF is federally listed as threatened, any project that could not avoid take of individuals (e.g. harm or harass this species), must obtain an Incidental Take Permit from USFWS under Section 10a (1)B of the Endangered Species Act. This species is only expected to occur incidentally. No take of suitable habitat is proposed, and "take" of individuals could be avoided through implementation of avoidance measures. With the implementation of Mitigation Measures

BIO-1, BIO-3, BIO-5 and BIO-6, and spill/debris prevention as required by the SWPPP, as discussed in Section 7, *Geology and Soils*, impacts to CRLF would be reduced to less than significant with mitigation.

Coast Range Newt

Impacts to coast range newt may occur if individuals are present in the work area during upland movement or dispersal. Potential impacts include injury or mortality from work activity during construction. Impacts to non-listed species such as coast range newt (SSC) would be considered significant under CEQA if it would threaten the continued existence of a local or regional population, which is unlikely due to the low potential for this species to occur in the work area. Direct impacts to the coast range newt from project activities would be considered less than significant.

Western Pond Turtle

There is potential for western pond turtle to occur in the wetland and willow thicket habitats in the project site; however, no project activity is proposed in these areas. There is a potential for western pond turtle to nest in non-native annual grassland, oak woodland, and ruderal areas within the project site. Impacts could include injury or mortality if individuals fall into open excavations or nests are unearthed during excavations. Western pond turtle is a non-listed species (SSC), however due to the regional significance of this species impacts to individuals would be considered significant under CEQA. With the implementation of Mitigation Measures BIO-1, BIO-4, BIO-5, and BIO-6, and spill/debris prevention as required by the SWPPP, impacts to western pond turtle would be reduced to less than significant with mitigation.

Monterey Shrew

There is potential for Monterey shrew to occur in forested wetland habitats; however, project designs will avoid impacts to these areas, as feasible. If direct impacts to Monterey shrew habitat occur, or if spills occur during construction adjacent to wetlands or riparian habitat and fuel or other toxic material were allowed to flow into these areas, impacts to this species could occur and may be considered significant under CEQA. With the implementation of spill/debris prevention as required by the SWPPP, impacts to Monterey shrew would be less than significant.

American Badger

There is potential for American badger in open grasslands; however, this species is largely nocturnal and is not expected to occur in the work area during active construction. Direct impacts to American badger from project activities would be less than significant.

Nesting Raptors, Special Status Birds, and Other Protected Birds

There is potential for tricolored blackbird to occur in the wetland observed in the project site as well as other wetlands with suitable emergent vegetation in the vicinity. Native bird and raptor nests protected by CFGC Section 3503 are also likely to occur within the site. Impacts may occur through removal of vegetation if active nests are present. Impacts may also occur if active nests are present in undeveloped and landscaped areas adjacent to active construction or staging through disturbance and nest abandonment. Direct mortality of tricolored blackbird through nest removal is not expected as no impacts to the wetland are expected; however, disturbance may occur if an active colony of birds is present during construction. With the implementation of Mitigation

Measures BIO-1 and BIO-7, impacts to tricolored blackbird, nesting birds, and raptors would be reduced to less than significant with mitigation.

Mitigation Measures

BIO-1 Worker Environmental Awareness Program (WEAP)

Prior to initiation of construction activities (including staging and mobilization) all personnel associated with project construction shall attend a Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in recognizing special status resources that may occur in the construction 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 employees, and other personnel involved with construction. All employees shall sign a form provided by the trainer indicating they have attended the WEAP and understand the information presented to them. The form shall be submitted to CAWD by the contractor to document compliance.

BIO-2 Western Bumble Bee Preconstruction Survey

A qualified biologist(s) shall conduct a pre-construction survey prior to the onset of work. The pre-construction survey effort shall be conducted for a minimum of one hour. If bumble bees of any species are observed, they shall be photographed for identification following the USFWS guidance in Appendix A *Standardized Bee Photography in the Survey Protocols for the Rusty Patched Bumble Bee* (*Bombus affinis*) (USFWS, 2019d). If construction begins between March 1 and November 1, the ground shall also be searched during the survey for active bumble bee colonies. No capture or handling of bumble bees is allowed without formal State take authorization. If individual western bumble bees are observed during preconstruction surveys, they shall be avoided to ensure no "take" occurs. This may require biological monitoring or avoidance buffers until the bees have left the work area. If western bumble bee colonies are identified, these colonies shall be demarcated with a flagged avoidance buffer, as determined by a qualified biologist and shall be avoided during the active season from March 1 through November 1, or until the qualified biologist has determined that the colony is no longer active.

BIO-3 California Red-legged Frog Avoidance and Minimization

A qualified biologist shall conduct a survey of the project site for CRLF within 48 hours of initial ground disturbing activities. The survey area shall include the proposed disturbance area and all proposed ingress/egress routes, plus a 100-foot survey buffer. If any life stage CRLF is found within the survey area, the individual shall be avoided and allowed to leave the site of its own volition. The biologist shall revisit the site on subsequent days to confirm the CRLF has left the site. If the CRLF has not left the site after three days, USFWS and CDFW shall be consulted to determine the appropriate course of action.

During construction, avoidance measures shall include:

- A qualified biologist shall be present on-site until all construction activities are complete within the former golf course. If any life stage of CRLF is found, work shall cease within 100

feet of the CRLF and the USFWS and CDFW contacted immediately to determine the appropriate course of action.

- All development activities occurring within/adjacent to aquatic habitats (including riparian habitats and wetlands) shall be completed between April 1 and October 31 to avoid impacts to CRLF.
- If construction must occur between November 1 and March 31, the qualified biologist shall conduct a pre-activity clearance sweep within 48 hours prior to start of project activities after any rain events of 0.1 inch or greater or if wet conditions are present on-site.
- The number of access routes, size of staging areas, excavation areas, and the total area of activity shall be limited to the minimum necessary.
- During project activities, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.
- If any life stage of the CRLF is found and these individuals are likely to be killed or injured by work activities, all work activities that could pose a risk of take to the individual shall stop until the individual has left the site. No individuals shall be relocated without USFWS authorization.

BIO-4 Spill/Debris Prevention

All refueling and maintenance of equipment and vehicles shall occur a minimum of 250 feet from the Carmel River, wetlands, willow thicket habitat, and the concreate drainage, and in a location from which a spill would not drain directly toward these habitats (e.g., on a slope that drains away from the water), or in a containment structure. Prior to the onset of work, a plan shall be developed for prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take in the event of a spill. Should any debris or equipment from the work area fall into the wetland, riparian habitat, and the concrete drainage, it shall be removed immediately.

BIO-5 Wildlife Entrapment Prevention

To prevent the inadvertent entrapment of individuals, all excavated, steep-walled holes or trenches shall be covered at the end of each workday with plywood or similar materials. If this is not possible, one or more escape ramps constructed of earth fill or wooden planks (no greater 45 degrees) shall be established in the hole. Before such holes or trenches are filled, they shall be thoroughly inspected for any animals. Any wildlife observed shall be allowed to leave the excavation of its own accord. If listed species are observed in excavations, all work shall stop and USFWS and/or CDFW shall be contacted immediately. Take of listed species, including disturbance, handling or relocating, is illegal without state and/or federal take authorization.

BIO-6 Nesting Bird Survey

Ground disturbance and vegetation removal activities shall be restricted to the non-breeding season (September 1 to January 31) as feasible. For ground disturbance and vegetation removal activities occurring in all project areas during the bird nesting season (February 1 to September 1), general pre-construction nesting bird surveys shall be conducted by a qualified biologist for all migratory birds, raptors, and tricolored blackbird not more than 14 days prior to construction activities involving ground clearing, vegetation removal/trimming. The surveys shall include the disturbance area plus a 200-foot buffer around the site if feasible, and a 500-foot buffer for tricolored blackbird

and raptors. If active nests are located, an appropriate avoidance buffer shall be established within which no work activity will be allowed which would impact these nests. The avoidance buffer shall be established by the qualified biologist on a case-by-case basis based on the species and site conditions. In no cases shall the buffer be smaller than 50 feet for non-raptor bird species, 200 feet for raptor species, and a 500-foot buffer for tricolored blackbird. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The buffer area(s) shall be closed to all construction personnel and equipment until juveniles have fledged and the nest is inactive. The approved biologist shall confirm that breeding/nesting is complete and young have fledged the nest prior to removal of the buffer.

BIO-7 Monterey Shrew Clearance Surveys

Immediately prior to ground disturbing activity in or adjacent to Monterey shrew habitat, a qualified biologist shall conduct a pre-activity clearance sweep to identify and relocate any individuals within proposed work areas. Any individuals located during the survey shall be allowed to leave the work area on their own.

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?

No project elements are proposed within the willow thicket or wetland habitats. If spills occur during construction adjacent to the arroyo willow - red osier dogwood and willow thicket vegetation alliances and fuel or other toxic material were allowed to flow into these areas, impacts to sensitive communities could occur, and may be considered significant. With implementation of spill/debris prevention as required by the SWPPP (see Section 7, *Geology and Soils*), Mitigation Measures BIO-1, BIO-3, and BIO-8 impacts to sensitive natural communities would be reduced to less than significant with mitigation.

Mitigation Measures

BIO-8 Sensitive Natural Community Avoidance

Prior to initiation of construction adjacent to willow thicket or wetland habitats, environmentally sensitive area (ESA) fencing shall be installed around the outer limits of these areas under the direction of a qualified biologist, to prevent encroachment. No equipment, construction personnel, staging or other project activities shall be allowed within ESA areas. ESA fencing materials shall be high visibility and tall enough to create an effective barrier.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The project will be designed to avoid direct impacts to wetland features if feasible; however, direct or indirect impacts may occur if construction equipment, workers, debris, or spills inadvertently enter wetlands or if final project design cannot completely avoid these features. With the implementation of Mitigation Measures BIO-1 and BIO-3, impacts to wetlands would be reduced to less than significant with mitigation. As a man-made feature without wetland or riparian vegetation, the concrete drainage is not likely to be USACE jurisdictional itself but impacts to the Carmel River could occur if leaks, spills, or construction debris entered the drainage and were washed down into the River. Additionally, this drainage may be CDFW and/or RWQCB jurisdictional and may require permitting from these agencies for direct impacts. No permanent alterations to this drainage are proposed by this project; therefore, impacts would be temporary during construction. Mitigation Measures BIO-1, BIO-4, BIO-8, and BIO-9 would reduce potential impacts to the Carmel River off-site to less than significant.

Mitigation Measures

BIO-8 Conduct Jurisdictional Delineation for Impacts to Waters and Wetlands

A qualified biologist shall complete a jurisdictional delineation (JD) of all features along the concrete drainage and in wetland areas. The jurisdictional delineation shall determine the extent of the jurisdiction for CDFW and RWQCB and shall be conducted in accordance with the requirement set forth by each agency. The purpose of the JD is to identify temporary impacts to the concrete drainage and establish work area limits to ensure no direct impacts to wetland jurisdictional features.

Impacts to waters shall be mitigated as required based on direct impacts from project development under the mitigation ratio below. Mitigation for temporary impacts to waters can be achieved through rehabilitation of the site to pre-project conditions at a 1:1 ratio for impacted lands.

All construction within the concrete drainage, including trenching and restoration shall occur during the dry season when there is no active flow in the channel. Upon completion of backfill the concrete drainage shall be restored to its previous condition.

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 site is located within an Essential Connectivity Area (Spencer et al. 2010). However, the project site occurs primarily within developed areas, prior golf course, and Carmel Valley Road, north of the site, is a significant local barrier for wildlife movement. Due to the location within existing development, and the nature of the proposed project (an underground sewer line) the project would not alter the landscape from a wildlife movement perspective and is not likely to interfere substantially with the movement of any native resident or migratory fish or wildlife species or affect any nursery sites. Impacts to wildlife movement would be less than significant.

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?

The Carmel Valley Master Plan includes policies to protect the biological resources and open space such as the Carmel River. The proposed project would occur entirely within landscaped or ruderal areas and would avoid impacts to the Carmel River. The current alignment would largely avoid trees and it is likely trees adjacent to construction could be protected; however, no arborist report has been prepared. Monterey County Inland Zoning Code Section 21.64.26(C)(4) provides protection for oaks and other native trees. Under this ordinance an arborist report is required to include the dripline or edge of foliar canopy and the critical root zone (CRZ) or tree protection zone (TPZ) and any proposed activity within this area and protection measures to avoid damaging root systems. One tie in location is proposed within oak woodlands mapped on the south side of the Monterey Peninsula Regional Park District offices/visitors center, and would require a permit and tree protection measures to protect the critical root zone of oak trees. With compliance with the municipal code, no conflicts with local policies or ordinances protecting biological resources would occur and impacts would be less than significant.

LESS THAN SIGNIFICANT 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 within the boundaries of an adopted habitat conservation plan or natural community conservation plan or other approved local, regional, or state habitat conservation plan (CDFW 2019). Therefore, the proposed project would not conflict with adopted habitat conservation plans or natural community conservation plans or other approved local, regional, or state habitat conservation plans. There would be no impact.

NO IMPACT

5 Cultural Resources

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

This section is based on information provided in the confidential technical memorandum summarizing the efforts of a Phase I cultural resources study. CEQA requires a lead agency determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1) and tribal cultural resources (PRC Section 21074 [a][1][A]-[B]). A historical resource is a resource listed in, or determined to be eligible for listing, in the California Register of Historical Resources (CRHR), a resource included in a local register of historical resources, or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (*CEQA Guidelines*, Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

Rincon requested a search of the California Historical Resources Information System (CHRIS) at the Northwest Information Center (NWIC) located at Sonoma State University, which was conducted by NWIC staff on May 15, 2020. The search was performed to identify all previously recorded cultural resources, as well as previously conducted cultural resource studies within the project site and a 0.5-mile radius surrounding it. The CHRIS search included a review of the National Register of Historical Places (NRHP), the California Register of Historical Resources (CRHR), the Office of Historic Preservation Historic Properties Directory, the California Built Environment Resources Directory, and the Archaeological Determinations of Eligibility list.

The NWIC records search identified 52 previously conducted cultural resources studies that have been performed within a 0.5-mile radius of the project site, two of which were located within the

project site (S-030341 and S-048926). Neither S-030341 nor S-048926 identified any cultural resources within the current project site.

The NWIC records search identified three previously recorded cultural resources within a 0.5-mile radius of the project site, none of which are located within the project site. However, the project would occur within the former Rancho Cañada Golf Course (course) which is older than 50 years. The course was constructed by Nick Lombardo in 1969 along with architect Robert Dean Putnam which includes two 18-hole par 41 courses, a clubhouse, a cart barn, and several ancillary buildings. Rincon recorded and evaluated the course on California Department of Parks and Recreation (DPR) 523 series forms (Rincon Consultants, Inc. 2018) and recommended the course and associated buildings to be ineligible for listing on the NRHP, CRHR, or as a Monterey local historical resource. The course is no longer operational.

On April 22, 2020, Rincon requested a review of the Sacred Lands File (SLF) of the Native American Heritage Commission (NAHC). The results were positive with a list of seven Native American Contacts. Rincon prepared and emailed these seven contacts on April 29, 2020 with follow up calls on May 22, 2020. Louise Miranda-Ramirez of the Ohlone/Costanoan-Esselen Nation (OCEN) confirmed that a burial site was in the area of the project site and that the project site is sensitive for cultural resources and human remains as the project is in close proximity to the Carmel River.

Rincon conducted a pedestrian survey of the project site on May 21, 2020. The site was heavily vegetated, obscuring ground visibility. In areas where ground was exposed, a Rincon archaeologist inspected soils for evidence of cultural materials. No cultural resources were observed within or adjacent to the project area.

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

The project involves the replacement of an existing pipeline and would not affect any existing structures. While the project site lies within the former course, which is over 50 years of age, the course is no longer operational and has been recommended ineligible for NRHP, CRHR, and local listing and therefore does not qualify as a historical resource (Rincon Consultants, Inc. 2018). No other potential historical resources were identified during the cultural resources study. Therefore, there would be no impact to historical resources.

NO IMPACT

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

No archaeological resources were identified within the project site during the NWIC records search or pedestrian survey; however, SLF results for the project were positive and Native American outreach identified the area as sensitive for cultural resources and human remains due to the project's proximity to the Carmel River. Although no archaeological resources are formally recorded within the project site, unknown resources may be encountered during project ground disturbance. Therefore, the project has the potential to significantly impact archaeological resources. Implementation of Mitigation Measures CULT-1 and CULT-2 would reduce potential impacts to archaeological resources to a less than significant level.

Mitigation Measure

Implementation of the following measure would reduce potential impacts to archaeological resources to a less than significant level:

CULT-1 Archaeological and Native American Monitoring

All project-related ground disturbing activities shall be monitored by a qualified archaeologist and Native American consultant. Archaeological monitoring shall be performed under the direction of an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983). Native American monitoring shall be provided by a locally affiliated tribal member. Monitors shall have the authority to halt and redirect work should any archaeological resources be identified during monitoring. If archaeological resources are encountered during ground-disturbing activities, work in the immediate area must halt and the find evaluated for listing in the CRHR and NRHP. Archaeological or Native American monitoring or both may be reduced to spot-checking or eliminated at the discretion of the monitors, in consultation with the lead agency, as warranted by conditions such as encountering bedrock, sediments being excavated are fill, or negative findings during the first 60 percent of rough grading. If monitoring is reduced to spot-checking, spot-checking shall occur when ground-disturbance moves to a new location within the APE and when ground disturbance extends to depths not previously reached (unless those depths are within bedrock). If a find is made during construction, Mitigation Measure CULT-2 shall be implemented.

CULT-2 Unanticipated Discovery of Archaeological Resources

If archaeological resources are encountered during ground-disturbing activities, work within 50 feet of the find 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 CRHR eligibility. If the discovery proves to be significant under CEQA and cannot be avoided by the project, additional work, such as data recovery excavation, may be warranted to mitigate any significant impacts to historical resources.

In the event that archaeological resources of Native American origin are identified during project construction, a qualified archaeologist will consult with CAWD to begin Native American consultation procedures.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

No human remains are known to exist on the project site and none were discovered during the field investigation. However, SLF results and Native American outreach confirmed that there are remains buried in the area, making the project site sensitive to potentially containing human remains. With the possibility that human remains may be encountered during ground-disturbing activities, the proposed project could have an adverse impact on unidentified human remains if discovered on site. Therefore, impacts to human remains would be potentially significant.

If human remains are found, the State of California Health and Safety Code Section 7050.5 states no further disturbance may occur until the county coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. If an unanticipated discovery of human remains occurs, the county coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant, who would inspect the site and provide recommendations for treatment to the landowner within 48 hours of being granted access. With adherence to these existing regulations and mitigation measures CULT-1 and CULT-2 above, impacts to human remains would be less than significant.

LESS THAN SIGNIFICANT IMPACT

6 Energy

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

Electricity and Natural Gas

In 2018, California used 285,488 gigawatt-hours (GWh) of electricity, of which 31 percent were from renewable resources, such as wind, solar photovoltaic, geothermal, and biomass (California Energy Commission [CEC] 2020a). Adopted on September 10, 2018, SB 100 accelerates the state's Renewables Portfolio Standards Program by requiring electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

California also consumed approximately 12,638 million U.S. therms (MMthm) of natural gas in 2018. Electric supply for the project would be provided by Monterey Bay Community Power (MBCP). Electricity transmission and natural gas would be provided by Pacific Gas and Electric (PG&E). Table 5 and Table 6 show PG&E's total electricity and natural gas consumption for its service area as well as consumption by sector. In 2018, PG&E provided approximately 27.9 percent of the total electricity and approximately 37.9 percent of the total natural gas usage in California.

Table 5 Electricity Consumption in the PG&E Service Area in 2018 (GWh)

Agriculture and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Streetlight	Total Usage
5735.1	29,650.0	4,195.1	10,344.7	1,567.3	27,964.8	318.6	79,775.7

Source: CEC 2018a

Table 6 Natural Gas Consumption in PG&E Service Area in 2018 (MMThm)

Agriculture and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Total Usage
37.2	899.1	59.0	1,776.0	190.2	1832.8	4,794.4

Source: CEC 2018b

Petroleum

In 2018, approximately 28 percent of the state's energy consumption was used for transportation activities (United States Energy Information System 2019). Californians presently consume over 19 billion gallons of motor vehicle fuels each year. Though California's population and economy are expected to grow, gasoline demand is projected to decline from roughly 15.8 billion gallons in 2017 to between 12.3 billion and 12.7 billion gallons in 2030, a 20 to 22 percent reduction. This forecast decline is due to both the increasing use of electric vehicles and improved fuel economy for new gasoline vehicles (CEC 2020b).

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

Construction

Construction activity would use energy in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, construction worker travel to and from the project site, and vehicles used to deliver materials to the site. The project would involve site preparation and grading, including hauling material off site; and pipeline installation.

Construction of the proposed project would occur over an approximately 90-day period. Construction equipment would be maintained to all applicable standards as required, and construction activity and associated fuel consumption and energy use would be temporary and typical for construction sites. It is also reasonable to assume contractors would avoid wasteful, inefficient, and unnecessary fuel consumption during construction to reduce construction costs. In addition, energy demand associated with project construction would be temporary and typical of similar utilities projects. The project is necessary to maintain functional wastewater infrastructure to address capacity issues to handle current flows and address surcharging. Therefore, the project would not involve the inefficient, wasteful, and unnecessary use of energy during construction and construction-related energy impact would be less than significant.

Operation

Because the project would replace an existing pipeline, operational energy demand would be similar to existing conditions. The pipeline itself would not generate new demand for electricity. Operation of the project would include routine inspections and maintenance. Maintenance needs are expected to be reduced in comparison to existing conditions. Therefore, operational energy use would not be inefficient, wasteful, or unnecessary. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

As mentioned above, SB 100 mandates 100 percent clean electricity for California by 2045. Because the proposed project would be powered by the existing electricity grid, the project would eventually be powered by renewable energy mandated by SB 100 and would not conflict with this statewide plan. Additionally, the project area is served by MBCP, which provides carbon-free electricity (MBCP 2019). CAWD has not adopted specific renewable energy or energy efficiency plans with which the project could comply. Nonetheless, the project would not conflict with or obstruct the State plan for renewable energy. There would be no impact.

NO IMPACT

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7 Geology and Soils

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

a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

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

The San Andreas Fault system, which is the most active fault system in California, runs approximately 20 miles east of the project site. Two other active faults, the Palo Colorado-San Gregorio Fault zone and the Monterey Bay-Tularcitos Fault zone, also occur in the county (Monterey County Office of Emergency Services 2020). From 2007 to 2014, Monterey County experienced 47 earthquakes (County of Monterey 2015a). Earthquakes are classified by magnitude; magnitudes up to 5.9 may be felt but cause only minor damage (USGS 2020). Research by the USGS reported that the San Andreas Fault has a 22 percent probability of a magnitude 6.7 or greater earthquake by 2043, which would have the potential to cause structural damage (USGS 2016).

The project site could be subject to seismic ground shaking during an earthquake of this magnitude from the San Andreas Fault, or any other active fault in the region. The proposed project would involve the replacement of an existing pipeline at the project site. A large seismic event, such as a fault rupture, seismic shaking, or ground failure, could result in breakage of the proposed pipeline, failure of joints, and/or underground leakage from the pipes. This risk already exists with the current pipelines in place at the project site. In the event an earthquake compromised any project component during operation, CAWD would temporarily shut-off the water supply and conduct emergency repairs as soon as possible. Additionally, materials and installation standards of the American Water Works Association as required pursuant to 22 California Code of Regulations (CCR) Chapter 16 would incorporate appropriate standard engineering practices and specifications in pipeline design to minimize risk of structural failure in a seismic event and would reduce any potential secondary impacts. Therefore, the project would not expose people or structures to potential substantial adverse effects involving strong seismic ground shaking. Furthermore, because an existing pipeline is already in use at the project site, the proposed project would not increase exposure of people or structures to seismic hazards, but rather would reduce risks by replacing an aging pipeline with a new one. Therefore, impacts related to fault rupture and seismic ground shaking would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site is not located within a liquefaction zone (California Geological Survey [CGS] 2020). The project would not involve any activities (such as fracking or mining) that could trigger an earthquake that would in turn lead to damage from liquefaction. Therefore, the project would not directly or indirectly cause potential adverse effects related to seismic ground failure or liquefaction. Impacts related to seismic ground failure and liquefaction would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site is not located in an earthquake-induced landslide hazard zone and is relatively flat (CGS 2020). Therefore, landslides are not expected within the project site. In addition, the project does not include habitable structures. Even though the project alignment would cross residential property it would not alter existing residential structures and would therefore not expose people to loss, injury, or death involving landslides. Additionally, implementation of the project would not exacerbate the existing risk of earthquake-induced landslides in the immediate vicinity because the project would not directly result in a seismic event or destabilize soils prone to landslide. In the event an earthquake compromised any segment of the alignment due to landslides during operation, CAWD would temporarily shut-off the system and conduct emergency repairs. Therefore, because the project site is not located in an earthquake-induced landslide hazard zone and the project would not introduce new infrastructure to the site that would exacerbate landslide hazards, the proposed project would not directly or indirectly cause potential adverse effects involving earthquake-induced landslides. Impacts related to landslides would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Soil erosion or the loss of topsoil may occur when soils are disturbed but not secured or restored, such that wind or rain events may mobilize disturbed soils, resulting in their transport off the project site. Construction of the proposed replacement pipeline would require trenching on land that is currently undeveloped and vegetated, which would involve exposing soil, potentially resulting in erosion and topsoil loss.

Project construction would include dust control via use of a water truck, watering the construction area daily or as needed. In addition, CAWD is electing to comply with Monterey County Code (MCC) Chapter 16.12, *Erosion Control*, which would require the project to prepare an Erosion Control Plan and minimize runoff from the project site. Chapter 16.12 requires that land clearing be kept to a minimum, that mulching, and watering be utilized to establish new vegetation, and that additional protective measures are utilized if land clearing occurs during the winter season. In addition, construction would require a NPDES Construction General Permit and the submittal a Stormwater Pollution Prevention Plan (SWPPP) pursuant to MCC Chapter 16.14, *Urban Stormwater Quality Management and Discharge Control*. The SWPPP is intended to minimize the amount of sediment and other pollutants associated with construction sites which are discharged in stormwater runoff. The SWPPP would include Best Management Practices for erosion control, such as preventing runoff from unprotected slopes, keeping disturbed areas to a minimum, and installing check berms and desilting basins during construction activities, as necessary. With adherence to existing regulations in the MCC, potential adverse impacts associated with erosion and loss of topsoil would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Although the proposed project would be located in a seismically active area, the project is not located in an earthquake-induced landslide hazard zone or liquefaction zone (CGS 2020). As discussed above under item (b), the replacement pipeline would occur on a relatively flat area that is already utilized for underground wastewater transmission. In addition, in accordance with MCC Section 16.08.110, *Permit—Geotechnical and Engineering Geology Reports*, CAWD is preparing a geotechnical report including conclusions and recommendations for grading procedures and design criteria given the site's geologic conditions, to inform project design and permit requirements. As of the date of this document the geotechnical study has not been completed. CAWD would comply with any recommendation therein. Therefore, because the project would comply with MCC Section 1608.110 and implement recommendations in the geotechnical study the proposed project is not anticipated to significantly affect soil stability or increase the potential for local or regional landslides or liquefaction. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site contains soils composed of channery loam, fine sandy loam, channery clay loam, and fine sand with moderately high to very low infiltration rates (U.S. Department of Agriculture 2020). Due to the clay content of the soils, there is potential for expansive soils to occur on-site. However, as discussed under item (c) above, the CAWD is in the process of completing a geotechnical report that will inform project design and permit requirements prior to the issuance of a grading permit. The investigation would contain recommendations to minimize potential impacts for expansive soils, which would be implemented during project construction. Additionally, as described under *Project Description*, all pipeline trenches would be backfilled with native soils, crushed miscellaneous bases, or cement slurry, which would meet proper compaction and shear strength requirements established in the MCC Chapter 15.24, *County Service Areas—Sewage System*. The project would physically abandon the existing 10-inch sewer in accordance with CAWD standards. Abandonment would involve filling existing pipelines with a concrete slurry as well as removal of manhole frames, covers, and cones. Manhole bases would be cracked to allow rainwater to drain through the old structure. The use of select bedding material and approved trench soil material during project construction and abandonment would prevent impacts from expansive soil along the pipeline alignment. As discussed under items (a) i. and ii., the proposed project would also be designed and constructed to meet CCR requirements for materials and installation. In addition, the proposed project would not add structures and would not alter existing residential structures on the private property portions of the project site. There would be no visitors or permanent on-site employees associated with the project. Therefore, the proposed project would not expose people to risks related to expansive soils. As a result, the project would not create substantial direct or indirect risks to life or property as a result of expansive soil, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The proposed project involves replacement of wastewater infrastructure that is connected to a treatment plant. The project does not involve the use of septic tanks. There would be no impact.

NO IMPACT

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

The paleontological sensitivity of the geologic units underlying the project site was evaluated based on a desktop review of existing data, including geologic maps, published literature, and online fossil locality and collections databases. The potential for impacts to significant paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units.

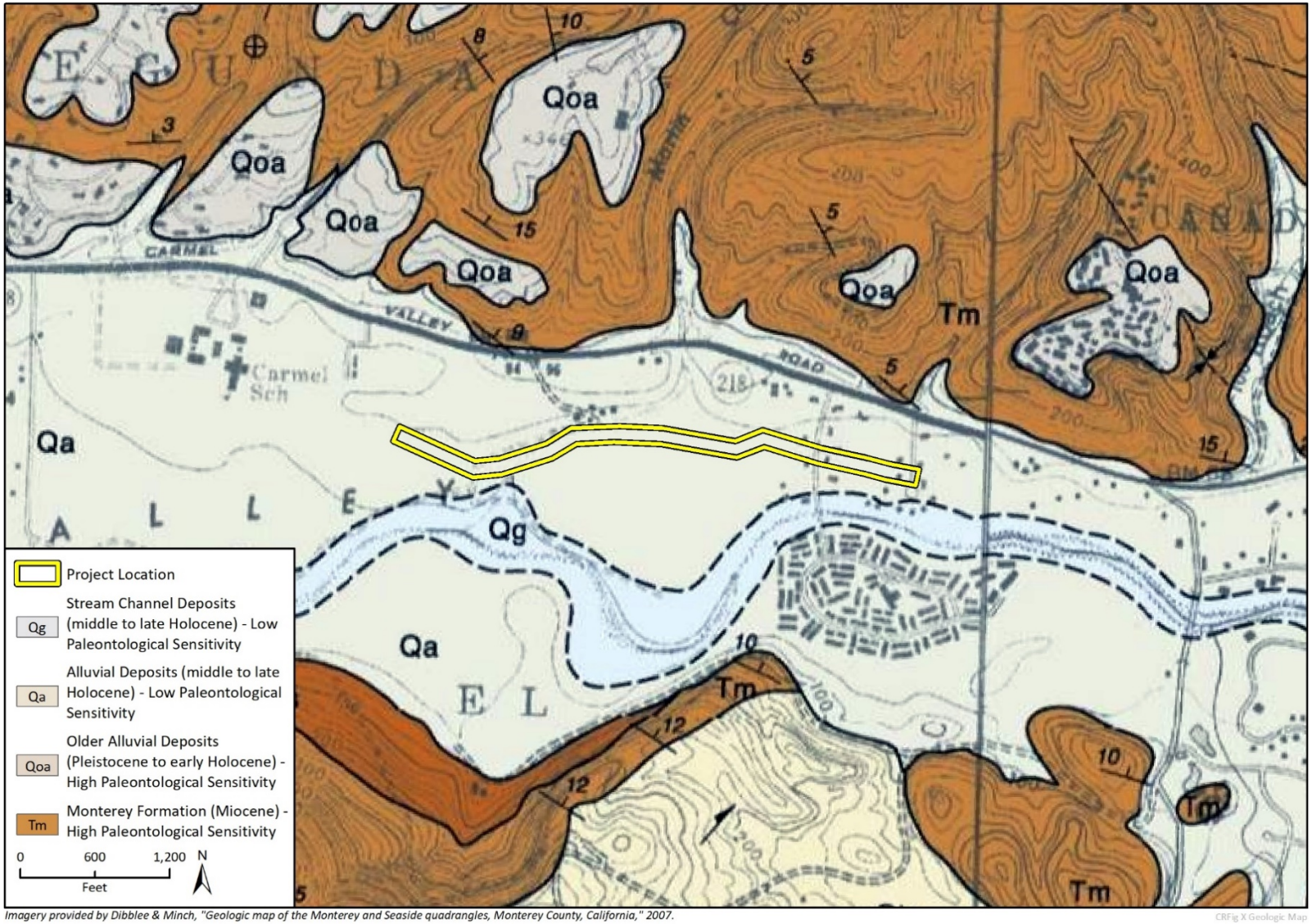
The Society of Vertebrate Paleontology (SVP) has developed a system for assessing paleontological sensitivity and describes sedimentary rock units as having high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources (SVP 2010). This criterion is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present.

The project site is situated on the Monterey Peninsula in the Coast Ranges geomorphic province (CGS 2002). The surface geology of the project site is mapped as younger Quaternary (middle to late Holocene) alluvial deposits (Qa), consisting of unconsolidated, poorly sorted gravel, sand and silt of valley areas and floodplains. Locally, middle to late Holocene alluvial deposits may be interbedded with middle to late Holocene fluvial sediments from the nearby Carmel River (Qg), consisting of loose, moderately well-drained, moderately-sorted sand, silty sand, and occasional cobbles and boulders (Dibblee and Minch 2007). As shown in Figure 5, older Quaternary (early Holocene to Pleistocene) alluvial deposits (Qoa) and Miocene Monterey Formation (Tm) are mapped extensively near the project site (i.e., nearby foothills) and within the Santa Lucia Mountains. Early Holocene to Pleistocene alluvium (Qoa) consists of more heavily dissected and finer-grained alluvial sediments. Miocene Monterey Formation (Tm) consists of pale buff to white fine-grained deposits, with dark brown to black siliceous laminations and common fossils (Berndmeyer et al. 2012). Exposures of these older deposits/formations near the project site, and the stratigraphic setting in the vicinity are indicative that these Pleistocene and Miocene (i.e., Qoa and Tm) units underlie the Holocene units mapped at the surface, at unknown, but potentially shallow depths. The paleontological sensitivity of these geologic features is described below.

Holocene Alluvial Deposits: Middle to late Holocene sedimentary deposits (Qa) are typically too young (i.e., less than 5,000 years old) to preserve paleontological resources and are determined to have a low paleontological sensitivity.

Older Alluvial Deposits: Numerous fossil localities have been recorded from Pleistocene to early Holocene alluvial deposits throughout the Coast Ranges of California and have yielded fossil camel, horse, ground sloth, whale, dolphin, fish, and shark (Jefferson et al. 2010; Woodring et al. 1946; Paleobiology Database 2020). Early Holocene to Pleistocene alluvial deposits (Qoa) are assigned a high paleontological sensitivity.

Figure 5 Geologic Units and Paleontological Sensitivity of the Project Site



Imagery provided by Dibblee & Minch, "Geologic map of the Monterey and Seaside quadrangles, Monterey County, California," 2007.

CRFig X Geologic Map

Monterey Formation: Several vertebrate localities have also been documented from the Miocene Monterey Formation (Tm) within the Coast Ranges of California, which have produced fossil specimens of large sea turtle, whale, dolphin, sea lion, shark, sea cows, desmostylians, fish, birds, and many other fauna (Bramlette 1946; Koch et al. 2004; Paleobiology Database 2020). A review of the museum records maintained in the University of California Museum of Paleontology (UCMP) online collections database indicated that locality V6279, which yielded pinniped (seal) limb bone fragments, was reported from Miocene Monterey Formation (Tm) in an unspecified location along Carmel Valley Road (UCMP 2020). Miocene Monterey Formation (Tm) is assigned a high paleontological sensitivity.

Accurately assessing the boundaries between middle to late Holocene units (i.e., Qa) and Pleistocene to early Holocene or Miocene units is generally not possible without site-specific stratigraphic data, some form of radiometric dating, or fossil analysis. In a shallow and narrow basin such as Carmel Valley, Holocene deposits may be relatively thin, and older alluvial deposits are potentially present at shallow depths (within five feet below ground surface) in areas mapped as younger alluvium (Qa) based on their proximity to older alluvial deposits (Qoa) and Miocene Monterey Formation (Tm) exposed at the surface along the base of the nearby hills adjacent to the project site.

As proposed, project ground disturbance would reach a maximum depth of 10 feet during trenching activities associated with the installation of the new pipeline. If native (i.e., previously undisturbed) sediments or geologic units with a high paleontological sensitivity (i.e., older alluvium or Monterey Formation) are disturbed, impacts to paleontological resources could occur. Construction activities may result in the destruction, damage, or loss of undiscovered paleontological resources. Therefore, impacts to paleontological resources would be potentially significant. Implementation of Mitigation Measure GEO-1 during project construction would reduce potential impacts related to paleontological resources to a less than significant level by providing for the recovery, identification, and curation of previously unrecovered fossils. Impacts would be less than significant with mitigation.

Mitigation Measure

Implementation of the following measure would reduce potential impacts to paleontological resources to a less than significant level:

GEO-1 Paleontological Resources Monitoring

Paleontological monitoring is required for ground disturbance that exceeds 5-feet in depth, and which impact previously undisturbed sediments. Prior to the commencement of project construction, CAWD shall retain a qualified paleontological monitor (i.e., a paleontologist who meets the SVP [2010] standards as a Paleontological Resource Monitor) to conduct full-time paleontological monitoring during ground-disturbing activities (including, but not limited to site preparation, grading, excavation, and trenching) exceeding five feet below ground surface within intact (i.e., previously undisturbed) middle to late Holocene alluvial deposits (Qa). Ground-disturbing activities that impact previously disturbed sediments only, or do not exceed 5-feet in depth do not require paleontological monitoring.

The duration and timing of the monitoring shall be determined by the Qualified Paleontologist. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, he or she may recommend reducing monitoring to periodic spot-checking or may recommend that monitoring

cease entirely. Monitoring shall be reinstated if any new ground disturbances are required, and reduction or suspension shall be reconsidered by the Qualified Paleontologist at that time.

If a paleontological resource is discovered, the monitor shall have the authority to temporarily divert construction equipment within 50 feet the find until it is assessed for scientific significance and collected. Once salvaged, significant fossils shall be prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection (such as the UCMP). Curation fees are the responsibility of CAWD.

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

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	■	☐
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	■	☐
c. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	■	☐

Project implementation would generate greenhouse gas (GHG) emissions through the burning of fossil fuels or other emissions of GHGs, thus potentially contributing to cumulative impacts related to climate change. In response to an increase in man-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 SB 32 into law, which requires the State to further reduce GHGs to 40 percent below 1990 levels by 2030. SB 32 extends AB 32, directing the CARB to ensure that GHGs are reduced to 40 percent below 1990 levels 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 six metric tons (MT) of carbon dioxide equivalent (CO_2e) by 2030 and two 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, sub-regional, or regional level), but not for specific individual projects because they include all emissions sectors in the state.

Most 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]).

Significance Thresholds

The State of California, MBARD, and County of Monterey have not adopted GHG emissions thresholds. Where MBARD is the lead agency, it has 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, MBARD does not have formally adopted thresholds for projects where it is not the lead agency.

Since MBARD has not adopted thresholds, it encourages lead agencies to consider a variety of metrics for evaluating GHG emissions and related mitigation measures as they best apply to the specific project (MBUAPCD 2016). MBARD has recommended using the adopted San Luis Obispo Air Pollution Control District (SLOAPCD) quantitative threshold for land use projects. SLOAPCD is the air district immediately south and adjacent to MBARD. The use of GHG thresholds developed by the adjoining SLOAPCD is considered appropriate by MBARD because of the broad similarities between the two adjacent air basins. The NCCAB comprises the Counties of Santa Cruz, Monterey and San Benito, with a substantial portion of the air basin located within Santa Cruz and Monterey Counties. The portion of the South Central Coast Air Basin that is managed by the SLOAPCD consists of San Luis Obispo County, which is located immediately south of and adjacent to NCCAB. The areas managed by the two air districts, SLOAPCD and MBARD, are located in the central coast region of California and have generally similar levels of urbanization and similar economies that include agriculture, forestry, fishing; utilities; recreation; educational services; and construction. Given the similarities between the two regions and direction from MBARD, CAWD has determined that the thresholds set forth by the SLOAPCD are appropriate to use for the project.

SLOAPCD designed its thresholds to achieve consistency with the statewide 2020 GHG reduction target set by AB 32 (SLOAPCD 2012) and has not yet updated the thresholds to achieve consistency with the statewide 2030 GHG reduction target set by SB 32, which requires that the State's 2030 emissions be reduced to 40 percent below 1990 emissions levels.

The project would be operational by 2021. Because emissions associated with the project would occur primarily in the years after 2020, to evaluate the project's impact, CAWD developed a conservative bright-line threshold that is consistent with the direction provided by SB 32. According to SB 32, the State's GHG emissions in 2030 should be 40 percent below 1990 levels. Using the existing SLOAPCD bright-line threshold of 1,150 MT of CO_2e per year and the relationship between the targets set forth in AB 32 and SB 32, a bright-line threshold for year 2030 was calculated at 690 MT of CO_2e per year.[3] This threshold is a linear interpolation between the 2020 and 2030 targets and would ensure that the project would be consistent with the updated statewide GHG reduction targets.

Methodology

Project emissions were estimated using the Roadway Construction Emission Model and estimates are based on the assumptions outlined in Section 1, *Air Quality*. Calculations of carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) emissions are provided to identify the magnitude of

[3] The threshold was calculated as a 40 percent reduction in the bright-line threshold meant to achieve 2020 targets (1,150 MT of CO_2e per year*0.6 = 690 MT of CO_2e per year). This approach is considered by the Association of Environmental Professionals in its white paper, *Beyond Newhall and 2020*, to be the most defensible approach presently available under CEQA to determine the significance of a project's GHG emissions (2016).

potential project effects. The analysis focuses on CO_2, CH_4, and N_2O because these comprise 98.9 percent of all GHG emissions by volume and are the GHG emissions that the project would emit in the largest quantities (IPCC 2007). Calculations are based on the methodologies discussed in the CAPCOA (2008) *CEQA and Climate Change* white paper.

Construction Emissions

Construction activities emit GHGs primarily though combustion of fuels (mostly diesel) in the engines of off-road construction equipment and through combustion of diesel and gasoline in on-road construction vehicles and in the commute vehicles of construction workers. Smaller amounts of GHGs are also emitted indirectly through the energy use embodied in any water use for fugitive dust control and lighting for construction activity. Every phase of the construction process, including grading, open cut construction, connections, trenchless construction, and paving, emits GHG emissions in volumes proportional to the quantity and type of construction equipment used. Heavier equipment typically emits more GHGs per hour of use than lighter equipment due to greater fuel consumption and engine design.

Although construction activity is addressed in this analysis, CAPCOA does not discuss whether any of the suggested threshold approaches adequately address impacts from temporary construction activity. As stated in the *CEQA and Climate Change* technical advisory, "more study is needed to make this assessment or to develop separate thresholds for construction activity" (CAPCOA 2008). The Association of Environmental Professionals (AEP) Climate Change Committee white paper *Beyond Newhall and 2020* (AEP 2016) recommends evaluating construction emissions via one of two methods:

- **Using Best Management Practices (BMPs).** Construction-related emissions would be less than significant if a project implements all feasible BMPs, including using alternatively-fueled vehicles, reducing worker trips, and sourcing construction materials from local sources when possible (without substantial cost implications).
- **Amortizing Construction Emissions over the Operational Lifetime.** Construction-related emissions are quantified and amortized over the lifetime of a project. The amortized construction emissions are added to the operational emissions to calculate the total annual emissions. If the annual emissions are below quantitative thresholds, construction-related GHG emissions would be less than significant.

SLOAPCD has recommended amortizing construction-related emissions over a 25-year period for non-residential projects in conjunction with a project's operational emissions (SLOAPCD 2012). In accordance with the SLOAPCD's recommendation, GHG emissions from project construction were amortized over a 25-year period and added to annual operational emissions to determine the proposed project's total annual GHG emissions over the life of the project.

Operational Emissions

Operational emissions would be comprised of mobile source emissions (i.e. vehicle emissions), energy emissions, and area source emissions, and stationary sources (i.e. emergency generator testing).

Impact Analysis

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

The project's proposed construction activities would generate GHG emissions. Project-related construction emissions are confined to a relatively short period of time in relation to the overall life of the proposed project. Therefore, construction-related GHG emissions were amortized over a 25-year period to determine the annual construction-related GHG emissions over the life of the project. As shown in Table 7, project construction would result in an average of approximately 3.3 MT of CO_2e per year.

Table 7 Estimated Construction GHG Emissions

Year	Project Emissions MT/yr CO_2e
Total	82
Total Amortized over 25 Years	3.3

See Appendix A for RCEM calculations

The pipeline itself would not generate new demand for electricity or result in any solid waste or water emissions beyond existing conditions because the project would not be capacity inducing. The pipeline maintenance is expected to have a net reduction in current maintenance trips because the project would improve the aging pipeline. Therefore, operational GHG emissions would be reduced as compared to existing conditions. Project emissions would be approximately 3.3 MT of CO_2e per year and would not exceed the threshold of 690 MT of CO_2e per year. Impacts related to construction and operational GHG emissions would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

As described in Section 6, *Energy*, SB 100 mandates 100 percent clean electricity for California by 2045. Because the proposed project would be powered by the existing electricity grid, the project would eventually be powered by renewable energy mandated by SB 100. Additionally, the project area is served by MBCP, which provides carbon-free electricity (MBCP 2019). Project emissions due to vehicle trips would be minimal, as maintenance trips would be reduced compared to current conditions and would be below the threshold of significance designed to be consistent with the 40 percent reduction from 1990 emissions levels, per SB 32. CAWD does not have a qualified GHG reduction plan; therefore, there are no local GHG reduction plans that would apply to the proposed project. Nonetheless, the project would be consistent with the 2017 Scoping Plan and would not conflict with SB 32 emissions targets. Therefore, the project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Given the above analysis, impacts related to GHG emissions would be less than significant.

LESS THAN SIGNIFICANT IMPACT

9 Hazards and Hazardous Materials

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

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

Construction of the project would temporarily increase the transport and use of hazardous materials in the project area through the operation of vehicles and equipment. Such substances include diesel fuel, oil, solvents, and other similar materials brought onto the construction site for use and storage during the construction period. These materials would be contained within vessels specifically engineered for safe storage and would not be transported, stored, or used in quantities which would pose a significant hazard to the public or construction workers themselves. Furthermore, project construction would require the excavation and transport of paving materials and soils which could possibly be contaminated by vehicle-related pollution (e.g., oil, gasoline, diesel, and other automotive chemicals). All such paving, and soils removed during construction would be transported and disposed of in accordance with applicable codes and regulations to ensure no significant hazard to construction workers or the surrounding community would occur.

Operation of the project would involve the conveyance of wastewater and would not require the use, storage, or disposal of hazardous materials. Therefore, the project would not create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The use, transport, and storage of hazardous materials during construction of the project (e.g., diesel fuel, oil, solvents, and other similar materials) could introduce the potential for an accidental spill or release to occur. As discussed under item (a) above, operation and maintenance of the project would not involve the routine transport, use, or disposal of hazardous materials. Therefore, potential impacts are limited to the construction period.

The presence of hazardous materials during project construction activities, including but not limited to ground-disturbing activities such as grading and excavating could result in an accidental upset or release of hazardous materials if they are not properly stored and secured. Hazardous materials used during project construction would be disposed of offsite in accordance with all applicable laws and regulations, including but not limited to the California Building and Fire Codes, as well regulations of the federal and State Occupational Safety and Health Administrations. Operation of the project would involve the conveyance of wastewater and would not require the use, storage, or disposal of hazardous materials. Therefore, impacts related to the release of hazardous materials due to reasonably foreseeable upset or accident conditions 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?

The nearest school to the project site is Carmel Middle School, approximately 0.38 mile to west of the site. As described under items (a) and (b) above, an accidental spill or release of hazardous or potentially hazardous materials such as vehicle and equipment fuels could occur during project construction. Hazardous materials used during project construction would be disposed of off-site in accordance with all applicable laws and regulations, including but not limited to the California

Building and Fire Codes, as well regulations of the federal and State Occupational Safety and Health Administrations. 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 that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The following databases compiled pursuant to Government Code Section 65962.5 were checked for known hazardous materials contamination:

- EnviroStor Database, California Department of Toxic Substances Control (DTSC)
- GeoTracker Database, California State Water Resources Control Board (SWRCB)

According to the database search, there are no known hazardous material sites on or near the project site (DTSC 2020 and SWRCB 2020). The nearest listed cleanup site is the Carmel Middle School Expansion (case 60002757), approximately 0.38 mile west of the project site. EnviroStor classifies the site as a School Investigation, with its status listed as "Inactive – Needs Evaluation." Due to its inactive status and distance from the project site, this case does not present a hazard in relation to the proposed project. The project would not be located on a site that is included on a list of hazardous material sites. There would be no impact.

NO IMPACT

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

The closest public or private airport to the project site is the Monterey Regional Airport, located approximately 3.8 miles north. The project site is not located within the airport's Airport Influence Area (Monterey County Airport Land Use Commission 2019). There would be no impacts related to public airport safety hazards.

NO IMPACT

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

The County of Monterey has an Emergency Operations Plan that establishes policies and procedures and identifies responsibilities of key officials and agencies to ensure the effective management of emergencies and disasters within the Monterey County Operational Area. The plan provides information on the County emergency management structure, the protocols for when the Monterey County Emergency Operations Center is activated and the procedures for notification and activation (County of Monterey 2014). The Emergency Operations Plan does not include policies specific to the project site; 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 would not require temporary lane closures and would not alter any roadways. As described in Section 17, *Transportation*, the project's impacts on circulation would be minor and temporary, and therefore would not interfere with emergency response and/or

evacuation. Operation of the replacement pipeline would be similar to existing conditions, limited to routine maintenance activity. Maintenance needs would be reduced in comparison with existing conditions. The pipeline would be located underground and therefore would not obstruct access to any roadways or structures. No other construction or land use changes are proposed. Therefore, the project's potential impacts on emergency response or evacuation would be limited to temporary and minor circulation impacts due to construction traffic; 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.

LESS THAN SIGNIFICANT IMPACT

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

The project site is located within a Local Responsibility Area for Fire Protection Responsibility. The majority of PCRP to the south as well as the land across Carmel Valley Road to the north is within State Responsibility Areas, designated as Very High Fire Hazard Severity Zones (California Department of Forestry and Fire Protection [CALFIRE] 2007).

The proposed project would not add residents or structures to the project site that would increase exposure to wildfire hazards. 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 risk of wildland fires. However, California Public Resources Code (PRC) Section 4442 mandates the use of spark arrestors, which prevent the emission of flammable debris from exhaust, on earth-moving and portable construction equipment with internal combustion engines operating on any forest-covered, brush-covered, or grass-covered land. Therefore, compliance with applicable regulations would ensure impacts related to potential risk of loss, injury, or death associated with wildland fires during construction are less than significant. 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.

LESS THAN SIGNIFICANT IMPACT

10 Hydrology and Water Quality

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

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

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

The project site is located in the Central Coast hydrological region, within the Carmel Valley Alluvial Groundwater Basin. The nearest surface water body is the Carmel River, which runs west to east approximately 920 feet to the south. The Monterey Peninsula area currently relies heavily on the Carmel River and Carmel Valley Aquifer located within the Carmel Valley Alluvial Groundwater Basin for its water supply (U.S. Bureau of Reclamation 2017). The Monterey Peninsula Water Management District (MPWMD) is the Groundwater Sustainability Agency for the Carmel Valley Alluvial Groundwater Basin. In the spring of 2016, the California Department of Water Resources agreed with the SWRCB determination that water in the basin flows through known and definite subterranean channels and is, therefore, not subject to Sustainable Groundwater Management Act (SGMA) requirements. As a result, there is no available groundwater sustainability management plan for this basin.

The project involves the replacement of an existing wastewater pipeline that conveys wastewater to the CAWD Wastewater Treatment Plant (WWTP). No groundwater supplies would be utilized for this project and groundwater recharge would not be reduced due to increased impervious surfaces due to the pipeline being located underground and the project requiring a minimal amount of paving (400 square feet). Impervious surface area at the project site would be similar to existing conditions, with a minimal increase in paved surface area that would not substantially interfere with groundwater recharge.

Construction would occur mainly in an undeveloped area of PCRP and with the eastern portion of the alignment crossing Via Mallorca and Via Petra and traversing private property with residences along those streets. The new pipeline would be installed at a depth ranging from one to 10 feet below the surface. Based on well monitoring conducted from April 2004 to January 2005 by the MPWMD for the Carmel River watershed, the well nearest to the project site had a depth to groundwater level that ranged from approximately 20 feet to 47 feet (MPWMD 2004). Therefore, it is not anticipated that pipeline construction activities would encounter groundwater. However, in the event that construction occurs in areas with high groundwater, the groundwater would be removed through dewatering wells that have been drilled along the pipeline alignment. Dewatering activities would be temporary and short-term as pipeline construction activities move along the alignment and would last for a total of 90 days. Therefore, dewatering during project construction would not substantially decrease groundwater supplies.

Additionally, project construction would not increase the amount of impervious surfaces along the pipeline alignment because the pipeline would be installed mainly under existing pervious surfaces in the PCRP that would be restored to existing conditions upon completion of construction. Additionally, the portion of the alignment that would cross Via Mallorca and Via Petra would be added via pipe bursting, a trenchless method of replacing buried pipelines, to reduce ground disturbance and the need for additional impervious surfaces. Therefore, the project would not substantially interfere with groundwater recharge occurring at the project site.

CAWD or its contractor would be required to comply with water quality standards outlined in the NPDES Municipal General Permit for construction of the wastewater infrastructure, which would ensure that construction of the proposed alignment would not have adverse impacts to the water

quality of the adjacent river or subbasin. In addition, during construction, the project must comply with Section 16.14.140 of the MCC which states the project must meet best management practice guidance series requirements to control the discharge of pollutants to the maximum extent practicable, comply with the state construction general permit and eliminate non-stormwater discharges that are not in compliance with the NPDES permit. In addition, as described in Section 9, *Hazards and Hazardous Materials,* accidental leaks or accidental spills of hazardous materials that may occur during project construction would be cleaned up and disposed of in accordance with applicable regulations. Therefore, project construction would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

During operation of the project, the pipeline would convey wastewater to the CAWD WWTP. The pipeline would require maintenance only on an as-needed basis. As discussed previously, maintenance needs would be reduced in comparison with existing conditions. In addition, the Overflow Emergency Response Plan ensures any accidental failures of the wastewater collection system facilities would be handled quickly and efficiently (CAWD 2020b). Therefore, the project would not violate any water quality standards or waste discharge requirements or substantially degrade surface or groundwater quality. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

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

c.(iii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The project would consist of replacing the wastewater system through underground pipelines generally located in open space in the PCRP with the exception of the eastern portion of the alignment that would cross Via Mallorca and Via Petra. The pipeline would then traverse through private property with residences located along those streets. The project would not alter the course of a stream or river as pipelines are proposed to be located either adjacent or following the existing pipeline. As discussed in Section 4, *Biological Resources*, no permanent alterations to the existing concrete drainage within the project site are proposed. Additionally, as described above under items (a) and (b), the project would not increase the amount of impervious surfaces along the pipeline alignment because the pipeline would be installed mainly under existing pervious surfaces in the PCRP that would be restored to existing conditions upon completion of construction.

Although construction activities for pipeline installation would involve trenching and other pipeline installation methods that would disturb both paved roadways and unpaved land within the project site, disturbance would be temporary. All construction activities would be required to comply with

Monterey County's Construction Site BMP Handbook and the Construction BMPs-Plan Sheet which would reduce impacts related to erosion, surface runoff, dust control, and waste/material management (County of Monterey 2015b). After construction, the project area would be restored to its original condition, and any drainage pattern at the project site would be returned to existing conditions following project construction activities. Therefore, the proposed pipeline would not alter the existing drainage pattern along the pipeline alignment as compared to existing conditions. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c.(iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

Project construction would occur on undeveloped land in the PCRP and transverse single-family residential properties on Via Mallorca and Via Petra. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, the majority of the project site is located within a 100-year flood hazard area (Zone AE) (FEMA 2017). Because the pipeline would be located entirely underground, the pipeline would not risk release of pollutants due to project inundation. In addition, Monterey County Zoning Code Section 16.16.050(F) sets standards for utilities including that sanitary sewage systems are designed to minimize or eliminate infiltration of flood waters into the system and discharge from systems into flood waters. All pipelines would be undergrounded, designed to minimize or eliminate infiltration, and would not increase impervious surfaces in a manner which would impede or redirect flood flows. Implementation of existing requirements would reduce impacts to less than significant.

LESS THAN SIGNIFICANT IMPACT

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

See item (c)(iv) above. Though the project site is located in a flood hazard area (Zone AE), regulations for development within this zone would reduce the risk of release of pollutants to less than significant. The project is not located in any tsunami or seiche zones and is located roughly five miles from the closest tsunami inundation area (County of Monterey 2015).

LESS THAN SIGNIFICANT IMPACT

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

In September 2014, SGMA was enacted to provide a framework for sustainable management of groundwater supplies by local authorities, with a limited role for intervention when necessary to protect the resource. As mentioned previously, the MPWMD is the Groundwater Sustainability Agency for the Carmel Valley Alluvial Groundwater Basin. In the spring of 2016, DWR agreed with the SWRCB determination that water in the basin flows through known and definite subterranean channels and is, therefore, not subject to SGMA requirements. As a result, there is no sustainable groundwater management plan or water quality control plan for this basin. Therefore, no impact would occur.

NO IMPACT

11 Land Use and Planning

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

a. Would the project physically divide an established community?

The proposed project would replace an existing sewer pipeline. The new pipeline would be located entirely below ground and would be situated similarly and function similarly to the existing pipeline. The majority of the pipeline replacement would occur within a public park; however, the eastern portion would traverse private property with residences. Construction would be temporary in nature and would preserve access to these residences during ground disturbing activities. Once installed, the pipeline would require maintenance on an as-needed basis, although maintenance activities would be reduced compared to existing conditions. The project would not install or construct any above ground infrastructure and the site would be returned to existing conditions after construction has ceased. Therefore, the project would not have the potential to physically divide an established community and impacts would be less than significant.

NO IMPACT

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The proposed project would be located within the County of Monterey. Per California Government Code 53091, building and zoning ordinances of a county or city do not apply to the location or construction of facilities for the production, storage, or transmission of water, wastewater, or electrical energy by a local agency. Therefore, the project is only evaluated for consistency with the County of Monterey 2010 General Plan and the Carmel Valley Master Plan.

The project would replace an existing pipeline that would address capacity issues to handle current wastewater flows and address surcharging. The project site is designated PQP pursuant to the Monterey County General Plan within the PCRP, and LDR in the eastern portion of the site (County of Monterey 2010b). The proposed project would be consistent with the PQP and LDR land use classifications. The alignment would be located on lands zoned PQP-D-S-RAZ (Public/Quasi-Public Zoning District) and LDR (2.5-D-S-RAZ) (Low Density Residential District with 2.5 acre minimum). Both the PQP and LDR zoning include the Design Control, Site Plan Review and Residential Allocation Zoning Overlay Districts.

The PQP zone allows, with a Use Permit, public utility uses and accessory structures (MCC 21.40.050.D). The LDR zone allows, with a Use Permit, public and quasi-public uses, including public utility facilities (MCC Section 21.14.050.B). Public utility facilities include facilities for the "production, storage, transmission, distribution, and recovery of water…" (MCC Section 21.06.910).

The proposed project would be consistent with the following applicable goals, policies, and objectives of the Carmel Valley Master Plan and Monterey County 2010 General Plan, and as a result, Monterey County should be able to make findings in support of Use Permit authorization (County of Monterey 2010b):

- **Policy CV-1.18:** Facilities classified as either Public/Quasi-Public or Special Use (such as schools, churches, hospitals, convalescent homes, rehabilitation centers, hospice facilities, emergency facilities, and public facilities such as community halls) may be considered in any land use category provided that they meet the following criteria:

a. Low visibility.
b. Safe and unobtrusive access away from pedestrian traffic areas.
c. Low noise impact on surrounding uses.
d. Development should follow a rural architectural theme with design review.
e. Conform to all other Plan requirements.

- **Policy CV-1.20:** Design ("D") and site control ("S") overlay district designations shall be applied to the Carmel Valley area. Design review for all new development throughout the Valley, including proposals for existing lots of record, utilities, heavy commercial, and visitor accommodations, but excluding minor additions to existing development where those changes are not conspicuous from outside of the property, shall consider the following guidelines:

a. Proposed development encourages and furthers the letter and spirit of the Master Plan.
b. Development either shall be visually compatible with the character of the valley and immediate surrounding areas or shall enhance the quality of areas that have been degraded by existing development.
c. Materials and colors used in construction shall be selected for compatibility with the structural system of the building and with the Monterey County General Plan Carmel Valley Master Plan October 26, 2010 – Amended as of February 12, 2013 Page, CVMP-5 appearance of the building's natural and man-made surroundings.
d. Structures should be controlled in height and bulk in order to retain an appropriate scale.
e. Development, including road cuts as well as structures, should be located in a manner that minimizes disruption of views from existing homes.
f. Minimize erosion and/or modification of landforms.
g. Minimize grading through the use of step and pole foundations.

- **Policy PS-13.2:** All new utility lines shall be placed underground, unless determined not to be feasible by the Director of the Resource Management Agency.

As noted throughout this document, the project would result in no impact, less than significant impacts, or less than significant impacts with the incorporation of mitigation measures for all issue areas evaluated, including aesthetics, noise, and biological resources. The project would be consistent with Policy CV-1.18 because the project would meet the land use criteria including low visibility and low noise impacts on surrounding uses as the project would be underground, which

also achieves Policy PS-13.2. The project would be consistent with Policy CV-1.20 because the project would be underground and therefore visually consistent with the character of the valley and minimize erosion through completion of a SWPP as discussed in Section 7, *Geology and Soils*. As such, the project would be consistent with the above policies of the Carmel Valley Master Plan and Monterey County 2010 General Plan.

As a result, the proposed project would be consistent with the goals, policies, and objectives of the Caramel Valley Master Plan and the Monterey County 2010 General Plan and would not conflict with underlying land use plan and zoning designations and the impact is less than significant.

LESS THAN SIGNIFICANT IMPACT

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12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	■
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	■

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The Conservation and Open Space Element of the Monterey County 2010 General Plan recognizes State classification and designation of mineral resource areas (County of Monterey 2010b). According to Mineral Land Classification Maps prepared by the DOC, the project site is not underlain by a known mineral resource (DOC 2015). The proposed project would not involve mineral extraction, construction, or changes in land use that could affect the availability of mineral resources. Therefore, there would be no impact to mineral resources.

NO IMPACT

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13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	■	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs (e.g., the human ear). Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Crocker 2007).

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

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

Human perception of noise has no simple correlation with acoustical energy. The perception of noise is not linear in terms of dBA or in terms of acoustical energy. Two equivalent noise sources combined do not sound twice as loud as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA (increase or decrease); that a change of 5 dBA is readily perceptible; and that an increase or decrease of 10 dBA sounds twice (half) as loud (Caltrans 2013a).

Descriptors

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors has been developed. The noise descriptors used for this analysis are the one-hour equivalent noise level (L_{eq}) and the community noise equivalent level (CNEL).

The L_{eq} is the level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time-varying sound. For example, $L_{eq(1h)}$ is the equivalent noise level over a 1-hour period, and $L_{eq(8h)}$ is the equivalent noise level over an 8-hour period. $L_{eq(1h)}$ is a common metric for limiting nuisance noise, whereas $L_{eq(8h)}$ is a common metric for evaluating construction noise.

The CNEL is a 24-hour equivalent sound level. The CNEL calculation applies an additional +5 dBA penalty to noise occurring during evening hours (i.e., 7:00 p.m. to 10:00 p.m.) and an additional +10 dBA penalty to noise occurring during nighttime hours (i.e., 10:00 p.m. to 7:00 a.m.). These increases for certain times are intended to account for the added sensitivity of humans to noise during the evening and night.

There is no precise way to convert a peak hour L_{eq} to DNL or CNEL – the relationship between the peak hour L_{eq} value and the DNL/CNEL value depends on the distribution of traffic volumes during the day, evening, and night. However, in urban areas near heavy traffic, the peak hour L_{eq} is typically 2 to 4 dBA lower than the daily DNL/CNEL. In less heavily developed areas, such as suburban areas, the peak hour L_{eq} is often roughly equal to the daily DNL/CNEL. For rural areas with little nighttime traffic, the peak hour L_{eq} will often be 3 to 4 dBA greater than the daily DNL/CNEL value (SWRCB 1999). The project site is located in a mostly rural area; therefore, the DNL/CNEL in the area would be approximately 3 to 4 dBA lower than the peak hour L_{eq}.

Propagation

Sound from a small, localized source (approximating a “point” source) decreases or drops off at a rate of 6 dBA for each doubling of distance. Traffic noise is not a single, stationary point source of sound. Over a time interval, the movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point. The drop-off rate for a line source is 3 dBA for each doubling of distance.

Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of hertz (Hz). The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most groundborne vibration that can be felt by the human body is from a low of less than 1 Hz up to a high of about 200 Hz (Crocker 2007).

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise may result in adverse effects, such as building damage, when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz). Vibration may also damage infrastructure when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source (Federal Transit Administration [FTA] 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Descriptors

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or RMS vibration velocity. Particle velocity is the velocity at which the ground moves. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the greatest magnitude of particle velocity associated with a vibration event. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Caltrans 2013b).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2018). Vibration significance ranges from approximately 50 VdB (the typical background vibration-velocity level) to 100 VdB, the general threshold where minor damage can occur in fragile buildings (FTA 2018). The general human response to different levels of groundborne vibration velocity levels is described in Table 8.

Table 8 Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable
85 VdB	Vibration acceptable only if there are an infrequent number of events per day

VdB = vibration decibels

Source: Federal Transit Administration 2018

Regulatory Setting

CAWD does not provide noise thresholds for construction or operation activities; therefore, the Monterey County 2010 General Plan and MCC thresholds are described below. It should be noted that CAWD is not required to comply with Monterey County noise requirements, and CAWD, as the Lead Agency, has elected not to use the county's noise thresholds for this project. However, Monterey County noise thresholds would apply to the eastern portion of the project site within the public right-of-way. Therefore, applicable Monterey County noise regulations are described below.

The Monterey County 2010 General Plan contains a land use and noise compatibility matrix (shown in Table 9), which summarizes the normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable noise levels for various land uses. The eastern portion of the project site is adjacent to residential uses and the western portion of the project site in PCRP is over 1,000 feet from residential uses. According to the County's noise standards shown in Table 9, ambient noise levels up to 60 dBA CNEL or less are normally acceptable for residential uses, which is the most stringent of the adjacent land uses to the project site.

Table 9 Land Use Noise Compatibility Matrix- Community Noise Equivalent Levels (DNL or CNEL, dBA)

Land Use Categories	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential (Low-Density Single-Family, Duplex, Mobile Homes)	<60	55-70	70-75	75+
Residential (Multi-Family)	<65	60-70	70-75	75+
Transient Lodging (Hotels, Motels)	<65	60-70	70-75	75+
Schools, Libraries, Churches, Hospitals, Nursing Homes	<70	60-70	70-80	80+
Auditoriums, Concert Halls, Amphitheaters	N/A	<70	65+	N/A
Sports Arena, Outdoor Spectator Sports	N/A	<75	70+	N/A
Playgrounds, Neighborhood Parks	<70	67.5-75	72.5+	N/A
Golf Courses, Riding Stables, Water Recreation, Cemeteries	<75	70-80	N/A	80+
Office Buildings, Business Commercial and Professional	<70	67.5-77.5	75+	N/A
Industrial, Manufacturing, Utilities, Agriculture	<75	70-80	75+	N/A

Notes: N/A = Not Applicable (The County of Monterey has not established noise level ranges for these categories.)

Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: County of Monterey 2010

The following noise-related policies are provided in the Monterey County 2010 General Plan:

- Policy S-7.4: New noise generators may be allowed in areas where projected noise levels (Figure 10) are "conditionally acceptable" only after a detailed analysis of the noise reduction requirements is made and needed noise mitigation features are included in project design.

- Policy S-7.5: New noise generators shall be discouraged in areas identified as "normally unacceptable." Where such new noise generators are permitted, mitigation to reduce both the indoor and outdoor noise levels will be required.
- Policy S-7.6: Acoustical analysis shall be part of the environmental review process for projects when:
  - Noise sensitive receptors are proposed in areas exposed to existing or projected noise levels (Figures 9 and 10) that are "normally unacceptable" or higher according to Table S-2 ("Land Use Compatibility for Community Noise").
  - Proposed noise generators are likely to produce noise levels exceeding the levels shown in the adopted Community Noise Ordinance when received at existing or planned noise-sensitive receptors.
- Policy S-7.8: All discretionary projects that propose to use heavy construction equipment that has the potential to create vibrations that could cause structural damage to adjacent structures within 100 feet shall be required to submit a pre-construction vibration study prior to the approval of a building permit. Projects shall be required to incorporate specified measures and monitoring identified to reduce impacts. Pile driving or blasting are illustrative of the type of equipment that could be subject to this policy.
- Policy S-7.9: No construction activities pursuant to a County permit that exceed "acceptable" levels listed in Policy S-7.1 shall be allowed within 500 feet of a noise sensitive land use during the evening hours of Monday through Saturday, or anytime on Sunday or holidays, prior to completion of a noise mitigation study. Noise protection measures, in the event of any identified impact, may include but not be limited to:
  - Constructing temporary barriers, or
  - Using quieter equipment than normal.
- Policy S-7.10: Construction projects shall include the following standard noise protection measures:
  - Construction shall occur only during times allowed by ordinance/code unless such limits are waived for public convenience;
  - All equipment shall have properly operating mufflers; and
  - Lay-down yards and semi-stationary equipment such as pumps or generators shall be located as far from noise-sensitive land uses as practical.

The following policies are included in the Carmel Valley Master Plan (County of Monterey 1996), which is a supplement to the Monterey County 2010 General Plan:

- Policy 22.2.1.1 (CV): Where development is proposed in a conditionally acceptable noise environment, construction shall be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Multi-family housing proposed where the Ldn exceeds 60 dB shall provide a report per the requirements of Title 24 of the California Administrative Code delineating how interior noise levels would be reduced to a Ldn (or CNEL) of 45 dB or less.
- Policy 22.2.4.1 (CV): Noise generating construction activities should be restricted to the hours of 8:00 a.m. to 5:00 p.m. Monday through Friday, where such noise would impact existing development. All construction equipment utilizing internal combustion engines shall be required to have mufflers which are in good condition. An exception to the above stated hours and days of operation is to be allowed for heavy equipment and other noise

generating equipment operating to protect life and property in emergency conditions such as fire, flooding or seismic emergencies.

Chapter 10.60 of the MCC enforces construction and operational noise regulations. Section 10.60.030 prohibits the operation of machinery that exceeds 85 dBA at 50 feet at any time of day. MCC Section 10.60.040 limits nighttime noise to 45 dBA L_{eq} and 65 dBA L_{max} at 50 feet between 9:00 p.m. and 7:00 a.m. Subsection C provides exemptions to exterior nighttime noise levels. However, there is no exemption provide for nighttime construction noise. The MCC does not include quantitative standards for operational groundborne vibration impacts.

The FTA recommends daytime and nighttime construction noise criteria for different types of land uses (FTA 2018). For residential land uses the FTA recommends limiting daytime construction noise to 80 dBA L_{eq} and nighttime construction noise to 70 dBA L_{eq}.

Existing Noise Setting

The most common source of noise in the project site vicinity is vehicular traffic (e.g., automobiles, buses, and trucks) from Carmel Valley Road. Ambient noise levels are generally highest during the daytime and rush hour unless congestion substantially slows speeds. Motor vehicle noise is of concern because it is characterized by a high number of individual events, which often create sustained noise levels. Other sources of noise in the project vicinity include general conversations from passers-by activities associated with adjacent residential development and recreational users at PCRP.

Sensitive Receivers

Noise exposure standards for various types of land uses reflect the varying noise sensitivities associated with each of these uses. Noise sensitive receptors generally include schools, parks, residential areas, hospitals, churches, courts, libraries, and care facilities. While the County does not define specific noise-sensitive land uses, the County's most stringent noise compatibility standards are for the following land uses: residential (low-density, single-family, duplex, mobile homes), residential (multi-family), transient lodging (hotels, motels), schools, libraries, churches, hospitals, and nursing homes. Noise-sensitive receivers nearest to the project site include the Community Church of the Monterey Peninsula over 1,000 feet west of the project site and single family residences at the eastern end of the project site.

Methodology

Construction Noise

Construction noise was estimated using the FHWA Roadway Construction Noise Model (RCNM) (FTA 2006). RCNM predicts construction noise levels for a variety of construction operations based on empirical data and the application of acoustical propagation formulas. Using RCNM, construction noise levels were estimated at noise sensitive receivers near the project site. RCNM provides reference noise levels for standard construction equipment, with an attenuation of 6 dBA per doubling of distance for stationary equipment.

Variation in power imposes additional complexity in characterizing the noise source level from construction equipment. Power variation is accounted for by describing the noise at a reference distance from the equipment operating at full power and adjusting it based on the duty cycle of the

activity to determine the L_{eq} of the operation (FTA 2018). Each phase of construction has a specific equipment mix, depending on the work to be accomplished during that phase. Each phase also has its own noise characteristics; some would have higher continuous noise levels than others, and some have high-impact noise levels.

Pipeline construction activities would be mobile and would be constantly moving in a linear path along the pipeline alignment. Equipment used for construction activities would travel throughout the work areas. The distance of the residential receivers near the eastern portion of the project site, adjacent to the public right-of way, to mobile equipment were modeled at 50 feet, pursuant to Chapter 10.60.030 of the MCC. Additionally, construction equipment was modeled at 1,000 feet to represent noise levels at residences near the eastern portion of the project site outside of PCRP and the church located west of the project site. The loudest phase of construction (trenchless installation) was modeled to determine construction noise impacts. Pipeline construction activities would generate noise up to approximately 90 dBA L_{eq} at 50 feet and approximately 61 dBA L_{eq} at 1,000 feet (Appendix C).

Groundborne Vibration

Per Policy S-7.8 of the Monterey County 2010 General Plan, construction equipment that creates vibrations that could cause structural damage to structures within 100 feet of the construction area require additional vibrational analysis. The threshold for structure damage applied to the project is from Caltrans' *Transportation and Construction Vibration Guidance Manual* (Caltrans 2013b), which lists 0.2 PPV in/sec at residential structures as the limit that would prevent structural damage regardless of building construction type

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction in the Public Right-of-Way

Temporary noise levels caused by construction activity would be a function of the noise generated by construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of noise-generating activities. If construction activities would generate noise above 85 dBA L_{eq} at 50 feet in the public right-of-way, a significant impact would occur.

The residential receivers nearest to the project site would be located adjacent to Via Mallorca and Via Petra. The loudest phase of pipeline construction activities (trenchless installation) would generate maximum hourly noise levels up to approximately 90 dBA L_{eq} at 50 feet. Therefore, construction noise levels would exceed the threshold of 85 dBA at 50 feet near residences as established by Section 10.60.030 of the MCC. Construction noise impacts at residences in the eastern portion of the project site outside PCRP would be temporary and short-term occurring between 7:30 a.m. and 4:30 p.m. Construction noise impacts would be less than significant with mitigation.

Nighttime Construction

Nighttime construction would occur in PCRP to minimize impacts associated with daytime events at the event center and noise impacts to recreational users. Nighttime receivers near the western portion of the site where nighttime construction would occur include residential land uses and the church over 1,000 feet from the project site.

As mentioned in the construction impact analysis, the loudest phase of pipeline construction activities (trenchless installation) would generate maximum hourly noise levels up to 61 dBA L_{eq} at 1,000 feet. Therefore, nighttime construction activities would not exceed the nighttime threshold of 70 dBA L_{eq} as established by the FTA (2018). Impacts would be less than significant.

Operational

Operation of the replaced pipeline would not perceptibly increase noise levels in the project vicinity above existing conditions. No additional vehicle trips beyond those needed for maintenance of existing facilities would occur following construction of the project. Additionally, vehicle trips for sewer maintenance are anticipated to be reduced compared to existing conditions. Therefore, operational noise associated with the project would not result in a substantial permanent increase in ambient noise.

Mitigation Measures

In order to comply with noise standards in MCC Chapter 10.60.030 threshold, the following mitigation measure would be required for construction in the public right-of-way.

N-1 Construction Noise Reduction Measures

The following construction noise reduction measures shall be implemented during project construction activities:

- Whenever possible, construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.
- All heavy-duty stationary construction equipment shall be placed so that emitted noise is directed away from the nearest sensitive receivers.
- During construction, all equipment shall be operated with closed engine doors and shall be equipped with properly operating and maintained critical grade mufflers consistent with manufacturers' standards.
- CAWD shall provide a non-automated telephone number for local residents to call to submit complaints associated with construction noise during all phases of construction. CAWD shall maintain a log of complaints and shall address complaints to minimize noise issues for neighbors.

Significance After Mitigation

Implementation of Mitigation Measure N-1 would entail the use of noise reduction measures. Use of mufflers would reduce engine noise levels from mobile construction equipment by at least 5 dBA. Implementation of Mitigation Measure N-1 would reduce daytime construction noise levels during the site preparation, grading and trenching, trenchless installation, sewer open cut installation, and geotechnical investigation phases of construction for the pipeline at the sensitive receivers in the public right-of-way to at least 85 dBA L_{eq}, which his below the County's daytime exterior noise thresholds. Therefore, construction noise impacts would be reduced to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

Certain types of construction equipment can temporarily generate high levels of groundborne vibration. The greatest anticipated source of vibration during general project construction activities would be from a roller, which would be used during trenchless installation. Structures within 100 feet of project construction areas include residences located along Via Mallorca and Via Petra. A roller would result in approximately 0.21 in/sec PPV at a distance of 25 feet (Caltrans 2013b). This would equal a vibration level of 0.046 in/sec PPV at a distance of 100 feet.[4] This would be lower than the structural damage impact threshold to residential structures of 0.2 in/sec PPV. Therefore, impacts associated with the roller (and other potential equipment) would be less than significant.

Because the project is anticipated to reduce trips associated with sewer maintenance over existing conditions, it would not include any substantial vibration sources associated with operation. Therefore, operational vibration impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The nearest public airport to the Plan Area is the Monterey Regional Airport located approximately 3.8 miles northeast. Therefore, the project site is not located in the airport's land use plan. Because the project site is not located in the vicinity of a private airstrip, airport land use plan, or within two miles of a public or public use airport, the project would not expose people residing or working in the project area to excessive aircraft-related noise. There would be no impact.

NO IMPACT

[4] $PPVEquipment = PPVRef (25/D)^n$ (in/sec), PPVRef = reference PPV at 25 feet, D = distance ,and n = 1.1

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14 Population and Housing

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

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

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

The project would involve replacement of an existing sewer pipeline. The replacement pipeline would be upsized and regraded to address capacity issues to handle current flows and address surcharging issues; however, this would not include any new connections to residences. The project does not include housing or other infrastructure that would lead to population growth. The project would improve wastewater infrastructure. The eastern portion of the pipeline alignment would traverse single-family residential lots. However, the project would replace existing pipeline infrastructure and would not displace residents. The pipeline would connect to a new restroom at the PCRP; however, analysis of this connection was analyzed as part of the PCRP General Development Plan Initial Study Mitigated Negative Declaration (SCH No. 2019049161), which is scheduled to be adopted by the end of 2020. Therefore, growth inducement impacts of this restroom have been previously analyzed. Because the project would not induce population growth or displace people or housing, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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15 Public Services

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a.	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	1 Fire protection?	☐	☐	☐	■
	2 Police protection?	☐	☐	☐	■
	3 Schools?	☐	☐	☐	■
	4 Parks?	☐	☐	☐	■
	5 Other public facilities?	☐	☐	☐	■

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

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

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

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

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

As described in Section 14, *Population and Housing*, the project does not include development of structures or infrastructure that would directly or indirectly increase the population in Monterey County. Therefore, service ratios for facilities and staff for public services, including fire protection, police protection, schools, parks, or other public facilities, would not be impacted. There would be no impact to public services.

NO IMPACT

16 Recreation

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

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

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

As described in Section 14, *Population and Housing*, the project does not include development of structures or infrastructure that would directly or indirectly increase the population in Monterey County. Therefore, the project would not increase the population served by local recreation facilities or otherwise result in increased demand for or degradation of those facilities. The project would replace a sewer pipeline that runs through an existing park and would not disrupt use of PCRP because the park and recreational opportunities would remain available during project construction, which would be temporary. The project would remain underground and would thus not physically deteriorate PCRP. There would be no impact to recreational facilities.

NO IMPACT

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17 Transportation

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

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

The Transportation Agency for Monterey County is the designated Congestion Management Agency responsible for the development and implementation of the Congestion Management Program in the project area. In August 2018, Monterey County commissioned the Carmel Valley Road Corridor Study to identify potential opportunities for traffic capacity and/or safety improvements along the approximately 8.1-mile study corridor of Carmel Valley Road. According to this report, two roadway segments of Carmel Valley Road identified along the project area were operating at level of service (LOS) A and C in 2013 (County of Monterey 2018). These segments were operating above the County's LOS standard of LOS D for all County roads and intersections (County of Monterey 2010b). The Monterey County 2010 General Plan Circulation Element includes goals to facilitate traffic movement and alleviate congestion by protecting public transportation facilities, encouraging land use patterns that reduce automobile dependence, and requiring new development be located and designed with convenient access to efficient transportation options.

Project construction would result in temporary transportation impacts. Construction staging would occur at two staging areas within the PCRP, at the western end and near the middle of the alignment. The project site would be accessed during construction via the PCRP Rio Road entrance to access the western staging area and via a private gate on the eastern side of PCRP to access the eastern staging area. Additional project access would be from Via Petra and Via Mallorca for work within the public right-of-way, and on a private property in that residential neighborhood. The availability of the two staging areas at opposite ends of the alignment would minimize travel on local roadways between equipment staging areas and work zones. The work along Via Petra and Via Mallorca would be in the public right-of-way and would maintain vehicle access during project

construction. Pipeline replacement activities would mainly occur in undeveloped lands and would not affect vehicular, bicycle and pedestrian access or circulation.

Construction-related vehicle trips would include construction workers traveling to and from the project work zones and staging areas, haul trucks (including for import and export of excavated materials, as needed), and other trucks associated with equipment and material deliveries. During the 90-day construction period, construction-related vehicle trips would total up to three roundtrips per day. Such trips would occur on area roadways, such as Carmel Valley Road, which is the primary access route to the project site. Because construction is a short-term, temporary activity and trips would account for a relatively small portion of existing traffic on area roadways, construction-related traffic impacts would not be substantial. Therefore, construction-related transportation impacts would be less than significant.

The proposed project involves construction and operation of a replaced wastewater pipeline, which would not conflict with adopted policies, plans, or programs addressing the circulation system, including public transit, bicycle, or pedestrian facilities. The proposed pipeline alignment would be placed underground below the PCRP and beneath the public rights-of-way along Via Mallorca and Via Petra and traverse private property with residences located along those streets. Project operation would involve occasional routine maintenance trips after pipeline installation, which would represent a decrease in traffic on Carmel Valley Road as maintenance would be reduced compared to existing conditions due to project improvements. Given the minimal number of trips generated, operational transportation impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

CEQA Guidelines Section 15064.3(b) identifies criteria for evaluating transportation impacts. Specifically, the guidelines state VMT exceeding an applicable threshold of significance may indicate a significant impact. According to Section 15064.3(b)(3) of the *CEQA Guidelines*, a lead agency may include a qualitative analysis of operational and construction traffic if existing models or methods are not available to estimate the VMT for the particular project being considered. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. Pursuant to Section 15064.3(c), the provisions of this section area applicable statewide as of July 1, 2020. Neither CAWD nor Monterey County have established VMT thresholds. The 2018 Monterey County Active Transportation Plan includes Policy C-2.4, which encourages a reduction in the number of VMT per person (Transportation Agency of Monterey County 2018). However, as discussed below, the project is not anticipated to affect VMT in the project area.

A VMT calculation is typically conducted on a daily or annual basis, for long-range planning purposes. As discussed under item (a) above, traffic on local roadways would be temporarily increased during project construction due to worker trips and the necessary transport of construction vehicles and equipment to the project site. Increases in VMT from construction would be short-term, minimal, and temporary. In addition, maintenance of the proposed project would require less frequent vehicle trips to the site in comparison to existing conditions due to the improved condition of the pipeline after replacement. Thus, operational VMT would decrease as compared to existing conditions. Less than significant impact associated with VMT per *CEQA Guidelines* Section 15064.3 would occur.

LESS THAN SIGNIFICANT IMPACT

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

The project would not involve the construction of new roads or reconfiguration of any roadways or intersections that could result in a substantial increase in traffic hazards. During project construction, construction vehicles would utilize the existing PCRP entrance and parking lot. Operation of the new pipeline would not result in an increase in vehicle trips to the site, as described above. No impact would occur.

NO IMPACT

d. Would the project result in inadequate emergency access?

Construction of the project would not require lane closures or changes to any roads or intersections. As described above, construction would not result in a significant increase in traffic, and operation of the new pipeline would not introduce a new source of vehicle trips. The project site is easily accessible by emergency vehicles via Carmel Valley Road, and the project would not alter the site's access or traffic congestion in the area. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), 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 Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	■	☐	☐

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

1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code 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 Public Resources Code Section 5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. 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.

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

b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

CAWD is the lead agency for this project and is therefore responsible for AB 52 notification. CAWD sent AB 52 consultation letters on July 2, 2020, to the following tribes: Amah Mutsun Tribal Band, Amah Mutsun Tribal Band of Mission San Juan Bautista, Costanoan Rumsen Carmel Tribe, Esselen Tribe of Monterey County, Indian Canyon Mutsun Band of Costanoan, and Ohlone/Costanoan-Esselen Nation, and followed up with each of the tribes via phone call and email. Responses were received from the Esselen Tribe of Monterey County. Additionally, as described in Section 5, *Cultural Resources*, the Esselen Tribe of Monterey County identified the project site to be within their ancestral tribal lands; however, the chairman did not identify tribal cultural resources within the area during Rincon's informal outreach. Their letter requested that during all excavation activities, a native American monitor be present. The mitigation measures provided in Section 5, *Cultural Resources*, satisfy the requests from the tribe to provide a tribal monitor during construction, and consultation was completed on August 19, 2020. Therefore, impacts would be less than significant following implementation of Mitigation Measures CR-1 and CR-2.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	■	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	■	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	■	☐
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	■	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	■	☐

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

c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Water

The proposed project would not expand the potable water system or increase potable water pipeline capacity to serve additional customers. The project would replace an existing wastewater pipeline that connects to the CAWD sewer system. No changes to the potable water system are proposed. No impact related to water facilities would occur.

Wastewater Treatment

CAWD collects and processes wastewater from Carmel-by-the-Sea and surrounding areas. CAWD provides collection, treatment, and disposal of wastewater for 11,000 residents within its service area and treatment and disposal for an additional 4,500 people in Del Monte Forest through a contract agreement with Pebble Beach Community Services District. CAWD maintains 81 miles of sewers within the existing service area, comprised of approximately 5.5 square miles (CAWD 2020a).

The proposed project would replace an existing sewer pipeline. The pipeline is being upsized and regraded to address capacity issues to handle current flows and address surcharging issues. The new pipeline would convey wastewater at a rate of 1,500 gallons per day. Wastewater would be conveyed through the pipeline into the existing collection system to the CAWD Water Pollution Control Plant, which has a design capacity of 4.0 million gallons per day (MGD), a permitted capacity of 3.0 MGD, and an average dry weather flow of 1.2 MGD (CAWD 2020b). The plant has a remaining permitted capacity of 1.8 MGD.

The most recent Municipal Services Update for CAWD in 2016 estimated the WWTP has surplus capacity to accommodate an additional 7,000 to 8,000 residential units within the service area, plus volume equivalent to 3,000 to 4,000 additional units in Pebble Beach. Full buildout of the CAWD service area would add approximately 520 connections (County of Monterey 2016). The proposed project would serve existing residents and businesses, as it would replace the existing wastewater conveyance system with upgraded infrastructure. The project itself would not generate wastewater, and no new or expanded wastewater treatment facilities would be required. Further, the additional conveyance of wastewater to the CAWD treatment plant could provide for additional reclaimed water available for landscape irrigation, thereby reducing the strain on the local potable water resources.

The pipeline alignment would include a connection to a new restroom located in the PCRP. Analysis of this connection and the anticipated wastewater increase related to the restroom was included as part of the PCRP General Development Plan Initial Study Mitigated Negative Declaration, which is scheduled to be adopted by the end of 2020. Wastewater impacts related to this new connection are analyzed in that document, and are not considered here. Because the project is a replacement of an existing facility and would not generate new wastewater nor increase capacity, impacts to wastewater treatment and demand would be less than significant.

Stormwater Drainage

As discussed in Section 10, *Hydrology and Water Quality*, construction of the proposed pipeline would not increase the amount of impervious surfaces along the pipeline alignment because the pipeline would be installed mainly under existing pervious surfaces in the PCRP that would be restored to existing conditions upon completion of construction. Additionally, the portion of the alignment that would cross Via Mallorca and Via Petra would be added via pipe bursting, a trenchless method of replacing buried pipelines, to reduce ground disturbance and the need for additional impervious surfaces. Therefore, the proposed pipeline would not alter the drainage

pattern along the pipeline alignment and would not increase stormwater flow such that new or expanded stormwater drainage systems would be necessary. Impacts would be less than significant.

Electric Power and Natural Gas

As discussed in Section 6, *Energy*, the project would replace an existing pipeline. Therefore, operational energy demand would be similar to existing conditions. The pipeline itself would not generate new demand for electricity or natural gas. Operation of the project would include routine inspections and maintenance. Maintenance needs are expected to be reduced in comparison to existing conditions. No new electric or gas infrastructure would be required that could cause significant environmental effects due to the proximity of existing connections.

Telecommunications

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

LESS THAN SIGNIFICANT IMPACT

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

The project consists of the replacement of an aging sewer pipeline. Small quantities of water would be required during construction for dust suppression, which would be potable water provided by MPWMD (MPWMD 2020). 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. Therefore, impacts related to water supply would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

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

Construction activities may temporarily generate solid waste, including soil spoils, or other construction waste, which would be disposed of in accordance with all applicable federal, State, and local statutes and regulations. While most soil is expected to be reused as backfill material within the project area, roughly 830 cubic yards of soils would be disposed of at the Johnson Canyon Landfill. The landfill had a remaining capacity of 6,923,297 cubic yards as of 2007 (CalRecycle 2018). Due to the temporary nature of construction and minimal amount of construction waste anticipated to require disposal, the project would not generate quantities of solid waste that would account for a substantial percentage of the total daily regional permitted capacity available at Johnson Canyon Landfill. Therefore, waste generated by demolition and construction activities would not exceed the available capacity at the landfill serving the project area that would accept debris generated by the project.

The project would be required to comply with all applicable laws and regulations related to solid waste generation, collection, and disposal. The project would result in a short-term and temporary increase in solid waste generation during construction but would not substantially affect standard solid waste operations of any landfill accepting waste. Recycling and reuse activities during construction would comply with the California Integrated Waste Management Act of 1989 (AB 939). Once operational, the project would include unmanned facilities and would not generate solid waste. Therefore, solid waste impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	■
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	■
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	■	☐

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

The project site is located in a Local Responsibility Area for Fire Protection. The majority of PCRP to the south as well as the land across Carmel Valley Road to the north is within State Responsibility Areas, designated as Very High Fire Hazard Severity Zones (California Department of Forestry and Fire Protection [CALFIRE] 2007).

The proposed project would not add residents or visitors to the project site and would not add structures that would increase wildfire exposure or hazards. As discussed in Section 17, *Transportation*, a minimal increase in traffic near the project site would occur during the project's construction phase. However, construction traffic would be temporary and would not impair emergency response or evacuation. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The proposed project would replace a sewer pipeline. The project would not alter the existing environmental conditions at the project site, other than for temporary ground disturbing activities required to remove and replace the existing pipeline. Heavy duty equipment used during project construction may produce sparks with the potential to ignite vegetation. However, PRC Section 4442 mandates the use of spark arrestors, which prevent the emission of flammable debris from exhaust, on earth-moving and portable construction equipment with internal combustion engines operating on any forest-covered, brush-covered, or grass-covered land. Furthermore, PRC Sections 4427 and 4431 specify standards for conducting construction activities on days when a burning permit is required, and PRC Section 4428 requires construction contractors to maintain fire suppression equipment during the highest fire danger period (April 1 to December 1) when operating on or near any forest-covered, brush-covered, or grass-covered land. Therefore, with compliance with applicable PRC provisions, project construction would not exacerbate wildfire risk. Impacts would be less than significant.

NO IMPACT

c. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

The proposed project would not require the installation or maintenance of any infrastructure, such as roads or fuel breaks, associated with fire prevention. The project would not exacerbate existing fire hazards. There would be no impact.

NO IMPACT

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

The proposed project would not add residents or visitors to the project site and would not add structures that would increase wildfire exposure or hazards. Additionally, the proposed replacement pipeline would be located underground within a relatively flat area. After conclusion of construction activity, environmental conditions at the project site would be restored to a stable condition similar to existing conditions. Therefore, impacts would be temporary and would not substantially increase hazards or expose people or structures to flooding or landslides as a result of post-fire runoff, slope instability, or drainage changes. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Does the project:				
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	■	☐	☐
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	■	☐	☐
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	■	☐	☐

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

The pipeline alignment would be constructed in an area that contains suitable habitat for special status wildlife species. As discussed in Section 4, *Biological Resources*, Mitigation Measures BIO-1 through BIO-7 would be required to address potential direct and indirect impacts to special-status species that may be present on the project site. Additionally, implementation of Mitigation Measures BIO-8 and BIO-9 would require avoidance of sensitive natural communities. Therefore, the project would not substantially reduce the habitat of fish and wildlife species, cause a fish or

wildlife population 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 pipeline alignment would be constructed in an area considered sensitive for cultural resources and human remains due to the project's proximity to the Carmel River. As discussed in Section 5, *Cultural Resources*, Mitigation Measure CULT-1 requires monitoring during ground disturbing activities of native soils. Should unanticipated archaeological resources or human remains be discovered, Mitigation Measures CULT-2 and CULT-3 requires that work cease and the resources or human remains be evaluated. Additionally, Section 5, *Cultural Resources*, indicates impacts to historic resources would not occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

As described in the discussion of environmental checklist Sections 1 through 20, with respect to all environmental issues, the proposed project would not result in significant and unmitigable impacts to the environment; all anticipated impacts associated with project construction and operation would be either less than significant or less than significant with mitigation incorporated. This is largely due to the fact that project construction activities would be temporary, and project operational activities would not significantly alter the environmental baseline condition.

Cumulatively considerable impacts could occur if the construction of other projects occur at the same time as the proposed project and in the same vicinity, such that the effects of similar impacts of multiple projects combine to expose adjacent sensitive receptors to greater levels of impact than would occur under the proposed project. For example, if the construction of other projects in the area occurs at the same time as construction of the proposed project, potential impacts associated with noise and traffic to residents in the project area may be more substantial. Construction projects planned within the vicinity of the project site include implementation of projects under the PCRP General Development Plan and development of the Rancho Canada Village. The PCRP General Development Plan does not include major construction or buildout and would not result in cumulatively considerable impacts with the project. Rancho Canada Village, located north of PRCP, may include construction that occurs at the same time as the proposed project. However, the proposed project would result in minimal construction traffic and construction noise mitigation would reduce noise at nearby sensitive receptors such that it would not contribute to the overall noise environment. Therefore, the proposed projects construction-related impacts to sensitive receptors would not be cumulatively considerable.

In addition, cumulative impacts could occur due to indirect growth-inducing impacts, which includes consideration of whether the project would remove an obstacle to additional growth and development. A majority of the area surrounding the proposed pipeline is either parkland included as part of the PCRP or is already developed, and the proposed pipeline would not induce growth in this built up area.

The majority of project impacts are temporary, localized effects that would occur during the approximately 90-day construction period. Once operational, the project would not have significant adverse environmental impacts or induce new development in the area that could combine with other projects' effects to create cumulatively significant impacts. Therefore, the proposed project is

not anticipated to result in a cumulatively considerable contribution to a significant cumulative impact with implementation of mitigation measures throughout the document.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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 Section 3, *Air Quality*, the project would not result, either directly or indirectly, in substantial adverse effects related to air quality through construction or operation. As discussed in Section 9, *Hazards and Hazardous Materials*, project operation would not involve the routine use of extremely hazardous materials. Compliance with applicable regulations and the identified mitigation measures during project construction would reduce potential impacts on human beings related to hazards and hazardous materials to a less than significant level. Operation of the proposed pipeline would not generate noise and would not significantly impact nearby sensitive receivers. During project construction, noise impacts would occur during nighttime hours in PCRP. However, the nearest residences are over 1,000 feet from construction and would not experience significant nighttime noise with implementation of noise reduction measures. Therefore, construction noise impacts would be temporary and less than significant with construction noise mitigation. Therefore, the project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. Impacts would be less than significant with mitigation incorporated.

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Appendix A

Air Quality and Greenhouse Gas Emissions Calculation Files

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Palo Corona Regional Park Sewer Replacement

Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.90	7.75	8.40	1.37	0.37	1.00	0.54	0.33	0.21	0.02	1,724.62	0.47	0.06	1,752.75
Grading/Excavation	1.52	13.33	14.26	1.65	0.65	1.00	0.80	0.59	0.21	0.03	3,086.68	0.72	0.08	3,127.94
Drainage/Utilities/Sub-Grade	1.52	13.31	14.13	1.64	0.64	1.00	0.80	0.59	0.21	0.03	3,008.23	0.72	0.07	3,045.81
Paving	0.77	7.95	6.95	0.36	0.36	0.00	0.32	0.32	0.00	0.01	1,421.91	0.37	0.05	1,446.77
Maximum (pounds/day)	1.52	13.33	14.26	1.65	0.65	1.00	0.80	0.59	0.21	0.03	3,086.68	0.72	0.08	3,127.94
Total (tons/construction project)	0.04	0.40	0.42	0.05	0.02	0.03	0.02	0.02	0.01	0.00	89.04	0.02	0.00	90.25

Notes:

Project Start Year ->	2021
Project Length (months) ->	3
Total Project Area (acres) ->	0
Maximum Area Disturbed/Day (acres) ->	0
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	20	0	100	40
Grading/Excavation	54	0	40	0	100	40
Drainage/Utilities/Sub-Grade	0	0	20	0	100	40
Paving	135	0	20	0	100	40

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Palo Corona Regional Park Sewer Replacement

Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.69	0.00	0.00	5.25
Grading/Excavation	0.02	0.18	0.20	0.02	0.01	0.01	0.01	0.01	0.00	0.00	42.44	0.01	0.00	39.02
Drainage/Utilities/Sub-Grade	0.02	0.15	0.16	0.02	0.01	0.01	0.01	0.01	0.00	0.00	33.09	0.01	0.00	30.39
Paving	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.82	0.00	0.00	7.22
Maximum (tons/phase)	0.02	0.18	0.20	0.02	0.01	0.01	0.01	0.01	0.00	0.00	42.44	0.01	0.00	39.02
Total (tons/construction project)	0.04	0.40	0.42	0.05	0.02	0.03	0.02	0.02	0.01	0.00	89.04	0.02	0.00	81.88

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Appendix B

Biological Resources Data Queries

Special Status Plant Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Agrostis lacuna-vernalis vernal pool bent grass	None/None G1/S1 1B.1 BLM_S-Sensitive | SB_SBBG-Santa Barbara Botanic Garden	Vernal pools (mima mounds). 115 - 145 m. annual herb. Blooms Apr-May	Not Expected	Vernal pools are not present and there are no known CNDDB occurrences within 5 miles.
Allium hickmanii Hickman's onion	None/None G2/S2 1B.2 BLM_S-Sensitive | SB_SBBG-Santa Barbara Botanic Garden | USFS_S-Sensitive	Closed-cone coniferous forest, Chaparral (maritime), Coastal prairie, Coastal scrub, Valley and foothill grassland. 5 - 200 m. perennial bulbiferous herb. Blooms Mar-May	Not Expected	There are 14 known CNDDB occurrences within 5 miles, however no suitable closed-cone coniferous forest habitat present.
Arctostaphylos edmundsii Little Sur manzanita	None/None G2/S2 1B.2 USFS_S-Sensitive	Coastal bluff scrub, Chaparral. sandy. 10 - 105 m. perennial evergreen shrub. Blooms Nov-Apr(May)	Not Expected	Coastal bluff scrub habitat is not present and no known CNDDB occurrences within 5 miles.
Arctostaphylos hookeri ssp. *hookeri* Hooker's manzanita	None/None G3T2/S2 1B.2 BLM_S-Sensitive	Closed-cone coniferous forest, Chaparral, Cismontane woodland, Coastal scrub. sandy. 60 - 536 m. perennial evergreen shrub. Blooms Jan-Jun	Not Expected	There are 14 known CNDDB occurrences within 5 miles, however no suitable closed-cone coniferous forest habitat present.
Arctostaphylos montereyensis Toro manzanita	None/None G2?/S2? 1B.2 BLM_S-Sensitive | SB_SBBG-Santa Barbara Botanic Garden	Chaparral (maritime), Cismontane woodland, Coastal scrub. sandy. 30 - 730 m. perennial evergreen shrub. Blooms Feb-Mar	Not Expected	There are 4 known CNDDB occurrences within 5 miles, however suitable habitats with sandy bare soils are not present, and there are no known occurrences from Carmel Valley.
Arctostaphylos pajaroensis Pajaro manzanita	None/None G1/S1 1B.1 BLM_S-Sensitive	Chaparral (sandy). 30 - 760 m. perennial evergreen shrub. Blooms Dec-Mar	Not Expected	There are 2 known CNDDB occurrences within 5 miles, however suitable habitats with sandy bare soils are not present, and there are no known occurrences from Carmel Valley.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Arctostaphylos pumila sandmat manzanita	None/None G1/S1 1B.2 BLM_S-Sensitive | SB_SBBG-Santa Barbara Botanic Garden	Closed-cone coniferous forest, Chaparral (maritime), Cismontane woodland, Coastal dunes, Coastal scrub. sandy, openings. 3 - 205 m. perennial evergreen shrub. Blooms Feb-May	Not Expected	There are 8 known CNDDB occurrences within 5 miles, however no suitable closed-cone coniferous forest present.
Astragalus tener var. *titi* coastal dunes milk-vetch	FE/CE G2T1/S1 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	Coastal bluff scrub (sandy), Coastal dunes, Coastal prairie (mesic). often vernally mesic areas. 1 - 50 m. annual herb. Blooms Mar-May	Not Expected	Coastal bluff scrub habitat is not present, and no CNDDB known occurrences within 5 miles.
Bryoria spiralifera twisted horsehair lichen	None/None G3/S1S2 1B.1	North Coast coniferous forest (immediate coast). Usually on conifers. 0 - 30 m. fruticose lichen (epiphytic). Blooms	Not Expected	There is 1 known CNDDB occurrence within 5 miles, however North Coast coniferous forests are not present.
Castilleja ambigua var. *insalutata* pink Johnny-nip	None/None G4T2/S2 1B.1	Coastal prairie, Coastal scrub. 0 - 100 m. annual herb (hemiparasitic). Blooms May-Aug	Not Expected	There are 5 known CNDDB occurrences within 5 miles, however natural scrub habitats are not present.
Centromadia parryi ssp. *congdonii* Congdon's tarplant	None/None G3T1T2/S1S2 1B.1 BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden	Valley and foothill grassland (alkaline). 0 - 230 m. annual herb. Blooms May-Oct(Nov)	Not Expected	This species is known to occur in disturbed areas, however there are no known CNDDB occurrences within 5 miles.
Chorizanthe minutiflora Fort Ord spineflower	None/None G1/S1 1B.2 SB_SBBG-Santa Barbara Botanic Garden	Chaparral (maritime), Coastal scrub. Sandy openings. 55 - 150 m. annual herb. Blooms Apr-Jul	Not Expected	There are no known CNDDB occurrences within 5 miles and this species is only known from the former Fort Ord.
Chorizanthe pungens var. *pungens* Monterey spineflower	FT/None G2T2/S2 1B.2 SB_SBBG-Santa Barbara Botanic Garden | SB_UCBBG-UC Berkeley Botanical Garden	Chaparral (maritime), Cismontane woodland, Coastal dunes, Coastal scrub, Valley and foothill grassland. sandy. 3 - 450 m. annual herb. Blooms Apr-Jun(Jul-Aug)	Not Expected	There are 6 known CNDDB occurrences within 5 miles, however suitable habitats with sandy bare soils are not present, and there are no known occurrences from Carmel Valley.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Chorizanthe robusta var. *robusta* robust spineflower	FE/None G2T1/S1 1B.1 BLM_S-Sensitive	Chaparral (maritime), Cismontane woodland (openings), Coastal dunes, Coastal scrub. sandy or gravelly. 3 - 300 m. annual herb. Blooms Apr-Sep	Not Expected	There are no known CNDDB occurrences within 5 miles.
Clarkia jolonensis Jolon clarkia	None/None G2/S2 1B.2 SB_SBBG-Santa Barbara Botanic Garden | USFS_S-Sensitive	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland. 20 - 660 m. annual herb. Blooms Apr-Jun	Not Expected	There are 3 known CNDDB occurrences within 5 miles, however there are no known occurrences from the Carmel Valley and suitable habitat is not present.
Collinsia multicolor San Francisco collinsia	None/None G2/S2 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden | SB_UCSC-UC Santa Cruz	Closed-cone coniferous forest, Coastal scrub. sometimes serpentinite. 30 - 250 m. annual herb. Blooms (Feb)Mar-May	Not Expected	There are no known CNDDB occurrences within 5 miles and suitable closed-cone coniferous forest habitat is not present.
Cordylanthus rigidus ssp. *littoralis* seaside bird's-beak	None/CE G5T2/S2 1B.1 BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden | SB_SBBG-Santa Barbara Botanic Garden	Closed-cone coniferous forest, Chaparral (maritime), Cismontane woodland, Coastal dunes, Coastal scrub. sandy, often disturbed sites. 0 - 515 m. annual herb (hemiparasitic). Blooms Apr-Oct	Not Expected	There are 3 known CNDDB occurrences within 5 miles, however suitable closed-cone coniferous forest habitat is not present.
Delphinium californicum ssp. *interius* Hospital Canyon larkspur	None/None G3T3/S3 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral (openings), Cismontane woodland (mesic), Coastal scrub. 195 - 1095 m. perennial herb. Blooms Apr-Jun	Not Expected	There is one known CNDDB occurrence within 5 miles, however the occurrence is Historical (1988) and suitable habitat is not present.
Delphinium hutchinsoniae Hutchinson's larkspur	None/None G2/S2 1B.2 USFS_S-Sensitive	Broadleafed upland forest, Chaparral, Coastal prairie, Coastal scrub. 0 - 427 m. perennial herb. Blooms Mar-Jun	Not Expected	There are 9 known CNDDB occurrences within 5 miles, however there are no known occurrences from Carmel Valley and suitable habitat is not present.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Delphinium umbraculorum umbrella larkspur	None/None G3/S3 1B.3 BLM_S-Sensitive | USFS_S-Sensitive	Chaparral, Cismontane woodland. 400 - 1600 m. perennial herb. Blooms Apr-Jun	Not Expected	There are no known CNDDB occurrences within 5 miles and the site is out of the species elevation range.
Ericameria fasciculata Eastwood's goldenbush	None/None G2/S2 1B.1 BLM_S-Sensitive	Closed-cone coniferous forest, Chaparral (maritime), Coastal dunes, Coastal scrub. sandy, openings. 30 - 275 m. perennial evergreen shrub. Blooms Jul-Oct	Not Expected	There are 6 known CNDDB occurrences within 5 miles, including one occurrence west of the site. However, occurrence is from 1913 from an unspecified location (accuracy 1 mile).
Eriogonum nortonii Pinnacles buckwheat	None/None G2/S2 1B.3	Chaparral, Valley and foothill grassland. sandy, often on recent burns. 300 - 975 m. annual herb. Blooms (Apr)May-Aug(Sep)	Not Expected	There are 4 known CNDDB occurrences within 5 miles however the site is out of this species elevation range.
Erysimum ammophilum sand-loving wallflower	None/None G2/S2 1B.2 BLM_S-Sensitive | SB_CRES-San Diego Zoo CRES Native Gene Seed Bank | SB_SBBG-Santa Barbara Botanic Garden	Chaparral (maritime), Coastal dunes, Coastal scrub. sandy, openings. 0 - 60 m. perennial herb. Blooms Feb-Jun	Not Expected	There are 4 known CNDDB occurrences within 5 miles, however suitable habitats with sandy bare soils are not present, there are no known occurrences from Carmel Valley.
Erysimum menziesii Menzies wallflower	FE/CE G1/S1 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden | SB_UCBBG-UC Berkeley Botanical Garden	Coastal dunes. 0 - 35 m. perennial herb. Blooms Mar-Sep	Not Expected	There is one known CNDDB occurrence within 5 miles, however suitable coastal dune habitat is not present.
Fritillaria liliacea fragrant fritillary	None/None G2/S2 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Cismontane woodland, Coastal prairie, Coastal scrub, Valley and foothill grassland. Often serpentinite. 3 - 410 m. perennial bulbiferous herb. Blooms Feb-Apr	Not Expected	There is one known CNDDB occurrence within 5 miles, however occurrence is from 1940 from an unspecified location west of the site.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Galium clementis Santa Lucia bedstraw	None/None G2/S2 1B.3 USFS_S-Sensitive	Lower montane coniferous forest, Upper montane coniferous forest. granitic or serpentinite, rocky. 1130 - 1780 m. perennial herb. Blooms (Apr)May-Jul	Not Expected	There are no known CNDDB occurrences within 5 miles and the site is out of this species elevation range.
Gilia tenuiflora ssp. *arenaria* Monterey gilia	FE/CT G3G4T2/S2 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral (maritime), Cismontane woodland, Coastal dunes, Coastal scrub. sandy, openings. 0 - 45 m. annual herb. Blooms Apr-Jun	Not Expected	There are 3 known CNDDB occurrences within 5 miles, however suitable habitats with sandy bare soils are not present, there are no known occurrences from Carmel Valley.
Hesperocyparis goveniana Gowen cypress	FT/None G1/S1 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden | SB_UCSC-UC Santa Cruz	Closed-cone coniferous forest, Chaparral (maritime). 30 - 300 m. perennial evergreen tree. Blooms	Not Expected	There are 3 known CNDDB occurrences within 5 miles, however there are no known occurrences from Carmel Valley.
Hesperocyparis macrocarpa Monterey cypress	None/None G1/S1 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	Closed-cone coniferous forest. 10 - 30 m. perennial evergreen tree. Blooms	Not Expected	There are 2 known CNDDB occurrences within 5 miles and this species was observed on-site, however these individuals are part of landscape plantings and do not function as a natural cypress forest.
Horkelia cuneata var. *sericea* Kellogg's horkelia	None/None G4T1?/S1? 1B.1 SB_UCSC-UC Santa Cruz | USFS_S-Sensitive	Closed-cone coniferous forest, Chaparral (maritime), Coastal dunes, Coastal scrub. sandy or gravelly, openings. 10 - 200 m. perennial herb. Blooms Apr-Sep	Not Expected	There are 4 known CNDDB occurrences within 5 miles, however suitable habitats with sandy bare soils are not present, there are no known occurrences from Carmel Valley.
Horkelia marinensis Point Reyes horkelia	None/None G2/S2 1B.2	Coastal dunes, Coastal prairie, Coastal scrub. sandy. 5 - 755 m. perennial herb. Blooms May-Sep	Not Expected	There are no known CNDDB occurrences within 5 miles and no suitable coastal dune habitat present.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Lasthenia conjugens Contra Costa goldfields	FE/None G1/S1 1B.1 SB_UCBBG-UC Berkeley Botanical Garden	Cismontane woodland, Playas (alkaline), Valley and foothill grassland, Vernal pools. mesic. 0 - 470 m. annual herb. Blooms Mar-Jun	Not Expected	Vernal pools are not present and there are no known CNDDB occurrences within 5 miles.
Layia carnosa beach layia	FE/CE G2/S2 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden | SB_SBBG-Santa Barbara Botanic Garden	Coastal dunes, Coastal scrub (sandy). 0 - 60 m. annual herb. Blooms Mar-Jul	Not Expected	There is one known CNDDB occurrence within 5 miles, however no suitable coastal dune habitat present.
Lupinus tidestromii Tidestrom's lupine	FE/CE G1/S1 1B.1	Coastal dunes. 0 - 100 m. perennial rhizomatous herb. Blooms Apr-Jun	Not Expected	There are 2 known CNDDB occurrences within 5 miles, however suitable coastal dune habitats are not present.
Malacothamnus palmeri var. *involucratus* Carmel Valley bush-mallow	None/None G3T2Q/S2 1B.2 BLM_S-Sensitive | USFS_S-Sensitive	Chaparral, Cismontane woodland, Coastal scrub. 30 - 1100 m. perennial deciduous shrub. Blooms Apr-Oct	Not Expected	There are 7 known CNDDB occurrences within 5 miles, however suitable habitat is not present and this species was not observed on site.
Malacothamnus palmeri var. *palmeri* Santa Lucia bush-mallow	None/None G3T2Q/S2 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden | SB_SBBG-Santa Barbara Botanic Garden | USFS_S-Sensitive	Chaparral (rocky). 60 - 360 m. perennial deciduous shrub. Blooms May-Jul	Not Expected	Rocky chaparral habitats are not present and there are no known CNDDB occurrences within 5 miles.
Malacothrix saxatilis var. *arachnoidea* Carmel Valley malacothrix	None/None G5T2/S2 1B.2 BLM_S-Sensitive | USFS_S-Sensitive	Chaparral (rocky), Coastal scrub. 25 - 1036 m. perennial rhizomatous herb. Blooms (Mar)Jun-Dec	Not Expected	There are 2 known CNDDB occurrences within 5 miles, both within the Carmel Valley, however suitable habitats are not present.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Microseris paludosa marsh microseris	None/None G2/S2 1B.2 SB_SBBG-Santa Barbara Botanic Garden | SB_UCSC-UC Santa Cruz	Closed-cone coniferous forest, Cismontane woodland, Coastal scrub, Valley and foothill grassland. 5 - 355 m. perennial herb. Blooms Apr-Jun(Jul)	Not Expected	There are 6 known CNDDB occurrences within 5 miles, however there are no known occurrences from Carmel Valley and suitable habitats are not present.
Monardella sinuata ssp. *nigrescens* northern curly-leaved monardella	None/None G3T2/S2 1B.2 SB_SBBG-Santa Barbara Botanic Garden	Chaparral (SCR Co.), Coastal dunes, Coastal scrub, Lower montane coniferous forest (SCR Co., ponderosa pine sandhills). Sandy. 0 - 300 m. annual herb. Blooms (Apr)May-Jul(Aug-Sep)	Not Expected	There are 3 known CNDDB occurrences within 5 miles, however suitable habitats with sandy bare soils are not present, there are no known occurrences from Carmel Valley.
Monolopia gracilens woodland woolythreads	None/None G3/S3 1B.2	Broadleafed upland forest (openings), Chaparral (openings), Cismontane woodland, North Coast coniferous forest (openings), Valley and foothill grassland. Serpentine. 100 - 1200 m. annual herb. Blooms (Feb)Mar-Jul	Not Expected	There is one known CNDDB occurrence within 5 miles, however suitable habitats on serpentine soils are not present.
Pinus radiata Monterey pine	None/None G1/S1 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden | SB_UCSC-UC Santa Cruz	Closed-cone coniferous forest, Cismontane woodland. 25 - 185 m. perennial evergreen tree. Blooms	Not Expected	There are 2 known CNDDB occurrences within 5 miles, and this species was observed on-site, however these individuals are part of landscape plantings and do not function as a natural pine forest.
Piperia yadonii Yadon's rein orchid	FE/None G1/S1 1B.1	Coastal bluff scrub, Closed-cone coniferous forest, Chaparral (maritime). sandy. 10 - 755 m. perennial herb. Blooms (Feb)May-Aug	Not Expected	There are 14 known CNDDB occurrences within 5 miles, however suitable habitats with sandy bare soils are not present, there are no known occurrences from Carmel Valley.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Plagiobothrys uncinatus hooked popcornflower	None/None G2/S2 1B.2 BLM_S-Sensitive | USFS_S-Sensitive	Chaparral (sandy), Cismontane woodland, Valley and foothill grassland. 300 - 760 m. annual herb. Blooms Apr-May	Not Expected	Sandy chaparral habitats are not present and there are no known CNDDB occurrences within 5 miles.
Potentilla hickmanii Hickman's cinquefoil	FE/CE G1/S1 1B.1	Coastal bluff scrub, Closed-cone coniferous forest, Meadows and seeps (vernally mesic), Marshes and swamps (freshwater). 10 - 149 m. perennial herb. Blooms Apr-Aug	Not Expected	There are 3 known CNDDB occurrences within 5 miles, however suitable mesic sites are not present.
Ramalina thrausta angel's hair lichen	None/None G5/S2? 2B.1	North Coast coniferous forest. On dead twigs and other lichens. 75 - 430 m. fruticose lichen (epiphytic). Blooms	Not Expected	There is one known CNDDB occurrence within 5 miles, however suitable coniferous forest habitat not present.
Rosa pinetorum pine rose	None/None G2/S2 1B.2	Closed-cone coniferous forest, Cismontane woodland. 2 - 945 m. perennial shrub. Blooms May,Jul	Not Expected	There are 8 known CNDDB occurrences within 5 miles, however suitable coniferous forest habitat is not present.
Stebbinsoseris decipiens Santa Cruz microseris	None/None G2/S2 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden | SB_UCSC-UC Santa Cruz	Broadleafed upland forest, Closed-cone coniferous forest, Chaparral, Coastal prairie, Coastal scrub, Valley and foothill grassland. open areas, sometimes serpentinite. 10 - 500 m. annual herb. Blooms Apr-May	Not Expected	There is one known CNDDB occurrence within 5 miles, however occurrence is from 1978 and there are no known occurrences from Carmel Valley.
Tortula californica California screw-moss	None/None G2G3/S2S3 1B.2 BLM_S-Sensitive	Chenopod scrub, Valley and foothill grassland. sandy, soil. 10 - 1460 m. moss. Blooms	Not Expected	Suitable chenopod scrub habitats are not present and there are no known CNDDB occurrences within 5 miles.
Trifolium buckwestiorum Santa Cruz clover	None/None G2/S2 1B.1 BLM_S-Sensitive | SB_SBBG-Santa Barbara Botanic Garden | SB_UCSC-UC Santa Cruz | SB_USDA-US Dept of Agriculture	Broadleafed upland forest, Cismontane woodland, Coastal prairie. gravelly, margins. 105 - 610 m. annual herb. Blooms Apr-Oct	Not Expected	There is one known CNDDB occurrence within 5 miles, however suitable woodlands are not present.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Trifolium hydrophilum saline clover	None/None G2/S2 1B.2	Marshes and swamps, Valley and foothill grassland (mesic, alkaline), Vernal pools. 0 - 300 m. annual herb. Blooms Apr-Jun	Not Expected	Suitable marsh and swamp habitats are not present and there are no known CNDDB occurrences within 5 miles.
Trifolium polyodon Pacific Grove clover	None/CR G1/S1 1B.1 BLM_S-Sensitive | SB_USDA-US Dept of Agriculture	Closed-cone coniferous forest, Coastal prairie, Meadows and seeps, Valley and foothill grassland. mesic, sometimes granitic. 5 - 425 m. annual herb. Blooms Apr-Jun(Jul)	Not Expected	There are 8 known CNDDB occurrences within 5 miles, however suitable woodlands are not present.
Trifolium trichocalyx Monterey clover	FE/CE G1/S1 1B.1 SB_USDA-US Dept of Agriculture	Closed-cone coniferous forest (sandy, openings, burned areas). 30 - 305 m. annual herb. Blooms Apr-Jun	Not Expected	Suitable habitats are not present and there are no known CNDDB occurrences within 5 miles.

Regional Vicinity refers to within a 9-quad search radius of site.

FE = Federally Endangered FT = Federally Threatened FC = Federal Candidate Species

SE = State Endangered ST = State Threatened SC = State Candidate SR = State Rare

CRPR (CNPS California Rare Plant Rank):

1A=Presumed Extinct in California

1B=Rare, Threatened, or Endangered in California and elsewhere

2A=Plants presumed extirpated in California, but more common elsewhere

2B=Plants Rare, Threatened, or Endangered in California, but more common elsewhere

CRPR Threat Code Extension:

.1=Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2=Fairly endangered in California (20-80% occurrences threatened)

.3=Not very endangered in California (<20% of occurrences threatened)

Special Status Animal Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Invertebrates				
Bombus occidentalis western bumble bee	None/Candidate Endangered G2G3/S1 USFS_S-Sensitive | XERCES_IM-Imperiled	Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	Low Potential	There are 2 known CNDDB occurrences within 5 miles and flowering plants are present year-round within developed and landscaped areas.
Danaus plexippus pop. 1 monarch - California overwintering population	None/None G4T2T3/S2S3 USFS_S-Sensitive	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Not Expected	There are 6 known CNDDB occurrences within 5 miles, however the site does not contain suitable wintering habitat.
Euphilotes enoptes smithi Smith's blue butterfly	Endangered/ None G5T1T2/S1S2 XERCES_CI-Critically Imperiled	Most commonly associated with coastal dunes & coastal sage scrub plant communities in Monterey & Santa Cruz counties. Hostplant: *Eriogonum latifolium* and *Eriogonum parvifolium* are utilized as both larval and adult foodplants.	Low Potential	There are 16 known CNDDB occurrences within 5 miles, one of which is within the Carmel Valley, east of the site, however no coastal sage brush habitat is present.
Linderiella occidentalis California linderiella	None/None G2G3/S2S3 IUCN_NT-Near Threatened	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity, conductivity, and total dissolved solids.	Not Expected	Suitable habitat not present and there are no known CNDDB occurrences within 5 miles.
Fish				
Eucyclogobius newberryi tidewater goby	Endangered/ None G3/S3 AFS_EN-Endangered | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	Not Expected	There are no known CNDDB occurrences within 5 miles and suitable brackish water habitat not present.
Oncorhynchus mykiss irideus pop. 9 steelhead - south-central California coast DPS	Threatened/None G5T2Q/S2 AFS_TH-Threatened	Federal listing refers to runs in coastal basins from the Pajaro River south to, but not including, the Santa Maria River.	Not Expected	There is one known CNDDB occurrence within 5 miles within the Carmel River. However, no suitable habitat present.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Amphibians				
Ambystoma californiense California tiger salamander	Threatened/ Threatened G2G3/S2S3 CDFW_WL-Watch List | IUCN_VU-Vulnerable	Central Valley DPS federally listed as threatened. Santa Barbara and Sonoma counties DPS federally listed as endangered. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	Not Expected	There are 7 known CNDDB occurrences within 5 miles, however none from Carmel Valley. The closest occurrence is ~1.76 miles to the south from Palo Corona Ranch, and there are barriers for movement (the Carmel River and developed areas) over much of the study area.
Rana boylii foothill yellow-legged frog	None/Candidate Threatened G3/S3 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened | USFS_S-Sensitive	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	Not Expected	There are 4 known CNDDB occurrences within 5 miles, including one occurrence within the Carmel River approximately 2 miles southeast of the site. However, this occurrence is from 1904 and is possibly extirpated, and suitable aquatic habitat is not present.
Rana draytonii California red-legged frog	Threatened/None G2G3/S2S3 CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Presumed Present	There are 17 known CNDDB occurrences within 5 miles, including numerous sightings in the Carmel River. Additionally, this species was observed outside of the study area in a pond within the former golf course golf course.
Taricha torosa Coast Range newt	None/None G4/S4 CDFW_SSC-Species of Special Concern	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats & will migrate over 1 km to breed in ponds, reservoirs & slow moving streams.	Low Potential	There are 2 known CNDDB occurrences within 5 miles and the Carmel River provides suitable habitat.
Reptiles				
Anniella pulchra northern California legless lizard	None/None G3/S3 CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	Not Expected	There are 9 known CNDDB occurrences within 5 miles, including one in Carmel Valley approximately 4 miles east of the study area, however suitable habitat with sandy soils is not present.
Emys marmorata western pond turtle	None/None G3G4/S3 BLM_S-Sensitive | CDFW_SSC-	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking	Moderate Potential	There are 6 known CNDDB occurrences within 5 miles, including numerous sightings in the Carmel

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
	Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.		River, east of the study area.
Phrynosoma blainvillii coast horned lizard	None/None G3G4/S3S4 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Not Expected	There are no known CNDDB occurrences within 5 miles, however the site does not contain suitable open sandy areas.
Birds				
Agelaius tricolor tricolored blackbird	None/Threatened G2G3/S1S2 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Low Potential	There are no known CNDDB occurrences within 5 miles, however emergent vegetation is present.
Athene cunicularia burrowing owl	None/None G4/S3 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Not Expected	There is one known CNDDB occurrence within 5 miles, however no known occurrences within the Carmel Valley, and the study area is largely developed or landscaped.
Charadrius alexandrinus nivosus western snowy plover	Threatened/None G3T3/S2S3 CDFW_SSC-Species of Special Concern | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Not Expected	There are no known CNDDB occurrences within 5 miles and the study area does not provide suitable breeding habitat.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Coturnicops noveboracensis yellow rail	None/None G4/S1S2 CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | NABCI_RWL-Red Watch List | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Summer resident in eastern Sierra Nevada in Mono County. Freshwater marshlands.	Not Expected	There is one known CNDDB occurrence within 5 miles, however marshes are not present.
Cypseloides niger black swift	None/None G4/S2 CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | NABCI_YWL-Yellow Watch List | USFWS_BCC-Birds of Conservation Concern	Coastal belt of Santa Cruz and Monterey counties; central & southern Sierra Nevada; San Bernardino & San Jacinto mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.	Not Expected	There is one known CNDDB occurrence within 5 miles, however cliff breeding habitats are not present.
Laterallus jamaicensis coturniculus California black rail	None/Threatened G3G4T1/S1 BLM_S-Sensitive | CDFW_FP-Fully Protected | IUCN_NT-Near Threatened | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Not Expected	There are no known CNDDB occurrences within 5 miles and marshes are not present.
Oceanodroma homochroa ashy storm-petrel	None/None G2/S2 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | NABCI_RWL-Red Watch List | USFWS_BCC-Birds	Colonial nester on off-shore islands. Usually nests on driest part of islands. Forages over open ocean. Nest sites on islands are in crevices beneath loosely piled rocks or driftwood, or in caves.	Not Expected	There are no known CNDDB occurrences within 5 miles and suitable breeding habitats are not present.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
	of Conservation Concern			
Pelecanus occidentalis californicus California brown pelican	Delisted/Delisted G4T3T4/S3 BLM_S-Sensitive | CDFW_FP-Fully Protected | USFS_S-Sensitive	Colonial nester on coastal islands just outside the surf line. Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	Not Expected	There are 2 known CNDDB occurrences within 5 miles, however suitable breeding habitats are not present.
Mammals				
Corynorhinus townsendii Townsend's big-eared bat	None/None G3G4/S2 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Not Expected	There is one known occurrence within 5 miles, however suitable day roost sites are not present.
Sorex ornatus salarius Monterey shrew	None/None G5T1T2/S1S2 CDFW_SSC-Species of Special Concern	Riparian, wetland & upland areas in the vicinity of the Salinas River delta. Prefers moist microhabitats. feeds on insects & other invertebrates found under logs, rocks & litter.	Low Potential	There are 4 known CNDDB occurrences within 5 miles and suitable riparian habitat is present, however there are no known occurrences from Carmel Valley.
Taxidea taxus American badger	None/None G5/S3 CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Low Potential	There is one known CNDDB occurrence within 5 miles and suitable habitat is present in the vicinity of the study area, however there are no known occurrences from Carmel Valley.

Regional Vicinity refers to within a 9-quad search radius of site.

FE = Federally Endangered FT = Federally Threatened FC = Federal Candidate Species FS=Federally Sensitive

SE = State Endangered ST = State Threatened SC = State Candidate SS=State Sensitive

SSC = CDFW Species of Special Concern SFP = State Fully Protected

Appendix C

Roadway Construction Noise Model Results

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 07/20/2020
Case Description: 19-07951 CAWD Pipeline Replacement (Trenchless Installation)

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Community Church of Monterey Peninsula	Commercial	65.0	55.0	55.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	370.0	0.0
Front End Loader	No	40		79.1	370.0	0.0
Excavator	No	40		80.7	370.0	0.0
Concrete Saw	No	20		89.6	370.0	0.0
All Other Equipment > 5 HP	No	50	85.0		370.0	0.0
Paver	No	50		77.2	370.0	0.0
Roller	No	20		80.0	370.0	0.0
Paver	No	50		77.2	370.0	0.0

Results

Noise Limits (dBA)			Noise Limit Exceedance (dBA)		
Description	Evening	Night	Daytime	Evening	Night
Community Church of Monterey Peninsula	55.0	55.0			

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Lmax	Leq	Lmax	Leq
Backhoe	60.2	56.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	61.7	57.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	63.3	59.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	72.2	65.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HP	67.6	64.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	59.8	56.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	62.6	55.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	59.8	56.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	72.2	69.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Hacienda Carmel Housing	Residential	65.0	55.0	55.0

Equipment Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	50.0	0.0
Front End Loader	No	40		79.1	50.0	0.0
Excavator	No	40		80.7	50.0	0.0
Concrete Saw	No	20		89.6	50.0	

0.0
All Other Equipment > 5 HP No 50 85.0 50.0
0.0
Paver No 50 77.2 50.0
0.0
Roller No 20 80.0 50.0
0.0
Paver No 50 77.2 50.0
0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Calculated (dBA) Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	89.6	82.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HP	85.0	82.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	80.0	73.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	89.6	87.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 07/20/2020
Case Description: 19-07951 CAWD Pipeline Replacement (Trenchless Installation)

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Community Church of Monterey Peninsula	Commercial	65.0	55.0	55.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	370.0	0.0
Front End Loader	No	40		79.1	370.0	0.0
Excavator	No	40		80.7	370.0	0.0
Concrete Saw	No	20		89.6	370.0	0.0
All Other Equipment > 5 HP	No	50	85.0		370.0	0.0
Paver	No	50		77.2	370.0	0.0
Roller	No	20		80.0	370.0	0.0
Paver	No	50		77.2	370.0	0.0

Results

Noise Limits (dBA)			Noise Limit Exceedance (dBA)		
Description	Evening	Night	Daytime	Evening	Night
Community Church of Monterey Peninsula	55.0	55.0			

	Calculated (dBA)				Day		Evening	
Night	Day		Evening		Night			
	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
Backhoe	60.2	56.2	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Front End Loader	61.7	57.7	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Excavator	63.3	59.3	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Concrete Saw	72.2	65.2	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
All Other Equipment > 5 HP	67.6	64.6	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Paver	59.8	56.8	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Roller	62.6	55.6	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Paver	59.8	56.8	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Total	72.2	69.7	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

**** Receptor #2 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
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Hacienda Carmel Housing	Residential	65.0	55.0	55.0

	Equipment						
				Spec	Actual	Receptor	Estimated
	Impact	Usage	Lmax	Lmax	Distance	Shielding	
Description	Device	(%)	(dBA)	(dBA)	(feet)	(dBA)	
---	---	---	---	---	---	---	
Backhoe	No	40		77.6	1000.0	0.0	
Front End Loader	No	40		79.1	1000.0	0.0	
Excavator	No	40		80.7	1000.0	0.0	
Concrete Saw	No	20		89.6	1000.0		

0.0
All Other Equipment > 5 HP No 50 85.0 1000.0
0.0
Paver No 50 77.2 1000.0
0.0
Roller No 20 80.0 1000.0
0.0
Paver No 50 77.2 1000.0
0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Calculated (dBA) Day Leq	Calculated (dBA) Evening Lmax	Calculated (dBA) Evening Leq	Calculated (dBA) Night Lmax	Calculated (dBA) Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Backhoe	51.5	47.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	53.1	49.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	54.7	50.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	63.6	56.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HP	59.0	56.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	51.2	48.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	54.0	47.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	51.2	48.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	63.6	61.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A