
Final Initial Study/Mitigated Negative Declaration
for the
El Granada Pipeline Replacement Final Phase Project

HALF MOON BAY, SAN MATEO COUNTY
CALIFORNIA

Prepared For:

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Date:

October 2015



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Appendices

Appendix A – Biological Resource Evaluation

LIST OF ACRONYMS AND ABBREVIATIONS

CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife (formerly California Department of Fish and Game [CDFG])
CDFG ESD	California Department of Fish and Game Environmental Services Division
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
City	City of Half Moon Bay
Corps	United States Army Corps of Engineers
CRLF	California red-legged frog
CWA	Clean Water Act
EPA	United States Environmental Protection Agency
ESHA	Environmentally Sensitive Habitat Area
FESA	Federal Endangered Species Act
LCP	Local Coastal Program
MBTA	Migratory Bird Treaty Act
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWPL	National Wetland Plant List
OHWM	Ordinary High Water Mark
PCE	Primary Constituent Element
PPT	Pacific pond turtle
RPW	Relatively permanent water
RWQCB	Regional Water Quality Control Board
SCS	Soil Conservation Service
SFGS	San Francisco garter snake
SWRCB	State Water Resources Control Board
TNW	Traditionally navigable waters
ToB	Top of Bank
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WBWG	Western Bat Working Group
WRA	WRA, Inc.

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Coastside County Water District

Initial Study/Mitigated Negative Declaration

BACKGROUND

1. **Project Title:** El Granada Pipeline Replacement Final Phase Project
2. **Lead Agency and Project Applicant:** Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019
3. **Contact Person and Phone Number:** David Dickson, General Manager
(650) 726-4405
ddickson@coastsidewater.org
4. **Project Location:** Main Street / Purissima Street / Mill Street, Half Moon Bay, CA

5. Description of Project:

The El Granada Pipeline Replacement Final Phase ("Project") will replace Coastside County Water District's ("District's") existing 10-inch welded steel pipeline mounted underneath the western walkway on the City of Half Moon Bay's ("City's") Main Street Bridge, which crosses Pilarcitos Creek ("creek"). The existing pipeline is the principal supply to the southern side of the District's distribution system and was constructed in 1948. With the exception of the section mounted on the bridge, the District has replaced the original pipeline with 16-inch ductile iron pipe. The District had planned to replace the remaining original section of the Pipeline in conjunction with the construction of a new Main Street Bridge. Subsequent to the vote on Measure F on June 2, 2014, the citizen-sponsored Main Street Bridge Preservation Act (MSBPA) was adopted by the City Council at their regularly scheduled meeting on June 17, 2014, as Ordinance No. C-2014-07 in lieu of being placed before voters at the November 2014 statewide election. This action has the same force as if the voters had approved the MSBPA. The MSBPA amended Policy 7-8 "Visual Resources" of the Local Coastal Plan Land Use Plan (LCP/LUP) and Chapter 18.39 "Historical Resources Preservation" of the Zoning Code. The City submitted the Amendments to the Coastal Commission for certification, and Commission certification of the Amendments has now been completed. ~~However, due to local ballot opposition to the bridge replacement, it is difficult to predict when the bridge will be replaced or upgraded.~~ Consequently, the District has decided to replace and realign the original 10-inch welded steel water main section with a new 16-inch (nominal inner diameter) pipeline that will cross under Pilarcitos Creek.

The new alignment will tie into the existing pipeline beginning at Main Street directly north of the Main Street Bridge, extend through private property on the north side of Pilarcitos Creek within a new easement, cross south under the creek to the Purissima Street cul-de-sac, extend south along Purissima Street to Mill Street, and east along Mill Street to Main Street. The new water main will tie into the existing 16-inch ductile iron pipeline on Main Street at both its upstream and downstream ends. The approximately 420-foot long section crossing under Pilarcitos Creek will be nominal 20-inch diameter (16-inch nominal inner diameter) high density polyethylene ("HDPE") pipe installed by horizontal directional drilling ("HDD"). A 15-foot minimum cover will be maintained under the flow line of the creek. The HDD installation

process will include drilling a pilot bore from the north side of the creek, multiple reaming passes to enlarge the bore, and pulling back the welded HDPE pipe from the south side of the creek. Drilling fluids will be treated in a separation plant and recirculated during the installation and, at the completion of the project, disposed off-site at a facility permitted to accept the drilling fluids.

Pullback of the pipe must be continuous; therefore the HDPE pipe sections will be welded together in a single section prior to pullback. Welding of the HDPE pipe will occur in the HDD staging area south of the creek north of Mill Street until 24-hours prior to pullback, at which point the contractor may stage the pipe across Mill Street to complete the pipe welding. Mill Street should not be blocked for more than 26 hours.

The remaining alignment will be approximately 700 feet of 16-inch ductile iron pipe ("DIP") installed by open cut and cover method. The open trench section north of the creek will tie into the HDD section at a depth of approximately 14 feet below grade. Approximately 60 feet of the HDD Section will be removed between the HDD entry point at the ground surface and the tie-in to the open trench section north of the creek. The open trench section south of the creek will connect to the HDD section at a depth of approximately five feet below grade, and approximately five feet of the HDD section will be removed between the HDD exit point and the connection to the open trench section south of the creek.

The existing water services will be replaced and two new fire service connections will be added on Purissima Street. Approximately 130 feet of 6-inch DIP will be installed parallel to the HDD section from the north end of Purissima Street to the interface of the HDD and open-trench sections south of the creek in order to connect the existing water services at the north end of Purissima Street to the new water main. This section will be installed by open cut and cover method. In addition, a new fire hydrant will be installed on Main Street south of Main Street Bridge. All fittings and valves will have restrained joints and concrete thrust blocks.

The existing pipeline on Main Street will be drained, capped, and abandoned in place between the connection of the new main north of the creek and the connection of the emergency tie-in south of the creek. The existing 2-inch water main on Purissima Street will be capped and abandoned in place between the Mill Street and the cul-de-sac adjacent to the southern bank of the creek.

Excavated soil will be removed from the site and all fill will be non-recycled material brought onto the site. All trenches will be filled and repaved to match the existing grades and surfaces. Any curbs, gutters, sidewalks, or other surface features damaged during construction will be repaired or replaced in kind. Construction activities will be maintained outside of a 15-foot buffer from the creek top of bank. A silt fence will be installed and maintained at the 15-foot buffer line. The project would require approximately 600 cubic yards (CY) of cut material, assumed to be disposed of at the Ox Mountain Sanitary Landfill, located two miles northeast of Half Moon Bay. Approximately, 50 CY of sand bedding material would be imported, along with 550 CY of aggregate base.

It is anticipated that construction of the proposed project would require approximately two months, beginning in January 2016. Project construction would occur from approximately from ~~7 a.m.~~ 8 a.m. to 6 p.m. Monday through Friday; 8 a.m. to 6 p.m. Saturdays; and 10 a.m. to 6 p.m. Sundays and holidays unless otherwise approved in writing by the Director of Public Works. Nighttime construction may be necessary during the HDD pullback phase. The District will notify the Director of Public Works to acquire necessary approvals.

The construction contractor will be responsible for complying with all terms of the contract specifications and drawings. Best management practices (BMPS) to be identified in the contract specifications and drawings include, but are not limited to the following (BMPS):

- Identify locations of other existing underground pipelines in the proposed alignment and take necessary precautions to avoid damaging the pipelines or interfering with their service.
- Maintain water service in the project site at all times, except for short term outages during construction work hours approved in advance by the District.
- Minimize discharge of materials in storm water in accordance with the District's Storm Water Management and Discharge Rules and Regulations.
- Use traffic cones, signs, lighted barricades, lights, and flagmen as described and specified in the Manual of Uniform Traffic Control Devices, current edition, California Supplement, Part 6 Temporary Traffic Control to provide for public safety and convenience during construction.
- Maintain convenient access to driveways and streets near the work area unless otherwise approved by the City in advance.
- Lane closure or traffic detours on City of Half Moon Bay streets require prior approval of the City. The City will need to grant permission for excavation in the streets, typically in the form of an Encroachment Permit.
- Cover, fence, and guard, as appropriate, open excavation and ditches across roadways in such a manner as to permit safe traffic flow during hours when no work is being performed and to prevent accidents from people or animals falling into the trenches.
- Restore street/surface improvements to pre-disturbance conditions or better.

The contractor will also implement measures during construction to maintain safety, minimize impacts from hazardous materials spills, maintain emergency access, protect water quality, cultural and biological resources, and prevent fires, including:

- Follow all safety and health requirements set forth by the Occupational Safety and Health Administration.
- Hazardous materials will not be stored or used, such as for equipment maintenance, where they could affect nearby properties, or where they might enter the storm drain system.
- All spills of oil and other hazardous materials will be immediately cleaned up and contained. Any hazardous materials cleaned up or used on-site will be properly disposed of at an approved disposal facility.
- The District or its contractor will notify and coordinate with law enforcement and emergency service providers prior to the start of construction to ensure minimal disruption to service during construction.
- Detours will be readily available at all times to allow emergency vehicles access around the work area.
- Prepare a Storm Water Pollution Prevention Plan (SWPPP) to limit erosion and protect water quality surrounding the project site.

The Bay Area Air Quality Management District (BAAQMD) recommends best management practices to ensure minimal impacts on regional air quality. The contractor will be responsible for implementing the following basic measures during construction:

- All exposed soil surfaces (e.g., parking areas, staging areas, soil piles, graded areas) will be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site will be covered.

- All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All roadways, driveways, and sidewalks to be paved will be completed as soon as possible.
- Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations).
- Clear signage will be provided for construction workers at all access points.
- All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications, and all equipment will be checked by a certified visible emissions evaluator.
- A publicly visible sign with the telephone number and person to contact at the lead agency regarding any dust complaints will be posted in or near the project site. The contact person will respond to complaints and take corrective action within 48 hours. The Air District's phone number will also be visible to ensure compliance with applicable regulations.

6. Surrounding Land Uses and Setting:

The project site is located in downtown Half Moon Bay and consists of an approximately 110-foot reach of Pilarcitos Creek and the surrounding area, as shown on Figure 1. Pilarcitos Creek is a coastal stream which extends approximately 14 miles from its headwaters in the western Santa Cruz Mountains, through Pilarcitos Canyon and terminates in the Pacific Ocean at Half Moon Bay State Beach. The site is situated within an incised floodplain and includes dense riparian vegetation, with elevations up to 70 feet above sea level. Properties to the north, west, and south include commercial and residential development. The eastern boundary consists of the Main Street Bridge and John L Carter Memorial Park.

7. Other Public Agencies Whose Approval May Be Required:

The information contained in this Initial Study will be used by the Coastside County Water District (the California Environmental Quality Act [CEQA] Lead Agency) as it considers whether or not to approve the proposed project. If the project is approved, the Initial Study, as well as the associated Mitigated Negative Declaration (MND) would be used by Coastside County Water District and responsible and trustee agencies in conjunction with various approvals and permits. These actions include, but may not be limited to, the following approvals by the agencies indicated:

City of Half Moon Bay

- Encroachment Easement
- Grading Permit
- Coastal Development Permit

California Coastal Commission

- The California Coastal Commission has the ability to review the project through an appeal process, contingent on the City's approval of the Coastal Development Permit.

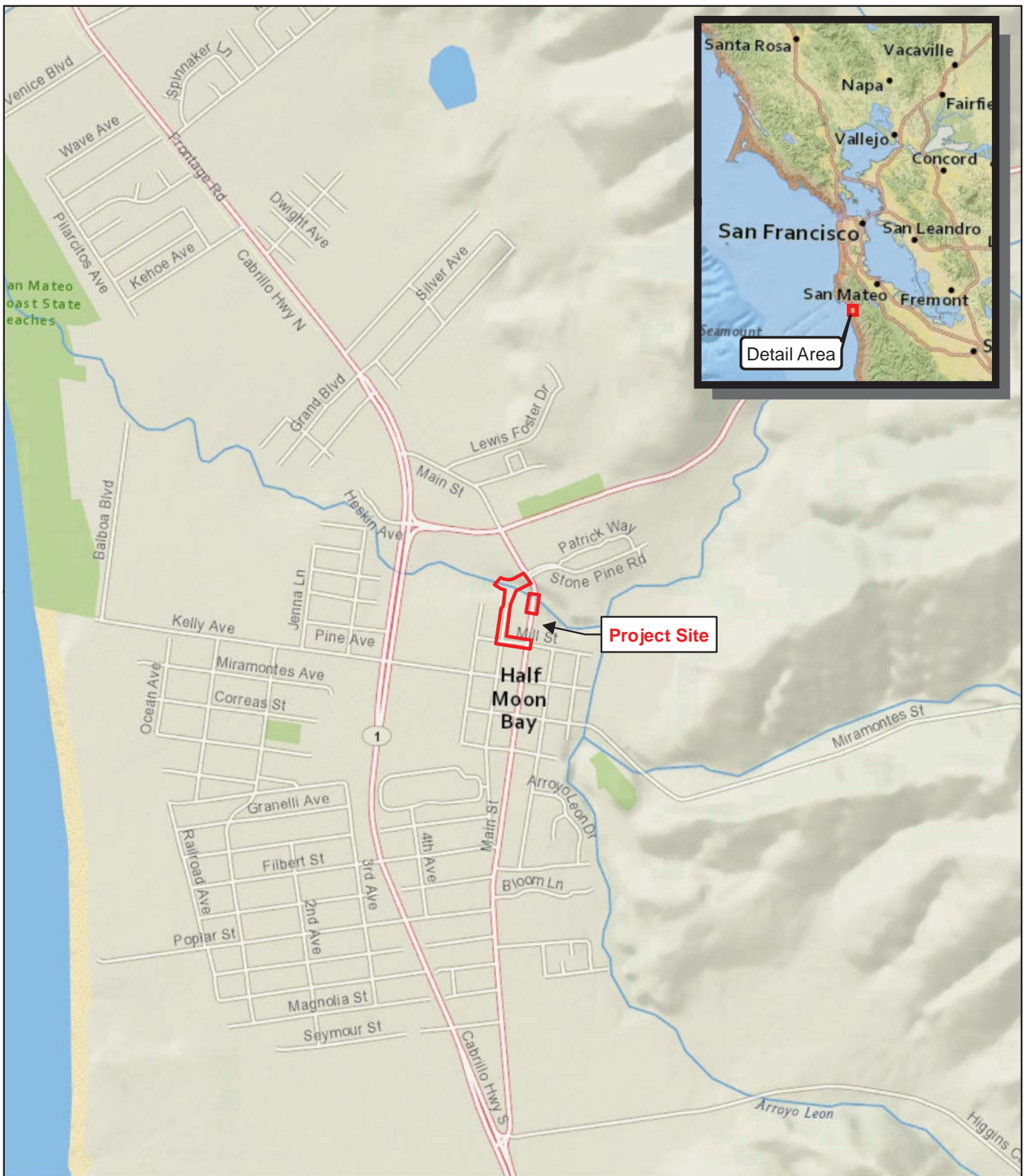


Figure 1. Project Site Location

El Granada Pipeline Replacement Final Phase Project
Coastside County Water District

Half Moon Bay,
San Mateo County, CA



0 0.25 0.5
Miles



Map Date: August 2014
Map By: PK
Base Source: ESRI/National Geographic

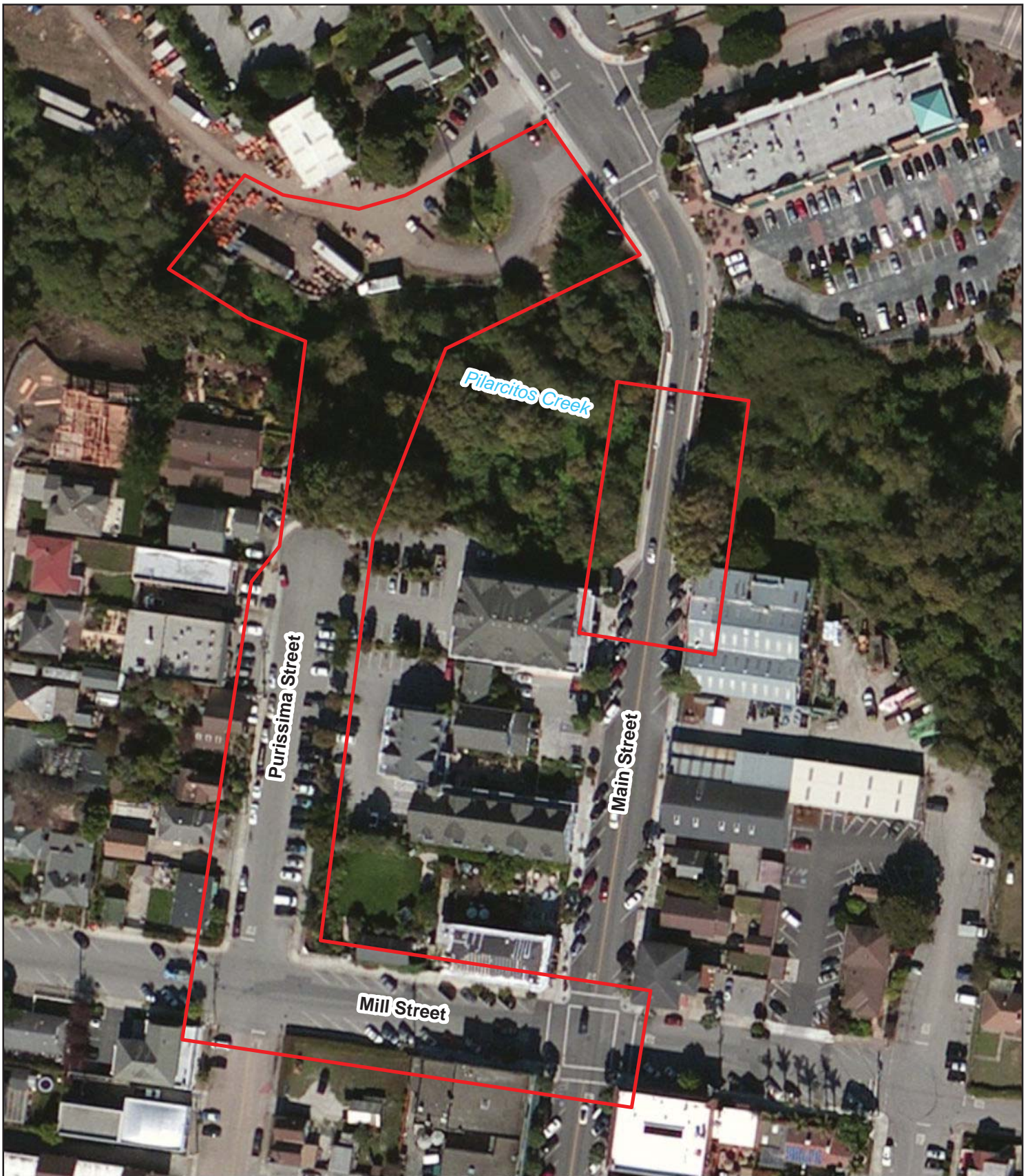


Figure 2. Aerial Site Overview

El Granada Pipeline Replacement Final Phase Project
Coastside County Water District

Half Moon Bay,
San Mateo County, CA



0 50 100 200
Feet



Map Prepared Date: 6/12/2015
Map Prepared By: pkobylarz
Base Source: Esri Streaming Imagery 2010
Data Source(s): WRA



Figure 3. Views of the Project Site and Vicinity

Top: View of the project site and approximate HDD exit location from Purisima Street, facing North.

Bottom: View of the project site from Purisima Street, facing South.





Figure 4. Views of the Project Site and Vicinity

Top: View of project site and approximate HDD entry location from Main Street.

Bottom: View of riparian corridor along northern stream bank from Main Street.





Figure 5. Views of the Project Site and Vicinity

Top: View of riparian corridor and upland areas along Pilarcitos Creek.

Bottom: View of Pilarcitos Creek facing downstream.



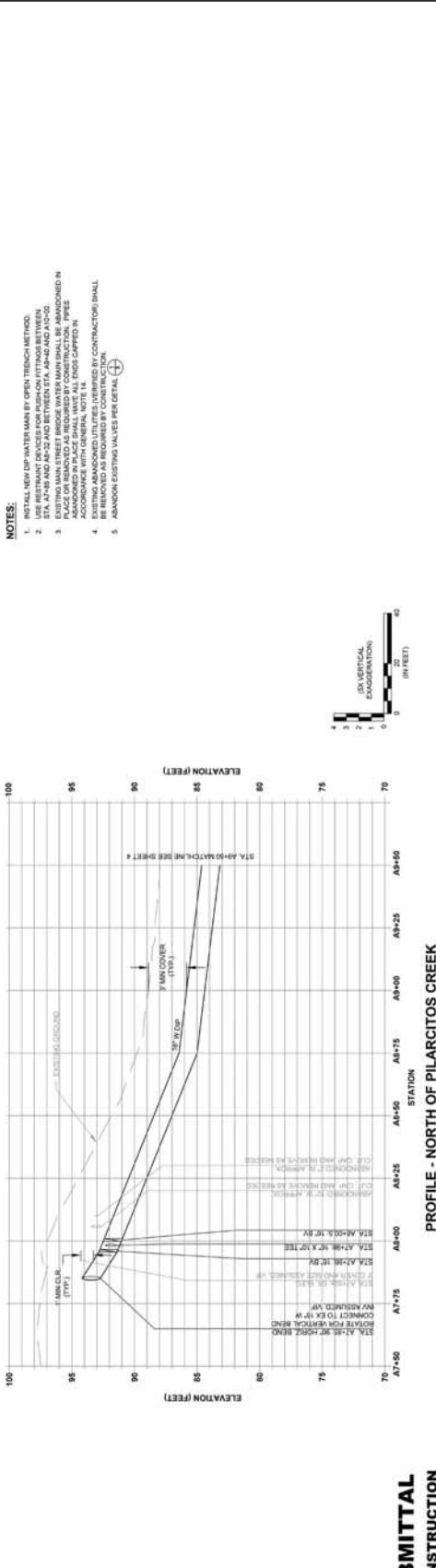
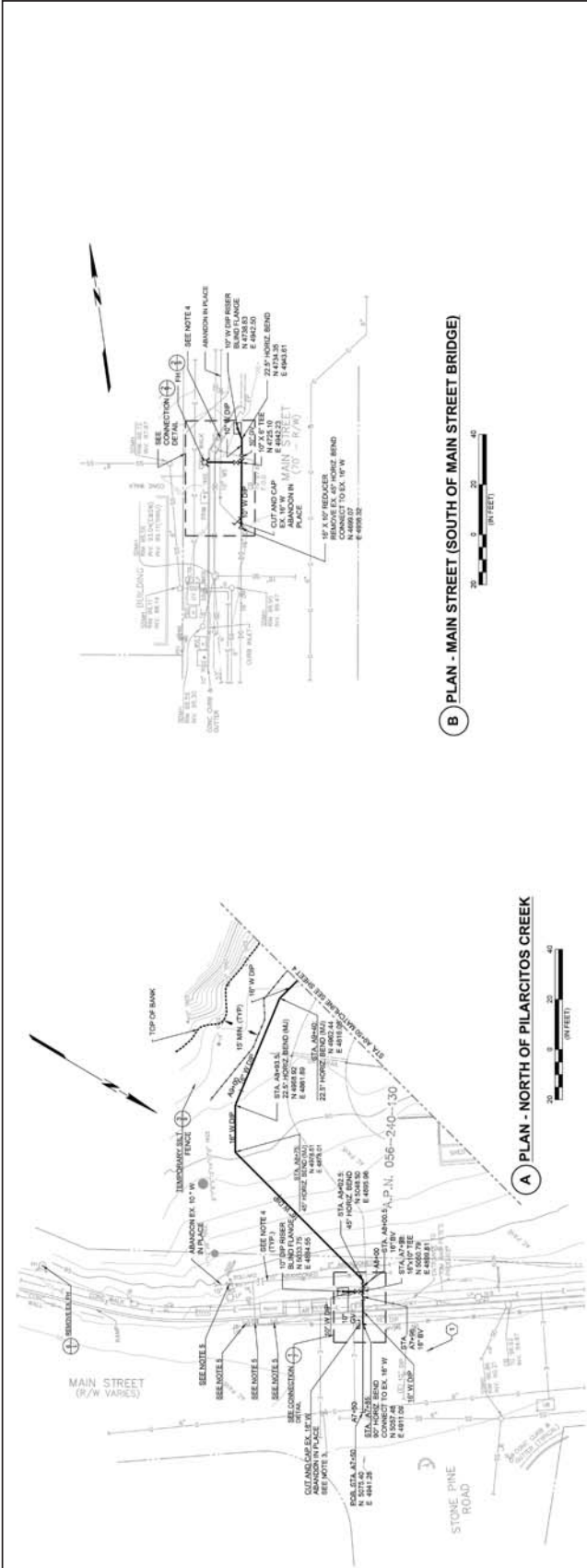


Figure 6. Views of the Project Site and Vicinity

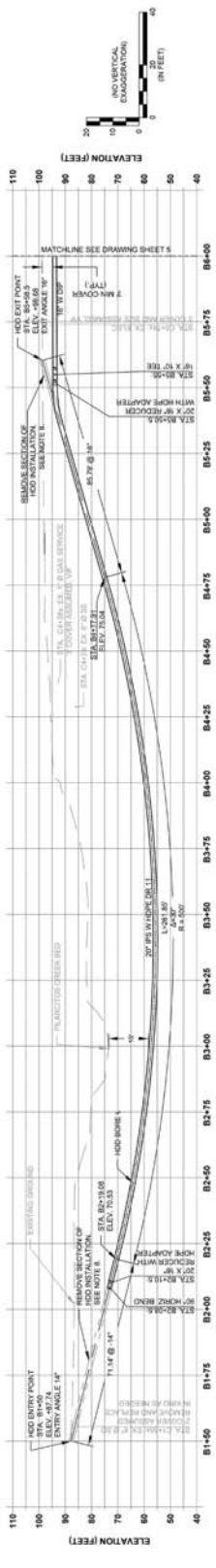
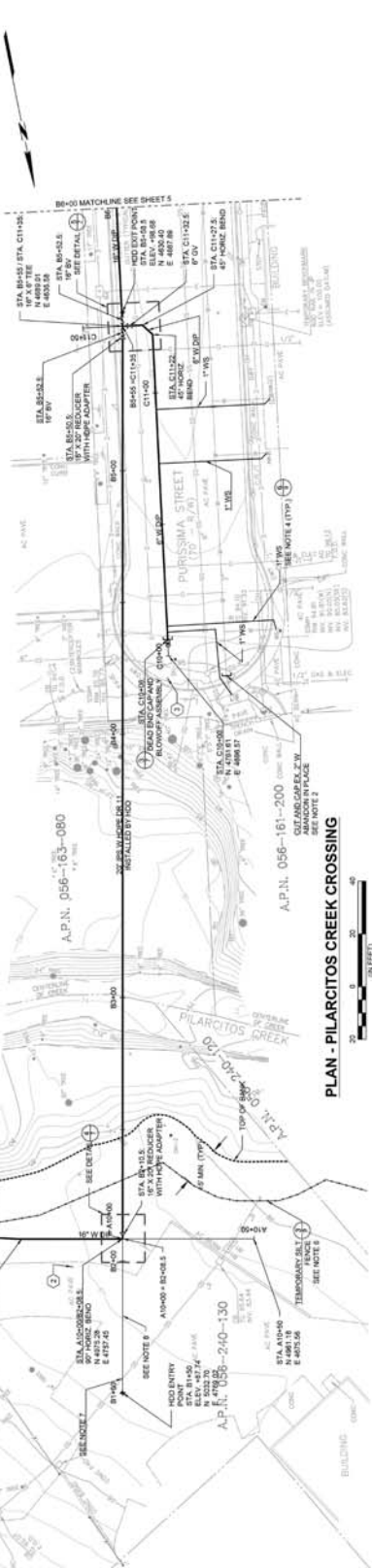
Top: View of the project site and vicinity from Mill Street, facing East.

Bottom: View of the project site and vicinity from Mill Street, facing West.

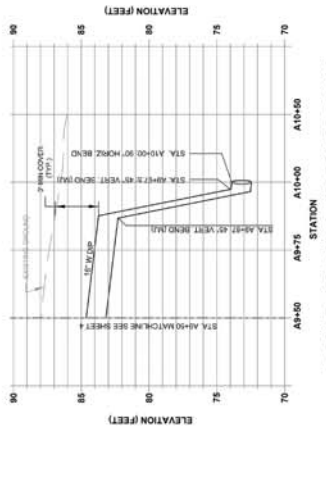




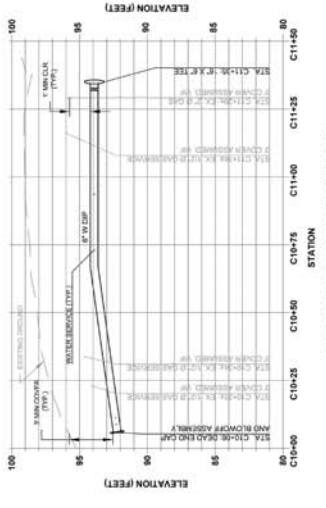
75% SUBMITTAL
NOT FOR CONSTRUCTION



PROFILE - PILARCITOS CREEK CROSSING



75% SUBMITTAL
NOT FOR CONSTRUCTION



PROFILE - PURISSIMA STREET

- NOTES:**
1. INSTALL NEW 16" AND 18" DI WATER MAINS BY OPEN TRENCH AND NEW 20" HOPE WATER MAIN BY TRENCH.
 2. EXISTING 16" DI WATER MAIN SHALL BE ABANDONED IN PLACE AND REMOVED AS REQUIRED BY CONSTRUCTION. EXISTING ABANDONED UTILITIES (VERIFIED BY CONTRACTOR) SHALL BE ABANDONED IN PLACE AND REMOVED AS REQUIRED BY CONSTRUCTION.
 3. EXISTING 18" DI WATER MAIN SHALL BE ABANDONED IN PLACE AND REMOVED AS REQUIRED BY CONSTRUCTION. EXISTING ABANDONED UTILITIES (VERIFIED BY CONTRACTOR) SHALL BE ABANDONED IN PLACE AND REMOVED AS REQUIRED BY CONSTRUCTION.
 4. EXISTING 20" DI WATER MAIN SHALL BE ABANDONED IN PLACE AND REMOVED AS REQUIRED BY CONSTRUCTION. EXISTING ABANDONED UTILITIES (VERIFIED BY CONTRACTOR) SHALL BE ABANDONED IN PLACE AND REMOVED AS REQUIRED BY CONSTRUCTION.
 5. EXISTING WATER SERVICES FROM EXISTING WATER MAIN TO BE ABANDONED TO EXISTING DISTRICT AND INITIAL NEW DISTRICT CARRIED WATER MAINS. EXISTING WATER SERVICES FROM EXISTING WATER MAIN TO BE ABANDONED TO EXISTING DISTRICT AND INITIAL NEW DISTRICT CARRIED WATER MAINS. EXISTING WATER SERVICES FROM EXISTING WATER MAIN TO BE ABANDONED TO EXISTING DISTRICT AND INITIAL NEW DISTRICT CARRIED WATER MAINS.
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 10. EXISTING WATER SERVICES FROM EXISTING WATER MAIN TO BE ABANDONED TO EXISTING DISTRICT AND INITIAL NEW DISTRICT CARRIED WATER MAINS. EXISTING WATER SERVICES FROM EXISTING WATER MAIN TO BE ABANDONED TO EXISTING DISTRICT AND INITIAL NEW DISTRICT CARRIED WATER MAINS. EXISTING WATER SERVICES FROM EXISTING WATER MAIN TO BE ABANDONED TO EXISTING DISTRICT AND INITIAL NEW DISTRICT CARRIED WATER MAINS.

Figure 8. Project Site Plan (2-8)

El Granada Pipeline Replacement Final Phase Project
Coastside County Water District

Half Moon Bay, San Mateo County, California

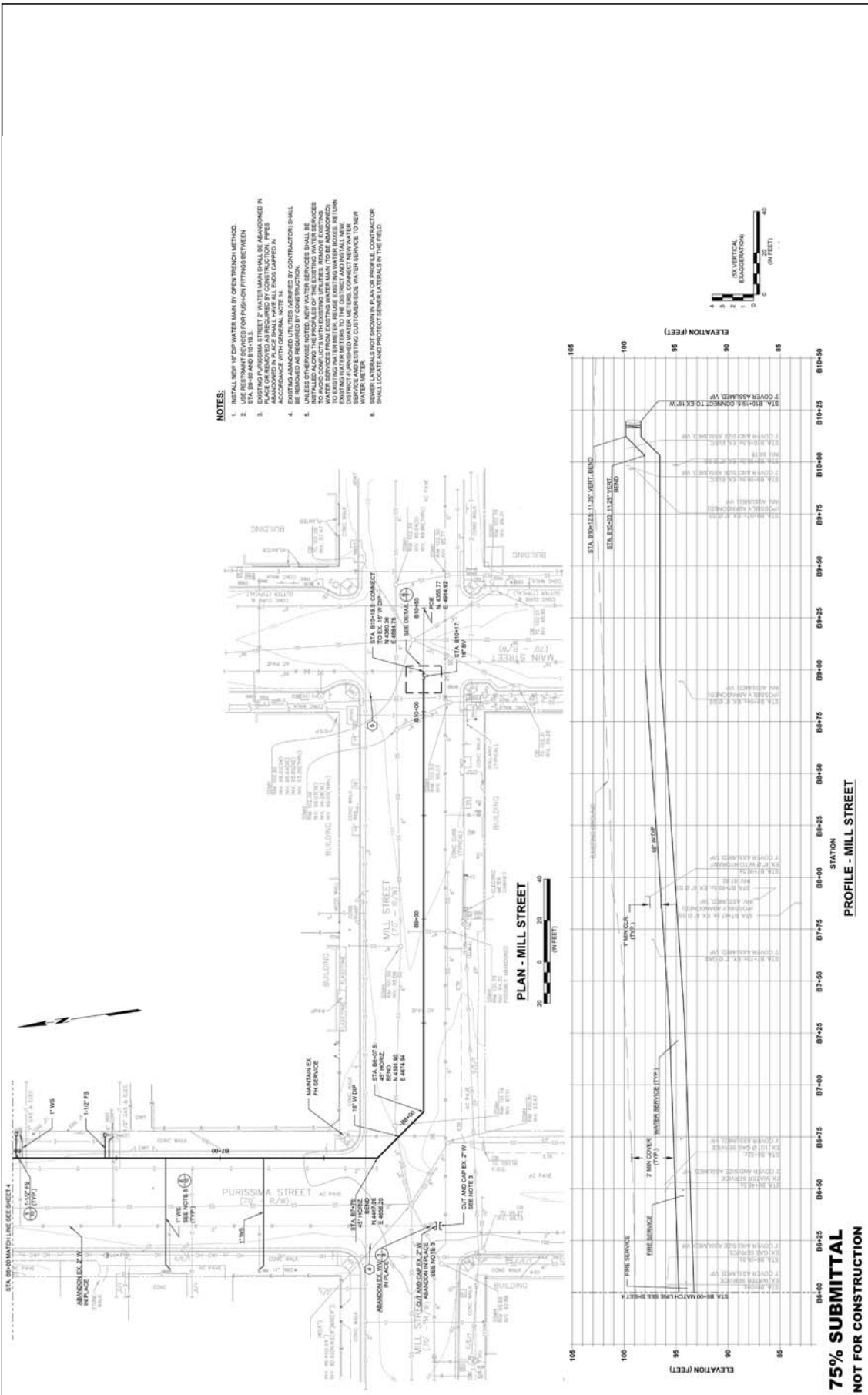


Figure 9. Project Site Plan (3-8)

El Granada Pipeline Replacement Final Phase Project
Coastside County Water District

Half Moon Bay, San Mateo County, California



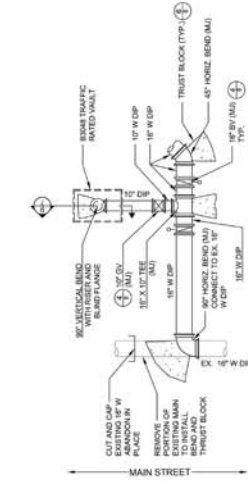
- NOTES**
1. ALL CONSTRUCTION MATERIALS AND EQUIPMENT SHALL ONLY BE STORED IN THE HDD ENTRY STAGING AREA PRIOR TO BEGINNING CONSTRUCTION. INSTALLATION ENGINEER TO DELINEATE STAGING AREAS IN FIELD PRIOR TO CONSTRUCTION.
 2. SAFE VEHICULAR AND PEDESTRIAN ACCESS SHALL BE PROVIDED AT ALL TIMES TO ADJACENT PROPERTIES. TEMPORARY DRIVEWAYS SHALL BE CONSTRUCTED WHERE NECESSARY TO MAINTAIN ACCESS TO ALL PROPERTIES.
 3. ALL PIPE FABRICATION SHALL BE COMPLETED WITHIN THE ALLOWABLE WORK AREA SHOWN ABOVE NO SOONER THAN 24 HOURS PRIOR TO BEGINNING CONSTRUCTION. CONSTRUCTION SHALL BE COMPLETED WITHIN THE ALLOWABLE WORK AREA SHOWN ABOVE NO SOONER THAN 24 HOURS PRIOR TO BEGINNING CONSTRUCTION. KELLY AVENUE SHALL NOT BE IMPACTED AT ANY TIME. MILL STREET SHALL NOT BE BLOCKED FOR MORE THAN 26 HOURS.

Figure 10. Project Site Plan (4-8)

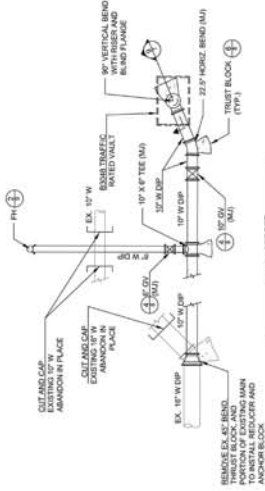
El Granada Pipeline Replacement Final Phase Project

Coastside County Water District

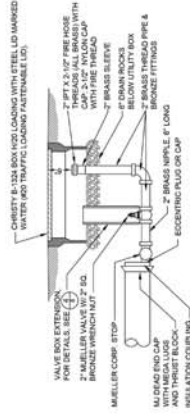
Half Moon Bay, San Mateo County, California



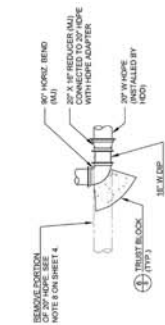
MAIN STREET AT STONE PINE ROAD 1
SCALE: NOT TO SCALE



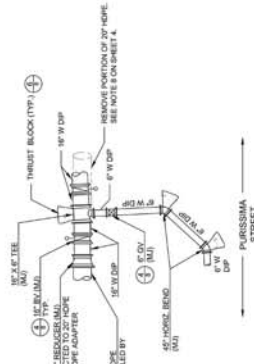
MAIN STREET SOUTH OF MAIN STREET BRIDGE 2
SCALE: NOT TO SCALE



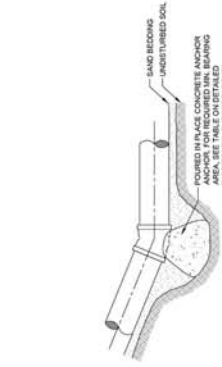
2" BLOWOFF ASSEMBLY (END OF LINE) 3
SCALE: NOT TO SCALE



HDD TIE-IN NORTH OF PILARCITOS CREEK 4
SCALE: NOT TO SCALE



HDD TIE-IN PURISSIMA STREET 5
SCALE: NOT TO SCALE



DOWNTHRUST THRUST BLOCK 7
75% SUBMITTAL
NOT FOR CONSTRUCTION

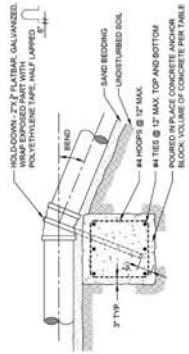
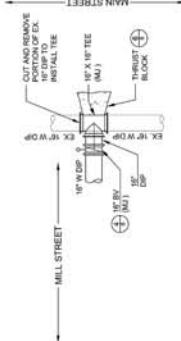


TABLE - FOR WORKING PRESSURE 150 PSI

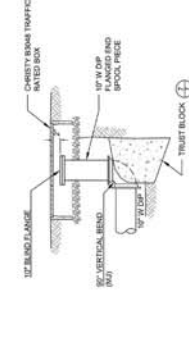
REQUIRED CONCRETE VOLUME (CUBIC FEET)

PIPE SIZE	BEND = 11°	BEND = 22.5°	BEND = 45°	BEND = 90°
6"	11	21	41	63
8"	19	38	74	108
10"	29	58	112	162
12"	39	78	152	216
16"	74	149	297	432

UPLIFT THRUST BLOCK 8
SCALE: NOT TO SCALE
(MODIFIED DISTRICT'S STANDARD DETAIL)



MILL STREET AND MAIN STREET 6
SCALE: NOT TO SCALE

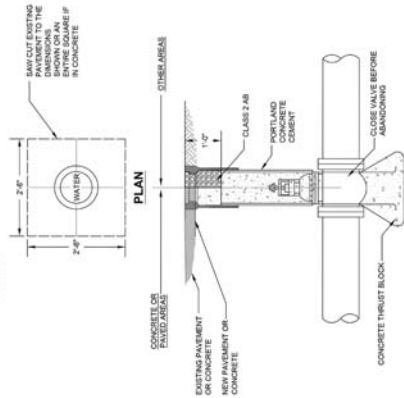


RISER PIPE AND VAULT SECTION 9
SCALE: NOT TO SCALE

Figure 11. Project Site Plan (5-8)

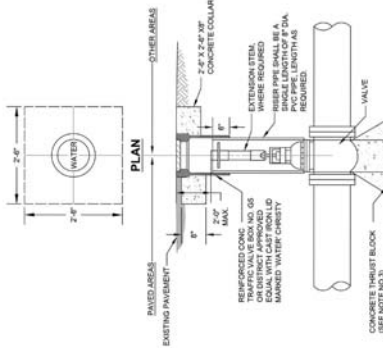
El Granada Pipeline Replacement Final Phase Project
Coastside County Water District

Half Moon Bay, San Mateo County, California



- NOTES:**
1. REMOVE VALVE BOX AND 12" BELOW GRADE FOR UNIMPROVED AREAS TO THE BOTTOM OF EXISTING PAVEMENT FOR PAVED AREAS AND TO THE BOTTOM OF EXISTING GRADE FOR UNPAVED AREAS. REPLACE TOPSOIL IN UNPAVED AREAS.
 2. REPAIR SURFACE IN PAVED OR CONCRETE AREAS. REPLACE TOPSOIL IN UNPAVED AREAS.
 3. REPAIR SURFACE IN PAVED OR CONCRETE AREAS. REPLACE TOPSOIL IN UNPAVED AREAS.

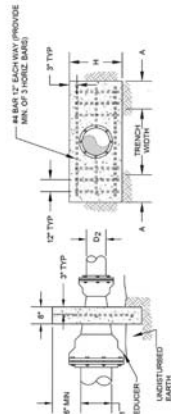
TYPICAL VALVE ABANDONMENT 1
SCALE: NOT TO SCALE



- NOTES:**
1. VALVE BOX EXTENSION SHALL BE A MINIMUM OF 4" DIAMETER PVC.
 2. VALVE BOX APPLIES TO GATE VALVES AND BUTTERFLY VALVES.
 3. FOR VALVE THRUST BLOCKS SEE DETAIL 4.
 4. PRIOR TO DOWING, NAME BOX TO PERMANENT GRADE. POUR THE CONCRETE COLLAR AND VALVE BOX.
 5. SEE SPECIFICATIONS FOR VALVE TYPE AND ADDITIONAL MATERIALS AND INSTALLATION.
 6. VALVES MAY BE PLACED AS SHOWN OR RESTRAINED MECHANICAL JOINT.

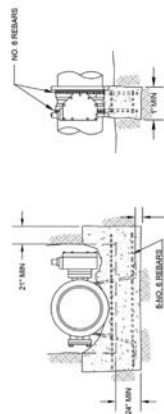
TYPICAL VALVE BOX 4
SCALE: NOT TO SCALE

75% SUBMITTAL NOT FOR CONSTRUCTION



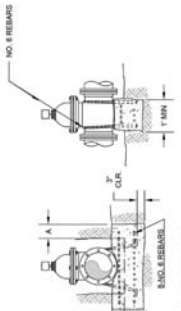
REDUCER SIZE D x D ₁ (IN.)	H (IN.)	A (IN.)
12" x 12"	2.5	3.0
10" x 10"	2.0	2.5
8" x 8"	1.5	2.0
6" x 6"	1.0	1.5

ANCHOR BLOCK (REDUCER) 2
SCALE: NOT TO SCALE



16" BUTTERFLY VALVES

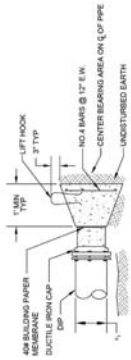
VALVE SIZE (IN.)	A (IN.)	B (IN.)
4	12"	15"
6	12"	15"
8	12"	15"
10	12"	15"
12	12"	15"



GATE VALVES

- NOTES:**
1. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED EARTH.
 2. WRAP 2" MIN. THICKNESS OF ALL REBAR WITH SCOTCHDAP #1 (20 MIL) WRAP WITH 12 OVERLAP. EXTEND 12" MIN. ABOVE TOP OF CONCRETE.
 3. NUTS, BOLTS, FLANGES SHALL BE CLEAR OF CONCRETE.
 4. RESTRAINED JOINTS REQUIRED IN ADDITION TO THRUST BLOCKS.

THRUST BLOCK (VALVES) 5
SCALE: NOT TO SCALE

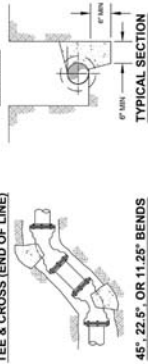


- NOTES:**
1. FOR PUG BEARING AREA SEE HORIZONTAL BENDS, TEES AND CROSSES, SAME SHEET.
 2. NUTS, BOLTS, AND FLANGES SHALL BE CLEAR OF CONCRETE.
 3. RESTRAINED JOINTS REQUIRED IN ADDITION TO THRUST BLOCKS.

THRUST BLOCK (END OF LINE) 3
SCALE: NOT TO SCALE



TEE & CROSS (END OF LINE)



45° 22.5° OR 11.25° BENDS

MINIMUM REQUIRED BEARING AREA AGAINST UNDISTURBED EARTH WALL	THRUST BLOCK	THRUST BLOCK	THRUST BLOCK	THRUST BLOCK	THRUST BLOCK	THRUST BLOCK	THRUST BLOCK	THRUST BLOCK	THRUST BLOCK
INCH	1/2"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"
1/2"	1	1	1	1	1	1	1	1	1
3/4"	1	1	1	1	1	1	1	1	1
1"	1	1	1	1	1	1	1	1	1
1 1/4"	1	1	1	1	1	1	1	1	1
1 1/2"	1	1	1	1	1	1	1	1	1
1 3/4"	1	1	1	1	1	1	1	1	1
2"	1	1	1	1	1	1	1	1	1
2 1/4"	1	1	1	1	1	1	1	1	1
2 1/2"	1	1	1	1	1	1	1	1	1

- NOTES:**
1. THRUST BLOCKS SHALL BE PLAIN CONCRETE POURED AGAINST UNDISTURBED EARTH.
 2. CUPS AND PUGS SHALL HAVE THRUST BLOCKS WITH AREAS AS SPECIFIED FOR TEES, CROSSES, FLANGES AND MECHANICAL JOINTS SHALL BE COVERED WITH 8 MIL OF POLYETHYLENE BEFORE POURING CONCRETE.
 3. AREAS IN A PLANE AT RIGHT ANGLES TO THE LINE OF RESULTANT THRUST.
 4. THRUST BLOCKS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING VALUE OF 2000 LB/SP AND 200 PSF TEST PRESSURE. AREAS SHALL BE INCREASED FOR SOILS WITH LOWER BEARING VALUES OR FOR HIGHER TEST PRESSURE.
 5. RESTRAINED JOINTS REQUIRED IN ADDITION TO THRUST BLOCKS.

THRUST BLOCK (HORIZONTAL BENDS) 6
SCALE: NOT TO SCALE

Figure 12. Project Site Plan (6-8)

El Granada Pipeline Replacement Final Phase Project
Coastside County Water District

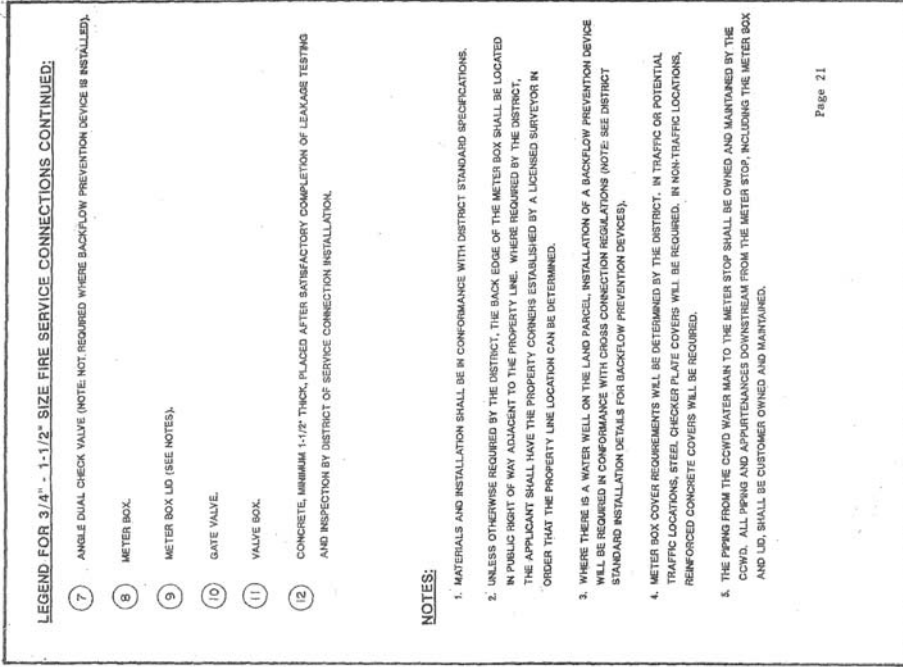
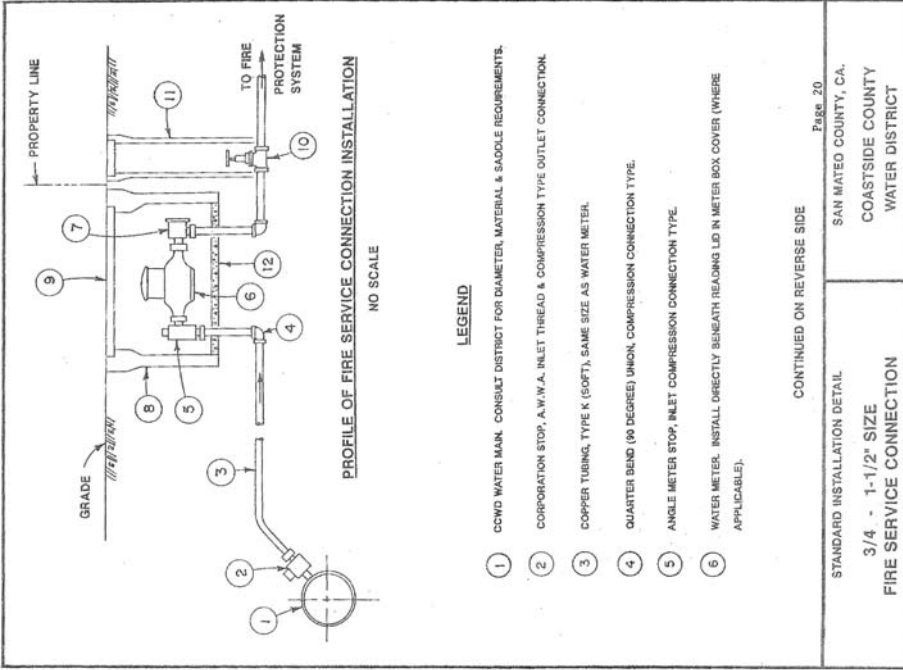
Half Moon Bay, San Mateo County, California



ENVIRONMENTAL CONSULTANTS

Date: May 2015
Source: Eiler & Kallowski, Inc.

P-Propylene(34000)3415(CFOA)E_g(mm)(1x17 E_g)mm)



3/4" - 1-1/2" SIZE FIRE SERVICE CONNECTION

SCALE: NOT TO SCALE
(DISTRICT STANDARD DETAIL)

Figure 14. Project Site Plan (8-8)

El Granada Pipeline Replacement Final Phase Project
Coastside County Water District

Half Moon Bay, San Mateo County, California

NOT TO SCALE

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is potentially significant unless mitigation is incorporated, as indicated by the checklist on the following pages.

<input type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Mineral Resources
<input type="checkbox"/>	Agricultural Resources	X	Noise
<input type="checkbox"/>	Air Quality	<input type="checkbox"/>	Population and Housing
X	Biological Resources	X	Public Services
X	Cultural Resources	<input type="checkbox"/>	Recreation
<input type="checkbox"/>	Geology and Soils	X	Transportation/Traffic
<input type="checkbox"/>	Hazards and Hazardous Materials	<input type="checkbox"/>	Utilities
<input type="checkbox"/>	Hydrology and Water Quality	X	Mandatory Findings of Significance
<input type="checkbox"/>	Land Use/Planning	<input type="checkbox"/>	

Determination

On the basis of this initial evaluation:

- ☐ I find that the project COULD NOT have a significant effect on the environment and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the project MAY have a "Potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature 
Name and Title: David Dickson, General Manager

Date: 10/9/2015

INITIAL STUDY CHECKLIST

This section describes the existing environmental conditions in and near the project area and evaluates environmental impacts associated with the proposed project. The environmental checklist, as recommended in the CEQA Guidelines (Appendix G), was used to identify environmental impacts that could occur if the proposed project is implemented. The right-hand column in the checklist lists the source(s) for the answer to each question. The cited sources are identified at the end of this section.

Each of the environmental categories was fully evaluated, and one of the following four determinations was made for each checklist question:

- **“No Impact”** means that no impact to the resource would occur as a result of implementing the project.
- **“Less than Significant Impact”** means that implementation of the project would not result in a substantial and/or adverse change to the resource, and no mitigation measures are required.
- **“Less than Significant with Mitigation Incorporated”** means that the incorporation of one or more mitigation measures is necessary to reduce the impact from potentially significant to less than significant.
- **“Potentially Significant Impact”** means that there is either substantial evidence that a project-related effect may be significant, or, due to a lack of existing information, could have the potential to be significant.

I. AESTHETICS — Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1

Environmental Setting

The project site is not located along any designated or eligible scenic highways and is not visible from SR-1, which is the nearest designated scenic highway. SR-1 is an official state scenic highway from Santa Cruz to the City Limits (California Department of Transportation, 2012). Existing land uses adjacent to the project site consist of various residential properties, John L Carter Memorial Park, and commercial uses. Residences and commercial uses have direct views of the proposed project site. Existing sources of nighttime light in the project vicinity include residential and commercial security lighting, and street lamps. The City of Half Moon Bay Local Coastal Program/Land Use Plan (LCP/LUP) and Zoning Code includes policies and standards addressing visual resources in the City. Chapter 7, Visual Resources, of the LCP/LUP addresses the protection of views of scenic areas and visual resources visible from public roads and trails. The LCP/LUP also includes a Visual Resource Overlay Map that identifies existing visual resources located throughout the City. Portions of the project area are located within the Old Downtown overlay district.

Discussion of Impacts

- a) ***Less than Significant Impact.*** A significant impact may occur if a project were to introduce incompatible scenic elements within a field of view containing a scenic vista or substantially block views of a scenic vista. According to the Visual Resources Overlay Map, there are no designated shoreline access routes from the project area, as defined in the LCP/LUP. However, the Visual Resources Overlay Map indicates that the proposed project area does allow for views from the Old Downtown. The proposed project would not result in the construction of new buildings on-site; all structures would be sub-surface and therefore would not introduce incompatible elements which could significantly impact scenic vistas. Thus, impacts would be less than significant and no further analysis is required.

- b) **No Impact.** A significant impact may occur if scenic resources within a state scenic highway would be damaged or removed by a project. The project area is not located within an officially designated state scenic highway.¹
- c) **Less Than Significant Impact.** A significant impact may occur if a project were to introduce incompatible visual elements on the project area or visual elements that would be incompatible with the character of the project area or the area surrounding the site. The proposed project would not introduce an incompatible visual element to the site or surrounding area. The project does not propose construction of any new buildings or changes to the project area other than street and infrastructure installation. During the construction phase, the roads would be disturbed to install pipeline and upgrades to fire hydrants, which would temporarily modify views from commercial properties and for motorists using the roads. Views of the open trenches, pipe stored along the road, construction equipment, and stockpiled soil would be available for brief periods as segments of the pipeline are installed. The activities are typical of pipeline installation in developed areas and would not substantially degrade views of the existing setting. Once the pipeline is in place, views would be the same as existing conditions. Therefore, the proposed project would not significantly impact the visual character or quality of the site or surroundings and no further analysis is required.
- d) **No Impact.** Construction of the proposed project would not create a significant source of light or glare during daytime. The long-term operation of the project would not result in the addition of new sources of light and glare. Upon completion of construction the light and glare conditions at the project site would be nearly identical to existing conditions. The proposed project would not create a new source of substantial light or glare which adversely affect day or nighttime views in the area.

II. AGRICULTURAL AND FORESTRY RESOURCES — Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2

¹ Caltrans Scenic Highway Program website. Accessed at <http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm>, November 29, 2010.

II. AGRICULTURAL AND FORESTRY RESOURCES — Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use??	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1,4

Environmental Setting

According to the San Mateo County Important Farmland Map (2008), the project area is designated as Urban and Built-Up Land. The City's Local Coastal Program (LCP) Land Use Plan designates the site as Commercial Downtown (C-D).

The Williamson Act of 1965 allows local governments to enter into contract agreements with local landowners with the purpose of trying to limit specific parcels of land to agricultural or other related open space uses. The project area does not contain any state designated agricultural lands or open space. The project area is not subject to a Williamson Act Contract.

Discussion of Impacts

- a-e) **No Impact.** The project site is in an urban built-up state and does not contain any agricultural land. There are no agricultural or forestry resources within the project site. There are no Prime, Unique, Statewide or Locally Important farmlands in the area. The project site is not under a Williamson Act Contract, nor is the project zoned as forest land or timber production. The project would be confined to existing right-of-ways and therefore no impacts to agricultural or forestry resources are anticipated.

III. AIR QUALITY — Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1, 15
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1, 15
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1, 15
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1, 15
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1, 15

Environmental Setting

The project site is in the San Francisco Bay Area air basin, where air quality is monitored and regulated by the Bay Area Air Quality Management District (BAAQMD). Ambient concentrations of key air pollutants have decreased considerably over the course of the last several decades. Air pollution is generated by anything that burns fuel (including but not limited to cars and trucks, construction equipment, backup generators, boilers and hot water heaters, barbecues and broilers, gas-fired cooking ranges and ovens, fireplaces, and wood-burning stoves), almost any evaporative emissions (including the evaporation of gasoline from service stations and vehicles, emissions from food as it is cooked, emissions from paints, cleaning solvents, and adhesives, etc.), and other processes (fugitive dust generated from roadways and construction activities, etc.).

A sensitive receptor is generally defined as a location where human populations, especially children, seniors, and sick persons, are located where there is a reasonable expectation of continuous human exposure to air pollutants. These typically include residences, hospitals, and schools. The site is surrounded by residential and commercial land uses.

The Bay Area is currently classified as “attainment” or “unclassifiable” with respect to every National Ambient Air Quality Standard (NAAQS) except ozone and fine particulate matter PM_{2.5}), for which it is still classified as “nonattainment.” Ozone concentrations in the Bay Area have also decreased considerably over the last several decades, but NAAQS are required to be set to be protective of public health “allowing an adequate margin of safety” and have also become more stringent. Prior to 2008, attaining the ozone NAAQS required that the “design value”—i.e., the peak 8-hour average concentration on the 4th-worst day of the year (averaged over three consecutive years)—be below 0.08 parts per million (ppm); the Bay Area was

classified as “marginal” nonattainment with respect to that standard.² The Bay Area’s current ozone design value (based on 2008-2010 data) is 0.080 ppm,³ but in 2008, the ozone NAAQS was revised to 0.075 ppm. Therefore, while EPA has not yet finalized its attainment designations for the 2008 ozone standard, it is proposing to designate the Bay Area as “marginal nonattainment” (0.076 - 0.086 ppm) with respect to that standard.⁴ The State of California also has its own ambient air quality standards (CAAQS) which are equivalent to or more stringent than the NAAQS; the Bay Area is currently classified as nonattainment with respect to the CAAQS for ozone, particulate matter smaller than 10 microns (PM₁₀), and “fine” particulate matter smaller than 2.5 microns (PM_{2.5}).

Discussion of Impacts

- a, b) **Less Than Significant Impact.** Construction activities would result in short-term increases in emissions from the use of heavy equipment that generates dust, exhaust, and tire-wear emissions; soil disturbance; materials used in construction; and construction traffic. Project construction would produce fugitive dust (PM₁₀ and PM_{2.5}) during ground disturbance and would generate carbon monoxide, ozone precursors, and other emissions from vehicle and equipment operation. Best management practices (BMPs) recommended by BAAQMD and identified above in the project description would be implemented during construction to minimize fugitive dust. All pipeline improvement activities would take place within existing roads in a developed community. Construction emissions would be temporary, lasting approximately two months, and would not have long-term effects on air quality in the Bay Area. Because of the small area of disturbance, temporary nature of the emissions, and implementation of construction measures, impacts on air quality would be less than significant and would comply with the Bay Area 2010 Clean Air Plan.
- c) **Less Than Significant Impact.** As discussed under items a) b), the project would result in minor construction-related emissions. It would not result in a cumulatively considerable net increase of any criteria pollutant. The project would cause short-term air quality impacts as a result of construction activities; however, it would not result in long-term or cumulatively considerable increases in air quality pollutant emissions for which the Bay Area is currently in non-attainment (ozone and particulate matter). Implementation of the BMPs included in the project description would ensure that the temporary increase in air pollutant emissions associated with construction activities would result in less than significant contributions to cumulative pollutant levels in the region.
- d) **Less Than Significant Impact.** The primary sensitive receptors in the vicinity are residents and, employees and customers of commercial development, which may include children, elderly people, or people with respiratory illnesses. Sensitive receptors located in close proximity to several locations along the construction area could be exposed to temporary air pollutants from construction activities, such as fugitive dust, ozone precursors, and carbon monoxide. The duration of construction

² The Bay Area Air Quality Management reported that the maximum 8-hour ozone concentration only exceeded the standard once in 2005 and once in 2007, but exceeded the standard on 12 days in 2006.

³ Lynn Terry (California Air Resources Board Deputy Executive Officer), letter to Deborah Jordan (US EPA Region 9 Air Division Director), October 12, 2011, available from http://www.epa.gov/ozonedesignations/2008standards/rec/letters/09_CA_rec2.pdf.

⁴ EPA’s proposed criterion for the “marginal” classification was proposed in the Federal Register on February 14, 2012.

activities would be limited. Basic construction measures recommended by BAAQMD, listed in the project description, would be implemented during construction to minimize air pollutants. New construction equipment has been subject to increasingly stringent emissions requirements at the Federal level (e.g., 40 CFR 89 and 1039), designated “Tier 1”, “Tier 2”, “Tier 3”, etc.; older construction equipment is subject to potential retrofit requirements required by the State of California (13 CCR 2449, 13 CCR 2450-2466, and 17 CCR 93116). As a result, sensitive receptors in the vicinity of the project would not be exposed to substantial pollutant concentrations, and impacts would be less than significant.

- e) ***Less Than Significant Impact.*** Construction activities would involve the use of gasoline or diesel-powered equipment that emits exhaust fumes and would involve asphalt paving, which has a distinctive odor during application. Asphalt would conform to BAAQMD regulations governing asphalt (Regulation 8, Rule 15). These activities would take place intermittently throughout the workday, and the associated odors are expected to dissipate within the immediate vicinity of the work area. Persons near the construction work area may find these odors objectionable. However, the proposed project would not include uses that have been identified by BAAQMD as potential sources of objectionable odors, such as restaurants, manufacturing plants, landfills, and agricultural and industrial operations. The infrequency of the emissions, rapid dissipation of the exhaust and other odors into the air, and short-term nature of the construction activities would result in less than significant odor impacts.

IV. BIOLOGICAL RESOURCES — Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
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 Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1,5, 10
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 Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1,5, 10
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1, 10

IV. BIOLOGICAL RESOURCES — Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1, 10
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6, 10
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1, 10

The following analysis of biological resources is based on the Biological Resources Evaluation (BRE) prepared by WRA, Inc. in October 2014 (Appendix A).

Regulatory Setting

Sensitive Biological Communities

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, and riparian habitat. These habitats are regulated under federal regulations (such as the Clean Water Act [CWA]), state regulations (such as the Porter-Cologne Act, the California Department of Fish and Wildlife (CDFW) Streambed Alteration Program, and CEQA), or local ordinances or policies (such as City or County Tree Ordinances, Special Habitat Management Areas, applicable Local Coastal Programs [LCP], and General Plan Elements).

Waters of the United States Regulated by the U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (Corps) regulates “Waters of the United States” under Section 404 of the CWA. Waters of the United States are defined in the Code of Federal Regulations as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the Corps Wetlands Delineation Manual (Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to CWA Section 404 jurisdiction as “other waters” and are often characterized by an ordinary high water mark (OHWM). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into Waters of the United States generally requires an individual or nationwide permit from the Corps under Section 404 of the CWA.

Waters of the State Regulated by the Regional Water Quality Control Board

The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope and has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes "isolated" wetlands and waters that may not be regulated by the Corps under CWA Section 404. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State, are required to comply with the terms of the Water Quality Certification determination. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

Sensitive Biological Communities Regulated by CDFW

Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by the CDFW under Section 1600-1616 of the California Fish and Game Code (CFGF). Alterations to or work within or adjacent to streambeds or lakes generally require an application for a Section 1602 Lake and Streambed Alteration Agreement. The term "stream", which includes creeks and rivers, is defined in the California Code of Regulations as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). In addition, the term "stream" can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG 1994). "Riparian" is defined as "on, or pertaining to, the banks of a stream" (CDFG 1994). "Riparian vegetation" is defined as vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFG 1994). Removal of riparian vegetation also requires an application for a Section 1602 Lake and Streambed Alteration Agreement from the CDFW.

The CDFW also ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in its California Natural Diversity Database (CNDDDB). CNDDDB 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. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G).

Sensitive Biological Communities Regulated by the California Coastal Commission and Half Moon Bay LCP

The California Coastal Commission (CCC) guidelines contain definitions for specific types of Environmental Sensitive Habitat Areas (ESHAs), including: wetlands, estuaries, streams and rivers, lakes, open coastal waters and coastal waters, riparian habitats, other resource areas, and special-status species and their habitats. The Half Moon Bay LCP defines sensitive habitat and coastal resource areas for conservation to include: sand dunes; marine habitats; sea cliffs; riparian areas; wetlands, coastal tidelands and marshes, lakes, ponds, and adjacent shore habitats; coastal or off-shore migratory bird nesting sites; areas used for scientific study,

refuges, and reserves; habitats containing unique or rare and endangered species; rocky intertidal zones; coastal scrub communities; wild strawberry habitat; and archaeological resources. Any areas that may meet the definition of any ESHA as defined by the CCC guidelines or the Half Moon Bay LCP are considered sensitive in this document.

The boundaries of wetland areas regulated by the Corps and CCC/Half Moon Bay LCP are often not the same due to the differing goals of the respective regulatory programs and also because these agencies use different definitions for determining the extent of wetland areas. As previously described, the Corps requires that positive indicators for all three parameters, the presence of wetland hydrology, hydric soils, and a predominance of hydrophytic vegetation, be present for an area to meet the Corps' wetland definition. The CCC/Half Moon Bay LCP does not necessarily require that all three wetland indicators (wetland hydrology, hydric soils, and a predominance of hydrophytic vegetation) be present for an area to be determined to be a "wetland"; rather, the presence of only one of these three parameters ~~hydric soils in the absence of a predominance of hydrophytes (or vice versa)~~ could be sufficient for a positive wetland determination.

The Half Moon Bay LCP outlines permitted uses within specific ESHAs. Permitted uses within riparian corridors, such as the habitat associated with Pilarcitos Creek, include necessary water supply projects (City of Half Moon Bay 2011).

Special-Status Species

Special-status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act (FESA) or California Endangered Species Act (CESA). These Acts afford protection to both listed and proposed species. In addition, CDFW Species of Special Concern and the National Marine Fisheries Service (NMFS) Species of Concern, which are species that face extirpation if current population and habitat trends continue, USFWS Birds of Conservation Concern, sensitive species included in USFWS Recovery Plans, and CDFW special-status invertebrates are all considered special-status species. Although CDFW Species of Special Concern generally have no special legal status, they are given special consideration under CEQA. In addition to regulations for special-status species, most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act (MBTA) of 1918. Under this legislation, destroying active nests, eggs, and young is illegal.

Bat species designated as "High Priority" by the Western Bat Working Group (WBWG) qualify for legal protection under Section 15380(d) of the CEQA Guidelines. Species designated "High Priority" are defined as "imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats" (CDFWb 2014). Plant species on California Native Plant Society (CNPS) Lists 1 and 2 are also considered special-status plant species. Impacts to these species are considered significant according to CEQA.

Critical Habitat

Critical habitat is a term defined and used in the FESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The FESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. In many cases, this level of protection is similar to that already provided to species by the FESA "jeopardy standard."

However, areas that are currently unoccupied by the species but which are needed for the species' recovery, are protected by the prohibition against adverse modification of critical habitat.

Relevant Local Policies, Ordinances, Regulations

City of Half Moon Bay Heritage Tree Ordinance

Pursuant to Section 7.40 of the Half Moon Bay Municipal Code, a heritage tree is defined as a tree located on public or private property, exclusive of eucalyptus, with a trunk diameter of 12 inches or circumference of approximately 38 inches measured at 48 inches above ground level; a tree or stand of trees designated by City Council resolution to be heritage trees based on special historical, environmental, or aesthetic value; or any street tree located within the public right of way along the entire length of Main Street.

Biological Communities in the Project Area

WRA, Inc. biologists conducted a site assessment on August 4, 2014. See Appendix A for a map of biological communities and for lists of observed or documented species within or near the project area. Non-sensitive biological communities in the project area include developed/disturbed areas. Two sensitive biological communities, or ESHAs, occur in the project area: a perennial stream and riparian corridor habitat.

The developed/disturbed areas include paved parking areas and sidewalks, compacted dirt adjacent to existing commercial development, road shoulders, and lawns.

Pilarcitos Creek, a perennial stream, extends through the project area in an east-west direction. The creek channel, as delineated by OHWM, could potentially be considered a waters of the United States subject to the jurisdiction of the Corps under the CWA. The creek, as delineated by top of bank (TOB), could potentially be considered as waters of the state subject to the jurisdiction of the RWQCB under the Porter-Cologne Act and CDFW under the CFGC. The creek is also a potential ESHA subject to the jurisdiction of the CCC/Half Moon Bay LCP.

Within the project area, riparian habitat along Pilarcitos Creek is dominated by red alder (*Alnus rubra*), red willow (*Salix laevigata*), and arroyo willow (*Salix lasiolepis*). This community meets the definition of red willow riparian forest *Salix laevigata* Woodland Alliance defined by Sawyer et al. (2009). In upland areas outside of the creek TOB, the understory was dominated by herbs and forbs including stinging nettle (*Urtica dioica*), cape ivy (*Delairea odorata*), Himalayan blackberry (*Rubus armeniacus*), and California blackberry (*Rubus ursinus*). The overstory consisted of more than 50 percent of riparian species including red alder, arroyo willow, and alder; accordingly, the vegetation within the project area meets the CCC/Half Moon Bay LCP definition of riparian corridor. Riparian areas in the project area could potentially be subject to the jurisdiction of the RWQCB, CDFW, and the CCC/Half Moon Bay LCP. Several trees in the project area could meet the criteria for "heritage tree" under the Half Moon Bay Heritage Tree Ordinance.

Special-Status Species in the Project Area

Plants

Of the 47 special-status plant species documented in the vicinity of the project area, 44 of these species are unlikely or have no potential to occur in the project area due to lack of suitable habitat (see Appendix A). Three special-status plant species have moderate potential to occur within the project area: Choris' popcorn flower (*Plagiobothrys chorisianus* var. *chorisianus*), Hickman's cinquefoil (*Potentilla hickmanii*), and saline clover (*Trifolium hydrophilum*). Potential habitat for these three species within the project area is limited to the low-lying mesic areas on the fringe of the freshwater stream and surrounding areas.

Wildlife

Of the 68 special-status wildlife species known to occur in the vicinity of the project area, 59 of these species are unlikely or have no potential to occur there (see Appendix A). Species may have been considered unlikely to occur due to lack of available habitat or, in some cases, the distance of the project area from documented occurrences. The special-status wildlife species discussed below have a moderate or high potential to occur in the project area.

Western red bat (*Lasiurus blossevillii*), CDFW Species of Special Concern, WBWG High Priority. Moderate Potential. Western red bat are highly migratory and broadly distributed, reaching from southern Canada through much of the western United States. They are typically solitary, roosting primarily in the foliage of trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas possibly and association with riparian habitat (particularly willows, cottonwoods, and sycamores). This species may occasionally roost in suitable trees within the project area, though the close proximity of urban downtown Half Moon Bay may deter bats from roosting within the project area. Therefore, there is a moderate potential for this species to occur within the project area.

Hoary bat (*Lasiurus cinereus*), WBWG Medium Priority. Moderate Potential. Hoary bats are highly associated with forested habitats in the western United States, particularly the Pacific Northwest. They are a solitary species and roost primarily in foliage of both coniferous and deciduous trees, near the ends of branches, usually at the edge of a clearing. Roosts are typically 10 to 30 feet above the ground. Hoary bats have also been reported to roost in caves, beneath rock ledges, in woodpecker holes, in grey squirrel nests, under driftwood, and clinging to the side of buildings, though this latter behavior is not typical. Hoary bats are thought to be highly migratory; however, wintering sites and migratory routes have not been well documented. This species tolerates a wide range of temperatures and have been captured at air temperatures between 0 and 22 degrees C. Hoary bats probably mate in the fall, followed by delayed implantation and birth the following May through July. Hoary bats usually emerge late in the evening to forage, typically from just over one hour after sunset to after midnight. Hoary bats reportedly have a strong preference for moths, but are also known to eat beetles, flies, grasshoppers, termites, dragonflies, and wasps (WBWG 2005). This species may occasionally roost in suitable trees within the project area, though the close proximity of urban downtown Half Moon Bay may deter bats from roosting within the project area. Therefore, there is a moderate potential for this species to occur within the project area.

San Francisco (salt marsh) common yellowthroat (*Geothlypis trichas sinuosa*), USFWS Bird of Conservation Concern, CDFW Species of Special Concern. High Potential. This subspecies of the common yellowthroat is found in freshwater marshes, coastal swales, riparian thickets, brackish marshes, and saltwater marshes. Their breeding range extends from Tomales Bay in the north, Carquinez Strait to the east, and Santa Cruz County to the south. This species requires thick, continuous cover such as tall grasses, tule patches, or riparian vegetation down to the water surface for foraging and prefers willows for nesting. Although willows within the project area are not particularly dense, they may provide suitable nesting habitat for this species. Additionally, this species has been documented to occur less than 1 mile from the Study Area (CDFW 2014a). Therefore, there is a high potential for this species to nest and forage within the Study Area.

Yellow warbler (*Setophaga petechial*), CDFW Species of Special Concern. USFWS Bird of Conservation Concern. High Potential. Yellow Warbler breeds most commonly in wet, deciduous thickets, especially those dominated by willows, and in disturbed and early successional habitats (Lowther et al. 1999). This species is found between 300 to 9,000 feet elevation in California and at higher elevations along watercourses with riparian growth (Lowther

et al. 1999). Yellow warbler populations have declined due to brood parasitism by brown-headed cowbirds (*Molothrus ater*) and habitat destruction. This species' diet is primarily comprised of insects supplemented with berries. The project area provides suitable riparian habitat for this species to nest, and yellow warblers have been documented to nest in San Mateo County (Shuford and Gardali 2008). Therefore, there is a high potential for this species to nest and forage within the project area.

Loggerhead shrike (*Lanius ludovicianus*), CDFW Species of Special Concern. USFWS Bird of Conservation Concern. Moderate Potential. Loggerhead shrike is a common resident and winter visitor in lowlands and foothills throughout California. It prefers open habitats with scattered trees, shrubs, posts, fences, utility lines or other perches. Nests are usually built on a stable branch in a densely-foliaged shrub or small tree and are usually well-concealed. The highest densities occur in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill, riparian, pinyon-juniper, juniper, and desert riparian habitats. While this species eats mostly arthropods, they also take amphibians, small to medium-sized reptiles, small mammals, and birds. They are also known to scavenge on carrion. The project area provides suitable nesting and foraging habitat for loggerhead shrikes. Though suitable habitat is present, the immediately surrounding area is dominated by urban development, which does not provide suitable forage for this species and may deter nesting attempts in the project area. Therefore, this species has a moderate potential to occur within the project area.

Pacific pond turtle (PPT, *Actinemys marmorata*), CDFW Species of Special Concern. Moderate Potential. The Pacific pond turtle (PPT) is the only native freshwater turtle in California. This turtle is uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and Transverse Ranges. Pacific pond turtle inhabits annual and perennial aquatic habitats, such as coastal lagoons, lakes, ponds, marshes, rivers, and streams from sea level to 5,500 feet in elevation. Pacific pond turtle also occupies man-made habitats such as stock ponds, wastewater storage, percolation ponds, canals, and reservoirs. This species requires low-flowing or stagnant freshwater aquatic habitat with suitable basking structures, including rocks, logs, algal mats, mud banks, and sand. Warm, shallow, nutrient-rich waters are ideal as they support PPT prey items, which include aquatic invertebrates and occasionally fish, carrion, and vegetation. Turtles require suitable aquatic habitat for most of the year; however,

PPT often occupy creeks, rivers, and coastal lagoons that become seasonally unsuitable. To escape periods of high water flow, high salinity, or prolonged dry conditions, PPT may move upstream and/or take refuge in vegetated, upland habitat for up to four months (Rathbun et al. 2002). Although upland habitat is utilized for refuging and nesting, this species preferentially utilizes aquatic and riparian corridors for movement and dispersal.

There have been no documented occurrences of this species within 5 miles of the project area (CDFW 2014a). At the time of the August 4, 2014 site visit, the portion of Pilarcitos Creek within the project area was very slow-moving, which is a positive attribute for turtles. It was extremely shallow and clear, however, and did not provide aquatic escape habitat for turtles to evade predators. It is likely that during the rainy season, the creek would provide more aquatic escape habitat. The creek is also very entrenched through the project area, likely making it impossible for turtles to move to upland habitat for nesting or seasonal refuge. Pacific pond turtle is unlikely to nest in or adjacent to the project area, though it may occasionally move through or bask within the project area when there are appropriate water levels and sufficient sunlight passes through the tree canopy. Therefore, there is a moderate potential for this species to occur within the project area.

San Francisco garter snake (SFGS, *Thamnophis sirtalis tetrataenia*), Federal Endangered, State Endangered, CDFW Fully Protected. High Potential. Historically, San Francisco garter snake (SFGS) occurred in scattered wetland areas on the San Francisco Peninsula from approximately the San Francisco County line south along the eastern and western bases of the Santa Cruz Mountains, at least to the Upper Crystal Springs Reservoir, and along the coast south to Año Nuevo Point, San Mateo County, and Waddell Creek, Santa Cruz County. The preferred habitat of the SFGS is a densely vegetated pond near an open hillside where they can sun themselves, feed, and find cover in rodent burrows; however, considerably less-ideal habitats can be successfully occupied. Temporary ponds and other seasonal freshwater bodies are also used. Emergent and bankside vegetation such as cattails (*Typha* spp.), bulrushes (*Scirpus* spp.) and spike rushes (*Juncus* spp. and *Eleocharis* spp.) apparently are preferred and used for cover. The area between stream and pond habitats and grasslands or bank sides is used for basking, while nearby dense vegetation or water often provide escape cover. Snakes also use floating algal or rush mats, if available.

There are two significant components to SFGS habitat: 1) ponds or suitable habitat that support California red-legged frog (CRLF), American bullfrog (*Rana catesbeiana*), or the Pacific chorusfrog (*Pseudacris regilla*) and 2) surrounding upland that supports Botta's pocket gopher (*Thomomys bottae*) or the California meadow vole (*Microtus californicus*). Ranid frogs are an obligate component of the SFGS's diet (USFWS 2006a).

Specific information on the home range/territory of the SFGS is unknown. In Manitoba, Canada the same species (different sub-species) moved an average of 6.6 miles. The SFGS's home range would probably be less and determined by site conditions (food availability, cover, etc.) (USFWS 1985). Studies at Año Nuevo State Reserve found the mean distance of female hibernacula to the Visitor Center Pond was 459 feet, with a maximum distance of 637 feet. Distances greater than 637 feet have been reported, including an unconfirmed distance of approximately 1000 feet (McGinnis et al. 1987).

SFGS has been documented to occur in Pilarcitos Creek less than 0.25 mile downstream of the project area (CDFW 2014a). There is not a substantial amount of emergent vegetation within the project area, but the snake may still move through and occasionally forage within aquatic habitat and uplands on-site. Based on habitat conditions and the close proximity of documented occurrences, there is a high potential for this species to occur, at least as a transient, within the project area.

California red-legged frog (CRLF, *Rana draytonii*), Federal Threatened, CDFW Species of Concern. High Potential. The historic range of CRLF extended along the coast from the vicinity of Point Reyes National Seashore, Marin County, California and inland from Redding, Shasta County southward to northwestern Baja California, Mexico (Jennings and Hayes 1994, Hayes and Krempels 1986). The current distribution of this species includes only isolated localities in the Sierra Nevada, northern Coast and Northern Traverse Ranges. It is still common in the San Francisco Bay Area and along the Central Coast and it is now believed extirpated from the southern Transverse and Peninsular Ranges (USFWS 2002).

There are four primary constituent elements that are considered to be essential for the conservation or survival of this species. These include: aquatic breeding habitat; non-breeding aquatic habitat; upland habitat; and dispersal habitat (USFWS 2006b). Aquatic breeding habitat consists of low-gradient fresh water bodies including natural and manmade (e.g., stock) ponds and pools in perennial streams (Jennings and Hayes 1994), marshes, lagoons, and dune ponds. Aquatic breeding habitat must hold water for a minimum of 20 weeks in most years. This is the average amount of time needed for egg, larvae, and tadpole development and metamorphosis so that juveniles can become capable of surviving in upland habitats (USFWS

2006b). Optimal habitat is characterized by dense, shrubby riparian vegetation associated with deep (less than 2.3 feet), still, or slow-moving water (Hayes and Jennings 1986, Jennings 1988). Arroyo willow seems to provide the most suitable riparian habitat structurally, although cattails and bulrushes also can provide suitable habitat (Jennings 1988). Although CRLF are found in ephemeral streams and ponds, populations cannot be maintained where all surface water disappears (Jennings and Hayes 1994).

Aquatic non-breeding habitat may or may not hold water long enough for this species to hatch and complete its aquatic life cycle, but it provides shelter, foraging, predator avoidance, and aquatic dispersal for juvenile and adult CRLF. These waterbodies include: plunge pools within intermittent creeks; seeps; quiet water refugia during high water flows; and springs of sufficient flow to withstand the summer dry period. California red-legged frog can use large cracks in the bottom of dried ponds as refugia to maintain moisture and avoid heat and solar exposure (Alvarez 2004). Non-breeding aquatic features enable CRLF to survive drought periods, and disperse to other aquatic breeding habitat (USFWS 2006b).

Upland habitats include areas within 200 to 300 feet of aquatic and riparian habitat and are comprised of grasslands, woodlands, and/or vegetation that provide shelter, forage, and predator avoidance. These upland features provide breeding, non-breeding, feeding, and sheltering habitat for juvenile and adult frogs (e.g., shelter, shade, moisture, cooler temperatures, a prey base, foraging opportunities, and areas for predator avoidance). Upland habitat can include structural features such as boulders, rocks and organic debris (e.g., downed trees, logs), as well as small mammal burrows and moist leaf litter (USFWS 2006b). Dispersal habitat includes accessible upland or riparian habitats between occupied locations within 0.7 mile of each other that allow for movement between these sites (USFWS 2002).

Dispersal habitat includes various natural and altered habitats such as agricultural fields, which do not contain barriers to dispersal. Moderate to high density urban or industrial developments, large reservoirs and heavily traveled roads without bridges or culverts are considered barriers to dispersal (USFWS 2006b). Short-distance dispersal movements are generally straight-line movements (Bulger et al. 2003). Overland dispersal movements through upland habitats typically occur at night during wet weather (USFWS 2002, Bulger et al. 2003, Fellers and Kleeman 2007). During dry weather, CRLF tend to remain very close to a water source; however, overland dispersal may occur in response to receding water (USFWS 2002). California red-legged frog has been documented to disperse up to 1.8 miles (Fellers and Kleeman 2007).

The portion of Pilarcitos Creek within the Study Area may provide suitable aquatic breeding and dispersal habitat for this species. The riparian canopy cover and low gradient, slow-moving perennial creek are positive habitat attributes. This species is unlikely to use uplands within the project area, however, due to the highly entrenched banks around the creek, which are likely impossible for this frog to climb, and due to the highly developed area surrounding the project area. This species was documented 0.25 mile downstream of the project area in 2006 (CDFW 2014a). Based on habitat conditions and the close proximity of documented occurrences, there is a high potential for this species to occur within the project area.

Steelhead - Central California Coast DPS (*Oncorhynchus mykiss irideus*), Federal Threatened, High Potential. The Central California Coast DPS includes all naturally spawned populations of steelhead (and their progeny) in California streams from the Russian River to Aptos Creek, and the drainages of San Francisco and San Pablo Bays eastward to the Napa River (inclusive), excluding the Sacramento-San Joaquin River Basin.

Steelhead typically migrate to marine waters after spending two years in freshwater, though they may stay up to seven. They then reside in marine waters for 2 or 3 years prior to returning

to their natal stream to spawn as 4-or 5-year-olds. Steelhead adults typically spawn between December and June. In California, females typically spawn two times before they die. Preferred spawning habitat for steelhead is in perennial streams with cool to cold water temperatures, high dissolved oxygen levels, and fast flowing water. Abundant riffle areas (shallow areas with gravel or cobble substrate) for spawning and deeper pools with sufficient riparian cover for rearing are necessary for successful breeding.

This species has been observed within Pilarcitos Creek, and both adults and smolting juveniles likely pass through the project area on their way to or from breeding grounds. This species is likely to be present only seasonally when water levels allow fish passage, during migrations to spawning grounds further upstream, and during outmigration. Based on habitat characteristics and documented occurrences within Pilarcitos Creek, this species has a high potential to occur within the project area.

Discussion of Impacts

- a) ***Less than Significant with Mitigation Incorporated.*** Special-status plant species would not be affected by project construction activities. The project area does not support suitable habitat for all but three special-status plant species known to occur in the vicinity of the project area. Suitable habitat for the three special-status plant species with potential to occur in the project area (Choris' popcorn flower, Hickman's cinquefoil, and saline clover) is limited to low-lying mesic areas on the fringe of the freshwater stream and surrounding areas. Implementation of Mitigation Measure BIO-1 will limit all construction activities to designated areas at minimum 15 feet from the top of the creek bank, and thus outside of suitable habitat for these three species. Impacts to special-status plant species would be less than significant.

Common and special-status wildlife, particularly birds and bats, may be exposed to noise and other disturbance during construction, but these activities are typical of urban environments and these species are usually acclimated to these types of disturbance. In addition to regulations for special-status species, most birds in the United States, including non-special-status species, are protected by the MBTA and the CFGC. Under this legislation, destroying active nests, eggs, and young is illegal. The primary potential for impacts to birds (both special-status and non-) would be direct disturbances (including physical impacts) to active bird nests during the breeding bird season (defined generally as February 1 to August 31). Such disturbances could result in the abandonment of the nest and/or the destruction or injury of eggs and/or young. Tree trimming or tree removal has potential to impact roosts of bat species designated as "High Priority" by the WBWG. However, implementation of Mitigation Measure BIO-2 and Mitigation Measure BIO-3 would reduce such impacts to bats and birds to a less-than-significant level.

It is not anticipated that HDD activities will affect CRLF, SFGS, PPT, or steelhead. However, HDD does have the potential for "frac-out", where pressure built up in the bore tunnel can force drilling mud up through the ground and into the natural environment. Although it is unlikely, if frac-out occurs, it may affect habitat and potentially individuals of these species. California red-legged frog, PPT and SFGS are likely to inhabit aquatic habitat and the banks of Pilarcitos Creek within the project area, and steelhead habitat includes aquatic features and the cover provided by riparian trees, in-channel root wads and debris, and emergent vegetation. These species may forage and disperse through the project area; CRLF may also breed in and adjacent to the project area. Implementation of Mitigation Measure BIO-4 would reduce such impacts to a less-than-significant level.

Mitigation Measure BIO-1:

To the extent feasible, all vegetation removal, ground disturbance, and other construction activities shall occur at minimum 15 feet above the top of the creek bank so as to avoid low-lying mesic areas on the fringe of the creek that may provide suitable habitat for the three special-status plant species with potential to occur in the project area. If vegetation removal and ground disturbance activities cannot be restricted to 15 feet above the top of the creek bank, then protocol rare plant surveys shall occur for these three species between the months of April and June. A qualified biologist, utilizing approved survey methodology by the CDFW and USFW, shall conduct these surveys.

Mitigation Measure BIO-2:

To the extent feasible and necessary, tree removal or tree trimming shall be restricted to the period between September and May, outside of the maternity roosting season for bats. If trees are slated for removal or trimming during the maternity roosting season for bats (May – August), a qualified biologist shall conduct a bat survey prior to the installation of work. If a bat roost is observed, a 50-foot buffer around the roost should be demarcated and observed.

Mitigation Measure BIO-3:

If ground disturbance or removal of vegetation occurs between February 1 and June 30, preconstruction bird surveys shall be performed by a qualified biologist no more than 14 days prior to commencement of such activities to determine the presence and location of nesting bird species. If ground disturbance or removal of vegetation occurs between July 1 and August 31, preconstruction bird surveys shall be performed within 30 days prior to such activities. If active nests are present, establishment of temporary protective breeding season buffers will avoid direct mortality of these birds, nests, or young. The appropriate buffer distance is dependent on the species, surrounding vegetation, and topography and shall be determined by a qualified biologist as appropriate to prevent nest abandonment and direct mortality during construction. Ground disturbance and removal of vegetation within the project area does not require preconstruction bird surveys if performed between September 1 and January 31.

Mitigation Measure BIO-4:

The following measures shall be implemented to avoid impacts to CRLF, PPT, SFGS, and steelhead:

- A qualified biologist shall be on-site during drilling activities to monitor the project's compliance with avoidance and minimization measures and to advise required measures should a listed species be present.
- A spill response plan shall be prepared for use in the unlikely event of a frac-out during HDD activities.
- Prior to the start of groundbreaking activities, all construction personnel shall receive training on special-status species and their habitats by a qualified biologist. The importance of these species and their habitat shall be described to all employees as well as the minimization and avoidance measures that are to be implemented as part of the project. The original list of employees who attend the

training sessions will be maintained by the contractor and be made available for review by the USFWS and the CDFW upon request.

- No trash shall be deposited on the site during construction activities. All trash shall be placed in trash receptacles with secure lids stored in vehicles and removed nightly from the project area.
- Any fueling and maintenance of equipment shall be conducted off-site, if practicable, and at least 50 feet from any designated ESHA.

- b) ***Less than Significant with Mitigation Incorporated.*** Impacts to stream and riparian habitat in the project area will be avoided by HDD the portion of the pipeline that crosses Pilarcitos Creek below the creek bed. As previously stated, HDD does have the potential for “frac-out”, where pressure built up in the bore tunnel can force drilling mud up through the ground and into the natural environment. Although it is unlikely, if frac-out occurs, it may affect sensitive stream and riparian habitat. There is also potential for soil disturbance or accidental release of materials that would impact stream and riparian habitats. Implementation of Mitigation Measure BIO-5 would reduce such impacts to a less-than-significant level.

Project activities will occur at minimum 15 feet from the TOB, and outside of riparian habitat. Although no vegetation trimming or removal is anticipated in riparian areas, there is potential for some unanticipated trimming or removal of riparian vegetation. Implementation of Mitigation Measure BIO-6 would reduce such impacts to a less-than-significant level.

Mitigation Measure BIO-5:

The following general avoidance measures shall be implemented in the vicinity of stream and riparian habitat:

- Temporary silt fencing shall be installed along the entire perimeter of land disturbing activities in the vicinity of stream and riparian habitats.
- To the extent feasible, soil disturbance in the riparian corridor, including a 50-foot buffer zone around the riparian corridor shall be minimized. This will reduce the impact to existing soils and vegetation that will remain as natural habitat and reduce the potential for soil erosion. Perimeter erosion and sediment control measures (i.e., silt fencing, straw waddles) shall be installed within the buffer zone areas as an extra precaution to reduce the possibility of sediments entering the adjacent sensitive habitats.
- To the extent feasible, solid materials, including wood, masonry/rock, glass, paper, or other materials shall not be stored within 50 feet of riparian areas. Solid waste materials shall be properly disposed of off-site. Fluid materials, including concrete, was water, fuels, lubricants, or other fluid materials used during construction should not be disposed of on-site and should be stored or confined as necessary to prevent spillage into natural habitats. If a spill of such material occurs, the area shall be cleaned and contaminated materials disposed of properly. The affected area shall be restored to its natural condition.

Mitigation Measure BIO-6:

~~To the extent feasible,~~ All vegetation removal, ground disturbance, and other construction activities shall occur at minimum 15 feet above the TOB and completely avoid impacts to riparian vegetation. If some vegetation removal and/or trimming in riparian areas is determined to be necessary, the following standards shall be implemented:

- Impacted riparian vegetation shall be replaced at a minimum ratio of 3:1, utilizing a vegetation replanting plan prepared by a District-approved qualified biologist;
- Minimize trimming or removal of riparian vegetation;
- Minimize land exposure during construction and use temporary vegetation or mulching to protect critical areas;
- Minimize erosion, sedimentation and runoff by appropriately grading and replanting modified riparian areas;
- Use only adapted native or non-invasive exotic plant species when replanting riparian areas; and
- Maintain natural vegetation buffer areas that protect riparian habitats.

- c) ***Less than Significant.*** Project activity will occur at minimum 15 feet from the TOB, and thus will not affect federally protected wetlands as defined by Section 404 of the CWA.
- d) ***Less than Significant.*** Pilarcitos Creek likely provides a local movement corridor for common wildlife species. However, impacts to this movement corridor due to project activities are anticipated to be minor and temporary in nature, and thus less than significant. Where the pipeline crosses Pilarcitos Creek it would be installed via HDD below the creek bed.
- e) ***Less than Significant.*** The City of Half Moon Bay provides for the protection of “heritage trees”, as defined above. The project is not expected to impact or require the removal of any trees, but if a tree must be removed or impacted, the project will comply with the City of Half Moon’s Bay tree ordinance.
- f) ***No Impact.*** No state, regional, or federal habitat conservation plans or Natural Community Conservation Plans have been adopted for the project site.

V. CULTURAL RESOURCES — Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
a) Cause a substantial adverse change in the significance of a historical resource as identified in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1,2,11
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1,2,11
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2, 11
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1, 11

Environmental Setting

In 2014, the City of Half Moon Bay initiated a multi-year collaborative process to update its General Plan, Local Coastal Program (LCP), and Zoning Ordinance. As part of this effort SWCA Environmental Consultants conducted a cultural resources records search, preliminary archival and literature review, and initial Native American scoping to assess the sensitivity for cultural resources.

Discussion of Impacts

- a) **No Impact.** Pursuant to State CEQA guideline 15064.5, record searches, field surveys, and research were conducted to determine the potential presence of historic resources as part of the Existing Conditions, Trends, and Opportunities Assessment Report, (SWCA 2014). The project site does not contain any resource listed in, or determined to be eligible by, the State Historical Resource Commission and does not contain a resource included in a local register of historic resources or identified as significant in a historical resource survey. Additionally, the project site does not contain any object, building, structure, site, area, place, record, or manuscript that a lead agency determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Nearby historical buildings would not be affected by the pipeline because all disturbances would take place within the road rights-of-way, and the underground pipeline would not change the visual character of the roads near the historical buildings. Therefore, no impact would occur.
- b ,d) **Less than Significant with Mitigation Incorporated.** The project site does not contain any known archaeological resources and has a low potential to contain buried cultural deposits or human remains based on past disturbances. However, the project could uncover such materials during construction.

Potential impacts on unknown buried cultural resources or human remains would be less than significant with compliance with Mitigation Measure CULT-1.

Mitigation Measure CULT-1:

The District or its contractor shall conduct pre-work training so that in the event that soil disturbance uncovers buried archaeological deposits, workers are aware of what a buried deposit might look like and what they need to do.

The contractor shall comply with California Health and Safety Code Section 7050.5 and California Public Resources Code Sections 5097.5, 5097.9 et seq., regarding the discovery and disturbance of cultural materials or human remains, should any be discovered during project construction.

In keeping with the CEQA guidelines, if archaeological remains are uncovered, work at the place of discovery shall be halted immediately until a qualified archaeologist can evaluate the finds (§15064.5 [f]). Prehistoric archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

The following actions are promulgated in Public Resources Code 5097.98 and Health and Human Safety Code 7050.5, and pertain to the discovery of human remains. If human remains are encountered, excavation or disturbance of the location shall be halted in the vicinity of the find, and the county coroner contacted. If the coroner determines the remains are Native American, the coroner shall contact the Native American Heritage Commission. The Native American Heritage Commission shall identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity.

- c) ***Less than Significant with Mitigation Incorporated.*** Most of the project site follows existing road rights-of-ways in a developed portion of the City and does not contain any undisturbed land. The City of Half Moon Bay Local Coastal Program/Land Use Plan (LCP/LUP), Chapter 6 Archaeological and Paleontological Resources states that “No Paleontological resources of known significance have been identified in Half Moon Bay; they are extremely limited throughout the entire San Mateo County Coastal Zone.”

Mitigation Measure CULT-2:

The District or its contractor shall conduct pre-work training so that in the event that soil disturbance uncovers buried paleontological deposits, workers are aware of what a buried deposit might look like and what they need to do.

If buried paleontological resources are discovered during earthmoving activities, work shall stop in that area and within 100 feet of the find until a qualified paleontologist can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the City of Half Moon Bay and other appropriate agencies.

VI. GEOLOGY AND SOILS — Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					2,14,16
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2,14
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2,14
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2,14
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2,14
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2,7
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2,7
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1

Environmental Setting

Regional Geologic Setting

The proposed project is located in the San Francisco Bay Region on the edge of the Coastal Range Geomorphic Province in the eastern foothills of the Santa Cruz Mountains. The local topography is dominated by a series of west-to-southwest trending spur ridges separated by broad swales.

Three major active earthquake faults transect the San Francisco Bay Area trending northwest to southeast. The San Andreas Fault occurs approximately seven miles east of the site. The San Gregorio Fault is located about 3 miles west of the site.

Soils and Seismicity

The project site has relatively steep topography sloping down from adjacent development towards Pilarcitos Creek, an incised channel. Soils in the study area are classified as Farallone coarse sandy loam, sloping, and Gullied land (alluvial soil material).

Farallone loam consists of well-drained, well drained soils that formed in alluvium derived from granitic rocks and is considered a hydric soil. Gullied land is a miscellaneous land type occurring near streams extending through certain soil types, including Farallone, and is considered a hydric soil (USDA 1991).

Significant earthquakes have occurred in this area and strong to violent ground-shaking in the project site can be expected as a result of a major earthquake on one of the active faults in the region. The U.S. Geological Survey (UGGS) has estimated that there is a 63% chance that a magnitude 6.7 or greater earthquake will occur in the San Francisco Bay Area before 2032 (Working Group on California Earthquake Probabilities 2008). The probability of a 6.7 magnitude or greater earthquake occurring along individual faults was estimated to be 21% along the San Andreas Fault and 10% along the San Gregorio Fault (Working Group on California Earthquake Probabilities 2008).

Liquefaction and Lateral Spreading

Liquefaction is the temporary transformation of loose, saturated granular sediments from a solid state to a liquefied state as a result of seismic ground shaking. In the process, the soil undergoes temporary loss of strength, which commonly causes ground displacement or ground failure to occur. Since saturated soils are a necessary condition for liquefaction, soil layers in area where the groundwater table is near the surface have higher liquefaction potential than those in which the water table is located at greater depths. The San Mateo County Hazards Mitigation maps indicate that the lowland areas of the City have a very low to low potential for liquefaction.

Discussion of Impacts

- a-i) **No Impact.** The project site is not located within a State of California designated Alquist-Priolo Earthquake Fault Zone (California Department of Conservation, 1974). Earthquake fault zones are regulatory zones that encompass surface traces of active faults that have a potential for future surface fault rupture. The nearest faults to the project site are the San Gregorio Fault Zone and the San Andreas Fault Zone, approximately three miles west and seven miles east of the project site, respectively. No faults cross through the project site, and surface rupture associated with a fault is not anticipated in the City.
- a-ii) **Less Than Significant.** The project site is within seven miles of the San Andreas Fault Zone, one of the most seismically active faults in the world. During a major seismic event on the San Andreas Fault, there is the potential for strong ground shaking that could expose persons and property to undue risks. The project would be designed, engineered and constructed in conformance with standard engineering practices and California Building Code requirements. Compliance with California seismic design requirements would ensure the project site would not expose persons or property to strong seismic ground shaking hazards. Impacts in this regard would be less than significant.
- a-iii) **Less Than Significant.** The potential liquefaction from seismic activity is considered moderate to in the project site based on the geologic units and flat topography. In addition, the project is subject to all California Building Code

requirements for seismic conditions and would be designed to conform to all building requirements. Impacts associated with seismic ground failure, liquefaction and landslides would be less than significant.

- a-iv) **Less Than Significant.** The project site contains flat relief, which precludes the possibility of landslides on-site. No impacts in this regard would occur.
- b) **Less than Significant Impact.** Construction of the proposed project would involve ground disturbing activities that could potentially create erosion. Approximately 600 cubic yards of material would be disturbed during pipeline installation. The proposed project would be required to comply with the erosion control requirements stipulated in the National Pollution Discharge Elimination System (NPDES) Permit issued by the San Francisco Bay Regional Water Quality Control Board. These requirements include the preparation and implementation of a Storm Water Pollution Prevention Control Plan (SWPPP) that contains BMPs designed to control erosion, siltation, and contaminated runoff from construction sites. Typical BMPs include sand bags, detention basins, silt fencing, landscaping, hydroseeding, oil/water separators, storm drain inlet protection, street sweeping, and monitoring of water bodies. The preparation and implementation of the SWPPP would ensure potential adverse erosion, siltation, and contamination impacts would not occur during short-term construction. Therefore, the proposed projects impacts would be less than significant.
- c, d) **Less than Significant Impact.** The potential for geologic and soil hazards from unstable or expansive soils in the project site is considered low based on the geologic units, soil types, and flat topography. The ground disturbance associated with the proposed project would cause soil disturbance but these actions would not result in substantial changes in topography to ground surface relief features, geologic substructures or unstable soil conditions, unique geologic or physical features. The project is subject to all Federal, State, and local regulations and standards for seismic conditions including the Uniform Building Code, California Edition and would be designed to conform to all building requirements. Therefore, the proposed projects impacts would not expose human life to hazards and be less than significant.
- e) **No Impact.** The project does not involve construction of septic tanks or alternative wastewater disposal systems.

VII. GREENHOUSE GAS EMISSIONS — Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1,15

Environmental Setting

Assembly Bill 32, adopted in 2006, established the Global Warming Solutions Act of 2006 which requires the State to reduce greenhouse gas (GHG) emissions to 1990 levels by 2020. Senate Bill 97, adopted in 2007, required the Governor's Office of Planning and Research to develop CEQA guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions," and the Resources Agency certified and adopted the amendments to the guidelines on December 30, 2009.

GHGs are recognized by wide consensus among the scientific community to contribute to global warming/climate change and associated environmental impacts. The major GHGs released from human activity are carbon dioxide, methane, and nitrous oxide (Governor's Office of Planning and Research, 2008). The primary sources of GHGs are vehicles (including planes and trains), energy plants, and industrial and agricultural activities (such as dairies and hog farms).

Discussion of Impacts

- a) ***Less Than Significant Impact.*** GHG emissions from the project would be produced from construction-related equipment emissions and operation of the pipeline components. GHG emissions associated with operation of the project would consist of GHG emissions from electricity consumption to move water through the system. Based on the nature of the project and short duration of construction, GHG emissions resulting from construction activities will be both minor and temporary. Operational GHG emissions would be the same as existing conditions. While the project would have an incremental contribution to GHG emissions within the context of the City and region, the individual impact is considered less than significant.
- b) ***Less Than Significant Impact.*** The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. GHG emissions from off-road equipment and utility electrical usage are identified and planned for in the BAAQMD's 2010 Clean Air Plan as well as the BAAQMD's Source Inventory of Bay Area Greenhouse Gas Emissions (BAAQMD 2010a and 2010b). A primary objective of the 2010 Clean Air Plan is to reduce greenhouse gas emissions to 1990 levels by 2020 and 40% below 1990 levels by 2035. The project would generate emissions similar to existing conditions and, therefore, would not conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Therefore, a less-than-significant impact would occur.

VIII. HAZARDS AND HAZARDOUS MATERIALS — Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1,14

Environmental Setting

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency or if it has characteristics defined as hazardous by such an

agency. A hazardous material is defined in Title 22 of the California Code of Regulations as follows:

A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed. (California Code of Regulations, Title 22, Section 66261.10)

Chemical and physical properties cause a substance to be considered hazardous. Such properties include toxicity, ignitability, corrosivity, and reactivity (as defined in California Code of Regulations, Title 22, Sections 66261.20-66261.24). The accidental release of hazardous materials into the environment could potentially contaminate soils, surface water, and groundwater supplies. Under Government Code Section 65962.5, the California Department of Toxic Substances Control (DTSC) maintains a list of hazardous substance sites. This list, referred to as the "Cortese List," includes CALSITE hazardous material sites, sites with leaking underground storage tanks, and landfills with evidence of groundwater contamination.

No hazardous substance sites from the Cortese List have been identified within the project site. No hazardous material sites monitored by DTSC on the agency's Envirostor database have been reported within one-quarter of a mile of the project site (Department of Toxic Substances Control, 2011).

Discussion of Impacts

- a, b) ***Less than Significant Impact.*** Small amounts of hazardous materials would be used during construction activities for equipment maintenance (e.g., fuel and solvents) and re-paving the roads. Use of hazardous materials would be limited to the construction phase and would comply with applicable local, state, and federal standards associated with the handling and storage of hazardous materials. Hazardous materials would not be stored or used, such as for equipment maintenance, where they could affect nearby land uses. Standard construction measures included in the project description will be implemented to contain any accidental spills of oil and other hazardous materials, and the contractor will be required to ensure that adequate materials are on hand to clean up any accidental spill that may occur. With implementation of these standard measures included in the project description, impacts associated with the use or accidental spill of hazardous materials would be less than significant.
- c) ***Less than Significant Impact.*** The project site is within 0.25-mile of the Manuel F Cunha Intermediate School. Although some hazardous materials would be used during construction, given required compliance with applicable state and federal regulations regarding the transport, use and storage of hazardous materials, a spill or accident would have a low potential to affect people at the school. Any spills will be cleaned up immediately, and all wastes and used spill control materials will be properly disposed of at approved disposal facilities. Impacts would be less than significant.
- d) ***Less than Significant Impact.*** The project site has not been identified as a hazardous material or clean-up site. If potentially contaminated soil or groundwater is encountered during project excavation work, standard construction measures

included in the project description shall be implemented to handle and properly dispose of such materials, and the contractor will be required to ensure that adequate materials are on hand to manage and dispose of any potentially contaminated materials encountered during excavation. Any contaminated soil or groundwater encountered during excavation will be properly disposed of at approved disposal facilities. With implementation of these standard measures, potential impacts associated with encountering contaminated soil or groundwater, if any are encountered, would be less than significant.

- e, f) **No Impact.** The project site is not located near a public or private airport. The nearest airport is the Half Moon Bay Airport located approximately 6 miles from the project site.
- g) **Less than Significant Impact with Mitigation Incorporated.** Construction activities would require temporary lane closures and detours around the work area. Emergency access to or evacuation from surrounding areas would not be restricted during construction because of the availability of detours, but minor delays may be experienced for access to or evacuation from the land uses adjacent to the work area. The trenches used to install pipe could be quickly covered in the event of an emergency to allow vehicles to drive through the work area, which would ensure the project does not prevent emergency access to the residences or conflict with an emergency response or evacuation plan. Detours will be readily available at all times to allow emergency vehicles access around the work area. With implementation of Mitigation Measure TRAFFIC-1 and traffic control measures included in the project description, impacts would be less than significant.
- h) **Less Than Significant Impact.** According to the Association of Bay Area Governments (ABAG) Wildland Urban Interface (WUI) Fire Threat map, portions of the project site are located within and adjacent to an area subject to a moderate threat of wildland fires. However, the project involves the short-term construction of underground water pipeline and the long-term operation of the project would not increase the risk of wildfire near an urban area. Impacts would be less than significant.

IX. HYDROLOGY AND WATER QUALITY — Would the project:		<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
a)	Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1

IX. HYDROLOGY AND WATER QUALITY — Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
e) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2,14
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
j) Inundation of seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2,14

Environmental Setting

Hydrology in the project area is provided by precipitation and overland runoff from adjacent areas. Precipitation for Half Moon Bay was below normal during the 2013 rainy season, defined as October 1 to March 31. During the 2014 rainy season, precipitation was below normal from October to January, with February, March, and April at normal levels of precipitation (NRCS 2014).

According to the RWQCB's Water Quality Control Plan for the San Francisco Basin, the project site is located in the San Mateo Coastal Basin. The project site is covered with mostly pervious surfaces, with drainage flowing into existing street culverts. According to the Federal Emergency Management Agency (FEMA) Federal Insurance Rate Maps (FIRM), the majority of the project site is in flood zone X, which is outside the 100-year floodplain (FEMA, 2011). Construction activities will be maintained outside of a 15-foot buffer from the creek top of bank.

Pursuant to Section 402 of the CWA and the Porter-Cologne Water Quality Control Act, municipal stormwater discharges in the City of Half Moon Bay (the City is part of the San Mateo Countywide Stormwater Pollution Prevention Program) are regulated under the San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit, Order No. R2-2009-0074, NPDES Permit No. CAS612008, adopted October 14, 2009 (MRP). The MRP is overseen by the San Francisco Bay Regional Water Quality Control Board (Water Board).

Discussion of Impacts

- a) ***Less than Significant Impact.*** Construction activities would require ground disturbance of approximately 600 cubic yards of cut to dig trenches for pipeline installation. Soil removed from the trenches would be temporarily stockpiled along the roads, and, if not properly controlled, soil particles and other materials could be carried in stormwater runoff to downstream drainage facilities, which could degrade water quality in Pilarcitos Creek. Standard construction measures identified in the project description and recommended by the San Mateo Countywide Water Pollution Prevention Program would be implemented during periods of rain to minimize pollutants carried from the project site in runoff. The project would comply with terms of the San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System Permit. Water quality impacts during construction would be less than significant.
- b) ***No Impact.*** The project would not require use of groundwater supplies or affect groundwater recharge in the area. Virtually the entire project site is paved and therefore implantation of the project would not interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level
- c, d, e) ***Less than Significant Impact.*** The project would not cause a substantial change to the erosion and accretion patterns because the underground pipeline and infrastructure would not alter the existing drainage pattern of the area. Construction of the proposed project would involve ground-disturbing activities that could potentially create erosion. The proposed would be required to comply with the erosion control requirements stipulated in the NPDES Permit issued to the San Francisco Bay Regional Water Quality Control Board. These requirements include the preparation and implementation of a SWPPP that contains BMPs designed to control erosion, siltation, and contaminated runoff from construction sites. Typical BMPs include sand bags, detention basins, silt fencing, landscaping, hydroseeding, oil/water separators, storm drain inlet protection, street sweeping, and monitoring of water bodies. The preparation and implementation of the SWPPP would ensure that potential adverse erosion, siltation, and contamination impacts would not occur during short-term construction activities

Excavated soil will be removed from the site and all fill will be non-recycled material brought onto the site. All trenches will be filled and repaved to match the existing grades and surfaces. Any curbs, gutters, sidewalks, or other surface features damaged during construction will be repaired or replaced in kind. Construction activities will be maintained outside of a 15-foot buffer from the creek top of bank. A silt fence will be installed and maintained at the 15-foot buffer line. Impacts would be less than significant

- f) **Less than Significant Impact.** The project would not have other water quality impacts beyond those discussed under paragraphs (a-e) above. Therefore, impacts would be less than significant.
- g) **No Impact.** The proposed project does not include housing. Furthermore, as shown on Flood Insurance Rate Map # 0603190005A dated June 3, 1986, the project site is not within a 100-year flood hazard area. No impacts in this regard would occur.
- h) **No Impact.** As shown on Flood Insurance Rate Map # 0603190005A dated June 3, 1986, the project site is not within a 100-year flood hazard area. No impacts in this regard would occur.
- i) **No Impact.** Pilarcitos Dam, located upstream from the City and owned by the San Francisco Water Department, has a holding capacity of 3,100 acre-feet. Failure of this dam has the potential to endanger lives and property. This project would have no impact on the very low level of risk posed by Pilarcitos Dam.
- j) **No Impact.** The proposed project site is not within a tsunami inundation area, as shown by maps provided by the San Mateo County Office of Emergency Services. No inland water bodies exist on or near the project site, nor are there any substantial slopes around the project site. These conditions preclude the possibility of tsunamis, seiches, or mudflows. No impacts in this regard would occur.

X. LAND USE AND PLANNING – Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1

Environmental Setting

The project site is in a developed area of the City of Half Moon Bay. Existing land uses adjacent to the project site consist of commercial and residential development. The project site largely follows existing roads and their associated rights-of-way and includes an approximately 110-foot reach of Pilarcitos Creek and portions of Purissima, Mill and Main Street. The City of Half Moon Bay General Plan/LCP, adopted in 1993 with various subsequent chapter amendments, provides policies and implementation strategies for management of the resources and land uses in the City, and the City Codes provide restrictions and requirements to protect resources and comply with local, state, and federal laws. No habitat conservation plans have been adopted for the area.

Regulatory Setting

City of Half Moon Bay Local Coastal Program and Land Use Plan

The Half Moon Bay Land Use Policies and Map constitute the Land Use Plan of the LCP. The Zoning Code (Title 18 of the Municipal Code, including Chapter 18.20, which regulates Coastal Development Permits) together with the Zoning District Map constitutes the Implementation Plan of the LCP. The primary goal of the LCP is to ensure that the local government's land use plans, zoning ordinances, zoning maps, and implemented actions meet the requirements of the provisions and policies of the Coastal Act at the local level. Coastal Resource Conservation Standards are described in Chapter 18.38 of the LCP and define sensitive habitat and coastal resource areas for conservation to include: sand dunes; marine habitats; sea cliffs; riparian areas; wetlands, coastal tidelands and marshes, lakes, ponds, and adjacent shore habitats; coastal or off-shore migratory bird nesting sites; areas used for scientific study, refuges, and reserves; habitats containing unique or rare and endangered species; rocky intertidal zones; coastal scrub communities; wild strawberry habitat; and archaeological resources. Marine and water resources (including riparian habitats) are further defined in Chapter 3 of the Land Use Plan.

- Policy 1-3:** Where there are conflicts between the policies set forth in the Coastal Land Use element and other elements of the City's General Plan or existing ordinances, on balance, the policies of this Coastal Land Use Element shall take precedence.
- Policy 3-4:** (a) Permit only resource- dependent or other uses which will not have a significant adverse impact in sensitive habitats.
- (b) In all sensitive habitats require that all permitted uses comply with U.S. Fish and Wildlife and State Department Fish and Game regulations.
- Policy 3-9:** (a) Within corridors, permit only the following uses: (1) education and research, (2) consumptive uses as provided for in the Fish and Game Code and Title 14 of the California Administrative Code, (3) fish and wildlife management activities, (4) trails and scenic overlooks on public lands(s), and (5) necessary water supply projects.
- Policy 3-11:** (a) On both sides of riparian corridors, from the "limit of riparian vegetation," extend buffers zones 50 feet outward from perennial streams and 30 feet outward for intermittent streams.
- (b) Where no riparian vegetation exists along both sides of riparian corridors, extend buffer zones 50 feet from the bank edge for perennial stream and 30 feet from the midpoint of intermittent streams

(c) Along lakes, ponds, and other wet areas, extend buffer zones 100 feet from the high water point, except for man-made ponds and reservoirs used for agricultural purposes for which no buffer zone is designated.

Policy 10-1: After certification of the LCP, the City shall require a permit from any public utility, government agency, or special district wishing to undertake development in the City, with the exceptions of State Universities and Colleges and development on public trust lands or tidelands as described in section 30519(b) of the California Coastal Act.

Policy 10-2: As a condition of permit approval, special districts, public utilities, and other government agencies shall conform to the City's zoning ordinance and the policies of this plan.

Policy 10-9: The City will support an increase in the water supply or capacity which will prove for, but not exceed, the amount needed to support build-out of the Land Use Plan of the City and County within the Coastside County Water District.

Policy 10-10: The City Shall support phased development of water supply facilities (chiefly pumping stations and water treatment) so as to minimize the financial burden on existing residents and avoid growth-inducing impacts, so long as adequate capacity is provided to meet City needs in accordance with the phased development policies (including expected development to the year 2000) and allocations for the floriculture uses.

Policy 10-11: The City will support expansion of water supplies by those sources and methods which produces the highest quality water available to the area in order to assure the highest possible quality to horticulture. All such supplies shall, at minimum, meet potable water standards for domestic use and highest practicable quality for floriculture.

Discussion of Impacts

- a) **No Impact.** The project involves construction of an underground water pipeline and utility infrastructure primarily along existing right-of-way in an urban area. The project would not physically divide an established community. No impact would occur.
- b) **Less than Significant Impact.** A proposed project would have a significant impact if it were to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. The proposed project is subject to several local policies, plans, and regulations, as described above. These proposed project actions would not conflict with the City of Half Moon Bay General Plan/LCP or other applicable plans or policies.

The proposed project is consistent with Water Supply Policies in the City of Half Moon Bay Local Coastal Program, including Policies 10-9, 10-10, and 10-11. It replaces an existing water transmission pipeline and therefore does not increase or expand the water supply available to the District. The replacement of 300 feet of 10-inch diameter pipeline with approximately 1000 feet of 16-inch pipe will have a negligible effect on water transmission and distribution capacity. The pipe to be replaced is the only remaining 10-inch section within over 36,000 feet of continuous 16-inch transmission pipeline running between the District's El Granada Tank #1 in

the northern area of the District and the Alves Tank at the southern end of the District's system and represents less than 1% of the pipeline's length.

This project completes replacement of the District's original (circa 1947 and earlier) north-south transmission pipeline, which has been done in a number of phases beginning in 1972. Conditions imposed on the District in Coastal Development Permits for earlier phases, including A-2-SMC-99-63 and A-1-HMB-99-20, address any possible growth-inducing effects of District water supply and distribution system projects. The California Coastal Commission's Adopted Findings for A-2-SMC-99-63 and A-1-HMB-99-20 state as follows:

However, consistent with the LCPs' phasing policies and the coastal access policies of the Coastal Act, future expansion of the region's water supply system to support growth in excess of that already provided under Phase I should not be approved unless the regional transportation system is improved to provide adequate service to support such additional growth. Therefore, Special Conditions 4.C and 4.D. prohibit future expansion of CCWD's water supply capacity from occurring out of phase with transportation and other area infrastructure.

The proposed project complies with the referenced conditions, which continue to apply to all District projects. Impacts would be less than significant. Note the California Coastal Commission has the ability to review the project through an appeal process, contingent on the City of Half Moon Bay's approval of the project. Impacts in this regard would be less than significant.

- c) **No Impact.** The project site is in an urban built-up state, and therefore, is not subject to the provisions of any Habitat Conservation Plans or Natural Community Conservation Plans. No impacts in this regard would occur.

XI. MINERAL RESOURCES — Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2

Discussion of Impacts

- a, b) **No Impact.** The project site is not in or adjacent to any important mineral resource areas. Furthermore, the development of the proposed project would not preclude future excavation of oil or minerals should such extraction become viable. As such, there would be no loss of availability of known mineral resources and no impact to mineral resources.

XII. NOISE — Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Source
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1,2,13
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
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 expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1

Environmental Setting

The City of Half Moon Bay Noise Ordinance limits construction hours to 7 a.m. to 6 p.m. Monday through Friday; 8 a.m. to 6 p.m. Saturdays; and 10 a.m. to 6 p.m. Sundays and holidays. However, the District will voluntarily limit construction to the hours of 8 a.m. to 6 p.m. Monday through Friday. The Director of Public Works/City Engineer may grant exemptions. Noise in the project site and vicinity is primarily from commercial development, residences, and vehicular traffic along roads. The nearest sensitive noise receptors are the businesses along Purissima Street and Mill Street.

Discussion of Impacts

- a, c, d) ***Less than Significant Impact with Mitigation Incorporated.*** Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Since the human ear is not equally sensitive to a given sound

level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise, on the other hand, is typically defined as unwanted sound. A typical noise environment consists of a base of steady “background” noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway.

Several rating scales have been developed to analyze the adverse effect of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- L_{eq} – A L_{eq} , or equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- L_{max} – The maximum instantaneous noise level experienced during a given period of time.
- L_{min} – The minimum instantaneous noise level experienced during a given period of time.
- CNEL – The Community Noise Equivalent Level is a 24-hour average L_{eq} with a 5 dBA “weighting” during the hours of 7:00 P.M. to 10:00 P.M. and a 10 dBA “weighting” added to noise during the hours of 10:00 P.M. to 7:00 A.M. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24 hour L_{eq} would result in a measurement of 66.7 dBA CNEL.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day, night, or over a 24-hour period. For residential uses, environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60–70 dBA range, and high above 70 dBA.⁵ Noise levels greater than 85 dBA can cause temporary or permanent hearing loss. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet suburban residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate level noise environments are urban residential or semi-commercial areas (typically 55–60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with

⁵ Office of Planning and Research, State of California General Plan Guidelines, October 2003 (in coordination with the California Department of Health Services).

more noisy urban residential or residential-commercial areas (60–75 dBA) or dense urban or industrial areas (65–80 dBA).

It is widely accepted that in the community noise environment the average healthy ear can barely perceive CNEL noise level changes of 3 dBA. CNEL changes from 3 to 5 dBA may be noticed by some individuals who are extremely sensitive to changes in noise. A 5 dBA CNEL increase is readily noticeable, while the human ear perceives a 10 dBA CNEL increase as a doubling of sound.

Noise levels from a particular source generally decline as distance to the receptor increases. Other factors, such as the weather and reflecting or barriers, also help intensify or reduce the noise level at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically “hard” locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically “soft” locations (i.e., the area between the source and receptor is normal earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels are also generally reduced by 1 dBA for each 1,000 feet of distance due to air absorption. Noise levels may also be reduced by intervening structures – generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The normal noise attenuation within residential structures with open windows is about 17 dBA, while the noise attenuation with closed windows is about 25 dBA.⁶

Table 1 lists the Federal Transit Administrations typical construction equipment noise levels at 50 feet.

Table 1. Construction Equipment Noise Generation

Equipment	Typical Noise Level (dBA) 50 ft from Source
Air Compressor	81
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88

⁶ National Cooperative Highway Research Program Report 117, Highway Noise: A Design Guide for Highway Engineers, 1971.

Equipment	Typical Noise Level (dBA) 50 ft from Source
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Paver	89
Pile-driver (Impact)	101
Pile-driver (Sonic)	96
Pneumatic Tool	85
Pump	76
Roller	74
Saw	76
Scarifier	83
Scraper	89
Shovel	82
Spike Driver	77
Truck	88
Source: Federal Transit Administration. <i>Transit Noise and Vibration Impact Assessment</i> , 2006	

Construction activities would generate temporary noise from equipment use and pipeline installation, the most common noise generated would be from mobile diesel equipment such as excavators, dozers, trucks, front end loaders and compactors. Open trench and would be restricted to the hours of ~~7 a.m.~~ 8 a.m. to 6 p.m. Monday through Friday; 8 a.m. to 6 p.m. Saturdays; and 10 a.m. to 6 p.m. Sundays and holidays unless otherwise approved in writing by the Director of Public Works.

Table 1 illustrates typical noise levels from construction equipment at a reference distance of 50 feet. Noise levels from construction equipment attenuate at a rate of six dBA per doubling of distance. Therefore, the noise levels at a distance of 100 feet would be 6 dBA less than those shown in Table 1. Construction equipment would generate maximum noise levels of approximately 89 decibels (dB) at 50 feet. Construction noise levels may periodically exceed noise standards in the existing Noise Ordinance. The temporary noise from construction would not cause a substantial increase in ambient noise or expose sensitive receptors to unacceptable

noise levels for long periods of time. Impacts associated with construction noise would cause a significant, temporary increase in noise levels. Incorporation of Mitigation Measure NOISE-1 would reduce potentially significant noise impacts to a less-than-significant level.

Long-term operational noise impacts would be less than significant because the conditions would be similar to existing noise levels. The new pipeline would be underground and would not result in a long-term noise increase.

Mitigation Measure NOISE-1:

The District shall incorporate the following practices, in addition to those listed in the project description, into the construction documents to be implemented by the project contractor:

- Construction hours shall be limited to ~~7 a.m.~~ 8 a.m. to 6 p.m. Monday through Friday; 8 a.m. to 6 p.m. Saturdays; and 10 a.m. to 6 p.m. Sundays and holidays unless otherwise approved in writing by the Director of Public Works.
- Notify businesses, residences, and noise-sensitive land uses adjacent to construction sites of the construction schedule in writing. Designate the District's construction manager as responsible for responding to any local complaints about construction noise. The construction manager shall determine the cause of the noise complaints (for example starting too early, or a bad muffler) and institute reasonable measures to correct the problem. Conspicuously post a telephone number for the construction manager at the construction site.
- Maximize the physical separation between noise generators and noise receptors. Such separation includes, but is not limited to, the following measures:
 - Use heavy-duty mufflers for stationary equipment and barriers around particularly noisy areas of the site or around the entire site;
 - Use shields, impervious fences, or other physical sound barriers to inhibit transmission of noise to sensitive receptors;
 - Locate stationary equipment to minimize noise impacts on the community; and
 - Minimize backing movements of equipment.
- Use quiet construction equipment whenever possible.
- Impact equipment (e.g., jack hammers and pavement breakers) should be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically-powered tools. Compressed air exhaust silencers should be used on other equipment. Other quieter procedures, such as drilling rather than using impact equipment, should be used whenever feasible.
- Prohibit unnecessary idling of internal combustion engines.

- b) **Less than Significant Impact.** Ground-borne vibration is typically associated with blasting operations, the use of pile drivers, and large-scale demolition activities, none of which are anticipated for the construction or operation of the proposed project. As such, no excessive ground-borne vibrations would be generated by the proposed project and these impacts would be less than significant.
- e) **No Impact.** The nearest airport to the project site is Half Moon Bay Airport, located approximately six miles to the northwest. This distance precludes the possibility of the project site being adversely exposed to aviation noise. No impacts in this regard would occur.
- f) **No Impact.** No private airstrips are in the vicinity of the project site. This condition precludes the possibility of the project site being exposed to adverse aviation noise. No impacts in this regard would occur.

XIII. POPULATION AND HOUSING — Would the project:		<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
a)	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
c)	Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1

Discussion of Impacts

- a, b, c) **No Impact.** As the project replaces existing pipeline infrastructure with no material increase in capacity, it would not have any impact on population and housing.

XIV. PUBLIC SERVICES — Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:					
Fire protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
Police protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1

Environmental Setting

The City of Half Moon Bay utilizes fire protection from the Coastsides Fire Protection District and law enforcement services through the San Mateo County Sheriff's Department. The Coastsides Fire Protection District serves the communities of City of Half Moon Bay, the unincorporated areas of Half Moon Bay and the unincorporated communities of Miramar, El Granada, Princeton-by-the-Sea, Moss Beach, and Montara with three stations, one of which is located within Half Moon Bay. The Cabrillo Unified School District provides public education for elementary all ages of children within the City. The nearest public park to the project site is the John L Carter Memorial Park.

Discussion of Impact

- a) ***Less than Significant with Mitigation Incorporated.*** Given the proposed project would not permanently increase the existing residential or employment population in the City, the project would not result in a long-term increase in the demand for public services or require construction of new governmental facilities. The purpose of the project is to improve water system infrastructure. Therefore, no impacts related to schools, parks or other public facilities would occur. However, there is the potential for construction activities to slow emergency response times. Implementation of Mitigation Measure TRAFFIC-1 would reduce potentially significant impacts related to Fire Protection District and Sheriff Department response times to a less-than-significant level.

XV. RECREATION — Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1

Environmental Setting

No parks or recreational facilities are located in the project site. The nearest public park to the project site is the John L Carter Memorial Park, located on the eastern side of Main Street Bridge.

Discussion of Impacts

- a, b) **No Impact.** Given the proposed project would not permanently increase the existing residential or employment population in the City, the project would not affect recreational facilities or increase the use of nearby recreational facilities. The purpose of the project is to improve the water infrastructure system and it does not include recreational facilities or require the construction or expansion of recreational facilities. No Impacts would occur.

XVI. TRANSPORTATION/TRAFFIC Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
d) Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1, 2

Discussion of Impacts

- a) ***Less than Significant Impact.*** Construction traffic (equipment and materials transport and daily worker traffic) would slightly increase traffic on local roads during the temporary construction phase of the proposed project. Temporary construction traffic would be limited to equipment delivery and material transport, and a few employee vehicles on a daily basis. The temporary construction-related traffic would not result in a noticeable increase in traffic on local roads and is not expected to reduce the level of service (LOS) for local intersections. Large vehicles transporting equipment and materials to the project site could cause slight delays for travelers as the construction vehicles stop to unload. Temporary lane closures could also require

motorists to detour around the project site or expect delays while traveling through the project site. Welding of the HDPE pipe will occur in the HDD staging area south of the creek north of Mill Street until 24-hours prior to pullback, at which point the contractor may stage the pipe across Mill Street to complete the pipe welding. Mill Street will not be blocked for more than 26 hours. Traffic control measures described in the project description would be in place during the construction phase to alert motorists to potential delays and identify detour routes, as described in the project description. With these measures and the temporary nature of construction-related traffic, impacts on traffic would be less than significant.

- b) ***Less than Significant Impact.*** A significant impact may occur if the adopted California Department of Transportation (Caltrans) and San Mateo County Congestion Management Agency (CMA) thresholds for a significant project impact would be exceeded. To address the increasing public concern that traffic congestion is impacting the quality of life and economic vitality of the State of California, the Congestion Management Program (CMP) was enacted by Proposition 111. The CMP designated a transportation network including all State highways and some arterials within the County to be monitored by local jurisdictions. If the LOS standard deteriorates on the CMP network, then local jurisdictions must prepare a deficiency plan to be in conformance with the CMP program.

As discussed above, the proposed project would not permanently increase traffic on local roads or highways to a level that would affect intersection LOS. Mill Street at Purissima Street may be closed for a period to not exceed 26 hours. The proposed project would not result in long-term traffic increases. Impacts would be less than significant.

- c) ***No Impact.*** This question would apply to the proposed project only if it were an aviation-related use. The project site does not contain any aviation-related uses, and the proposed project would not include the development of any aviation-related uses. Therefore, the proposed project would not affect air traffic patterns and would have no effect on air traffic levels or safety.
- d) ***Less than Significant Impact.*** A significant impact may occur if a project were to include a new roadway design, introduce a new land use or permanent project features into an area with specific transportation requirements and characteristics that have not been previously experienced in that area, or if project access or other features were designed in such a way as to create hazardous conditions. The project would not involve new road construction or activities that could increase hazards due to a design feature or incompatible uses. Upon completion, the project would return all roadways to existing conditions. Adequate sight distance would be available for motorists to access and depart the project site. Impacts would be less than significant.
- e) ***Less than Significant with Mitigation Incorporated.*** Construction activities would require temporary lane closures and detours around the work area. Minor delays may be experienced for emergency access to the residences adjacent to the work area. Detours would be available throughout the construction period in the event of an emergency to allow vehicles to drive around the work area. The trenches used to install pipe could be quickly covered in the event of an emergency to allow vehicles to drive through the work area, which would ensure the project does not prevent

emergency access to nearby properties. This is a short term construction related impact that would cease upon project completion. Implementation of Mitigation Measures TRAFFIC-1 and would reduce this impact to less than significant.

Mitigation Measure TRAFFIC-1:

- Local emergency services shall be notified prior to construction to inform them that traffic delays may occur, and also of the proposed construction schedule.
- The District shall require the contractor to provide for passage of emergency vehicles through the project site at all times.
- The District shall require the contractor to maintain access to all residences during project construction.

- f) **Less than Significant Impact.** Main Street has been designated as a Multi-Use Path in the Circulation Element. The project would not significantly conflict with a Bicycle Master Plan, as no plan has been adopted by the City. Main Street also provides a local transit route for the bus system. Temporary lane closures along Main Street may be required but through access will be maintained throughout the construction phase. Bus service would remain open and accessible during construction. Upon completion of the project, the accessibility of pedestrian, bicycle and alternative forms of transit facilities would be the same as existing conditions.

XVII. UTILITIES AND SERVICE SYSTEMS — Would the project:		<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
e)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1

XVII. UTILITIES AND SERVICE SYSTEMS — Would the project:		<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1

Discussion of Impacts

- a - e) **No Impact.** Neither construction nor operation of the project would generate wastewater or consume potable water. The project would not alter stormwater drainage because once the new pipeline is installed the roadways would be re-paved similar to existing conditions. As a result, the project would have no impacts related to: 1) exceedance of wastewater treatment requirements; 2) physical impacts from new storm drainage facilities; 3) water supply; and 4) wastewater treatment capacity.
- f, g) **Less than Significant Impact.** The project would generate a small quantity of soil spoils and solid waste from removal of pavement along the roads for trench construction, but all generated waste would be properly disposed or recycled in a nearby landfill or approved disposal facility with capacity to receive the waste. Any materials used during construction would be properly disposed of in accordance with federal, state, and local regulations. The California Integrated Waste Management Board Solid Waste Information System (SWIS) indicates solid waste from the City of Half Moon Bay is landfilled at the Ox Mountain Sanitary Landfill, located two miles northeast of Half Moon Bay. Impacts in this regard would be less than significant.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>	<i>Source</i>
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1

Discussion

- a) ***Less than Significant with Mitigation Incorporation.*** The incorporation of the mitigation measures included in Section IV (Biological Resources) would reduce potential impacts to a less-than-significant level. The project site does not contain any resource listed in, or determined to be eligible by, the State Historical Resource Commission and does not contain a resource included in a local register of historic resources or identified as significant in a historical resource survey. Additionally, the project site does not contain any object, building, structure, site, area, place, record, or manuscript that a lead agency determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. However, cultural resources could potentially be uncovered during construction. Mitigation measures included in Section V (Cultural Resources) would reduce potential impacts to a less-than-significant level.
- b) ***Less Than Significant Impact with Mitigation Incorporation.*** Cumulatively considerable means that the incremental effects of an individual 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. The analysis within this Initial Study demonstrates that the project would not have any individually limited, but cumulatively considerable impacts. As presented in the analysis in

Biological Resources, Cultural Resources, Hazards and Hazardous Materials, Noise, Public Services, and Transportation/Traffic sections, any potentially significant impacts would be less than significant after mitigation. Due to the limited scope of direct physical impacts to the environment associated with construction, the project's impacts are project-specific in nature. Consequently, the project will create a less than significant cumulative impact with respect to all environmental issues.

- c) ***Less Than Significant Impact.*** With implementation of the various construction measures and BMPs included in the proposed project description, the project would not result in substantial adverse effects to human beings, either directly or indirectly.

CHECKLIST INFORMATION SOURCES

1. Professional judgment and expertise of the environmental/technical specialists evaluating the project, based on a review of existing conditions and project details, including standard construction measures
2. City of Half Moon Bay General Plan/Local Coastal Plan, 1993
3. California Department of Transportation, 2012
4. California Department of Conservation, 2010
5. U.S. Fish and Wildlife Service, California Department of Fish and Game, and California Native Plant Society species lists
6. City of Half Moon Bay Municipal Code
7. Natural Resources Conservation Service, 2011
8. Department of Toxic Substances Control, 2011, and State Water Resources Control Board, 2011
9. Federal Emergency Management Agency, 2011
10. WRA, Inc., 2014
11. City of Half Moon Bay Existing Conditions, Trends, and Opportunities Assessment, 2014
12. California Department of Conservation, 2006
13. City of Half Moon Bay Noise Ordinance, 2011
14. ABAG Hazards Mapping, 2014
15. Bay Area Air Quality Management District, 2010
16. California Department of Conservation, 2006

SETTING REFERENCES

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- Jepson Flora Project (eds.). 2014. Jepson eFlora. Online at: <http://ucjeps.berkeley.edu/IJM.html>. Accessed August 2014.

- [NMFS] National Marine Fisheries Service. 2013. Salmon and Steelhead species boundary maps. Accessed August 15, 2014. http://www.westcoast.fisheries.noaa.gov/maps_data/species_population_boundaries.html
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RESPONSE TO COMMENTS ON THE DRAFT INITIAL STUDY/PROPOSED MITIGATED NEGATIVE DECLARATION

Introduction

On July 14, 2015 the Coastsides County Water District (Lead Agency) released for public review a Draft Initial Study/Proposed Mitigated Negative Declaration for the Proposed El Granada Pipeline Replacement Final Phase Project (SCH# 2014081018). The 30-day public review and comment period on the Draft Initial Study began on July 14, 2015 and closed at 4:30 p.m. on August 13, 2015.

The Draft Initial Study/Proposed Mitigated Negative Declaration and the response to comments on the Draft Initial Study/Proposed Mitigated Negative Declaration are informational documents prepared by the Lead Agency that must be considered by decision-makers before approving the proposed project and that must reflect the Lead Agency's independent judgment and analysis (CEQA Guidelines, Section 15090).

This section summarizes and responds to the comments and questions on the Draft Initial Study/Proposed Mitigated Negative Declaration circulated by the District to public agencies and the public as required by CEQA. As discussed below in Response to Comments, edits to the Draft Initial Study/Proposed Mitigated Negative Declaration have incorporated the comments where appropriate. With these edits, this Final Initial Study/Mitigated Negative Declaration does not describe a project having any new or substantially more severe impacts than those identified and analyzed in the Draft Initial Study/Proposed Mitigated Negative Declaration. Therefore, in accordance with CEQA Guidelines Section 15073.5, recirculation of a Draft Initial Study/Proposed Mitigated Negative Declaration is not required.

This section contains copies of the comment letters submitted during the public review period on the Draft Initial Study/Proposed Mitigated Negative Declaration, and the individual responses to those comments. Each written comment letter is designated with an alphabet letter in the upper right-hand corner of the letter. Within each written comment letter, individual comments are labeled with the designated alphabet letter and a number in the margin. Immediately following each comment letter is an individual response to each numbered comment. Where responses have resulted in changes to the Draft Initial Study/Proposed Mitigated Negative Declaration, these changes are shown in the response and also appear in Section 4.0 of this document as underlined or ~~strike-out~~ text.

The following organizations/persons provided written comments on the Draft Initial Study/Proposed Mitigated Negative Declaration to the District:

Commenters

- A. California Coastal Commission, Renee Ananda
- B. California Water Resources Control Board
- C. Committee for Green Foothills, Lennie Roberts
- D. City of Half Moon Bay Planning Commissioner, Rick Hernandez

CALIFORNIA COASTAL COMMISSION

NORTH CENTRAL COAST DISTRICT OFFICE
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RECEIVED

AUG 17 2015

COASTSIDE COUNTY
WATER DISTRICT

August 12, 2015

David Dickson, General Manager
Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019

RE: Draft Initial Study/Mitigated Negative Declaration for the El Granada Pipeline Replacement Final Phase Project

Dear Mr. Dickson:

The Coastside County Water District (CCWD) proposes to replace and re-align the existing ten-inch welded steel pipeline mounted underneath the western walkway on the City of Half Moon Bay's Main Street Bridge that crosses Pilarcitos Creek. Some of the existing water mains and pipes will either be removed or abandoned in place with the ends capped. We received a Notice of Completion of the Draft Initial Study/Mitigated Negative Declaration dated July, 2015 in our North Central Coast District office on July 15, 2015. CCWD is the Lead Agency for preparation of Mitigated Negative Declaration as required by the California Environmental Quality Act (CEQA). Thank you for the opportunity to provide comments on the environmental document for the proposed project.

A-1

The proposed replacement pipeline will tie into the existing pipeline beginning at Main Street directly north of the Bridge, extend through private property on the north side of Pilarcitos Creek within a new easement, cross south under Pilarcitos Creek to the Purisima Street cul-de-sac, extend south along Purisima Street to Mill Street, and east along Mill Street to Main Street. The new water main will tie into the existing 16-inch ductile iron pipeline on Main Street at both its upstream and downstream ends. The approximately 420-foot long section crossing under Pilarcitos Creek will be nominal 20-inch diameter (16-inch nominal inner diameter) high density polyethylene pipe installed by horizontal directional drilling ("HDD"). A 15-foot minimum cover will be maintained under the flow line of the creek.

Water Supply and Future Land Use and Planning

As you may know, in 1999, San Mateo County and the City approved permits for the first two phases of the El Granada pipeline replacement project. These permit approvals were subsequently appealed to the Coastal Commission. The appellant concern at that time was whether replacement of the existing water transmission pipeline with a larger diameter pipeline would facilitate growth in excess of that provided for under the certified County and City Local Coastal Program (LCP) and out of phase with the existing and future capacity of other infrastructure serving the area.

A-2

Policy 2.6 of the County's LCP limits development of new or expansion of existing public works facilities to a capacity which does not exceed that needed to serve buildout of the LCP and Policy 2.7 requires phased development of public works facilities. In addition, Policy 2.8 reserves public works capacity for land uses given priority by the LCP.

Policy 10-9 of the City's LCP provides that the City will support an increase in the water supply to capacity which will provide for, but not exceed, the amount needed to support build-out of the Land Use Plans of the City and County within the Coastside County Water District. Policy 10-10, like that of the County's LCP policy 2.7, provides that the City will support phased development of water supply facilities. This is to minimize the financial burden on existing residents and avoid growth-inducing impacts, so long as adequate capacity is provided to meet City needs in accordance with the phased development policies and allocations for floriculture uses. Policy 10-11 requires that the City support expansion of water supplies by those sources and methods which produce the highest quality water available to the area in order to assure the highest possible quality of water to horticulture. All such supplies shall, at minimum, meet potable water standards for domestic use and the highest practicable quality for floriculture.

The prior approvals issued by the Coastal Commission on appeal (A-2-SMC-99-63 and A-1-HMB-99-20) were conditioned by the Commission to: 1) ensure that the pipeline replacement project would not increase water distribution system capacity beyond existing Phase I service capacity; 2) prohibit future expansion of CCWD's water distribution capacity from occurring out of phase with transportation and other area infrastructure; 3) ensure that adequate capacity continues to be reserved for priority land uses; and 4) ensure that the expansion of water supply or distribution capacities occur in phase with other available infrastructure, in particular, Highways 1 and 92.

Therefore, the Land Use and Planning section of the IS/MND must include a discussion of the proposed project's consistency with the City's LCP water supply policies including 10-9, 10-10, 10-11. The discussion should also address how this proposed "final phase" project relates to the previous phases that have already been implemented. Any conditions of approval for the replacement and re-alignment of this pipeline should be consistent with the conditions of the prior approvals where appropriate and possible, as related to issues regarding buildout.

Biological

Pilarcitos Creek is a perennial stream that occurs within the proposed project area and is bounded on both sides by riparian vegetation. This riparian vegetation buffer zone functions to protect the Creek from erosion along the banks and is a riparian corridor as defined by the City's certified LCP, policy 3-7. Further the Pilarcitos Creek riparian corridor is designated as sensitive habitat by policy 3-8 and afforded protection by policy 3-10(a) (Performance Standard in Riparian Corridors). The proposed pipeline project will continue to supply water to the southern side of the CCWD's distribution system; as described and presented in the IS/MND it is consistent with LCP Policy 3-9 (Permitted Uses in Riparian Corridors) and is thus a permitted use. The proposed project must be consistent with Section 18.38.075 (C) of the LCP to make certain that potential adverse impacts are avoided and or minimized.

A-3

David Dickson
Draft IS/MND
El Granada Pipeline Replacement Final Phase Project
August 12, 2015

Mitigation Measure BIO-1 states that if vegetation removal and ground disturbance activities cannot be restricted to 15 feet above the top of the creek bank, then protocol rare plant surveys shall occur for Choris' popcorn flower, Hickman's cinquefoil, and saline clover between the months of April and June. We suggest that the survey protocols for these rare plants be described in detail and reviewed by respective State and Federal resource agencies to ensure that they are adequate and acceptable. The IS/MND indicates that vegetation removal and or tree trimming may be necessary. We recommend that, where possible, specific areas to be trimmed or removed be identified and that the potential extent of vegetation impacts that may occur is adequately described. Mitigation Measure BIO-6 provides standards that shall be implemented in order to avoid and or minimize impacts to riparian vegetation. The IS/MND, however does not include a proposed mitigation ratio for these potential impacts. The IS/MND must include a mitigation plan for vegetation removal at a minimum of 3:1 ratio for impacts to riparian habitat.

In summary, the proposed project must be consistent with LCP water supply policies and include a mitigation ratio of 3:1 for impacts to riparian vegetation. The IS/MND must address the proposed pipeline relative to the LCP requirements for growth control and buildout.

A-4

Thank you again for the opportunity to provide comments. Please feel free to contact me via e-mail at rananda@coastal.ca.gov or call me at 415-904-5292 if you have questions regarding our comments.

Sincerely,



Renée Ananda, Coastal Program Analyst
California Coastal Commission
North Central Coast District

Response to Comment A-1

This comment contains general information about the proposed project and serves as an introduction to preceding comments. It does not state a specific concern or question regarding the sufficiency of the analysis or mitigation measures contained in the Draft Initial Study/Proposed Mitigated Negative Declaration. The comment will be forwarded to the decision-making bodies as part of the Final Initial Study/Mitigated Negative Declaration for their consideration in reviewing the project.

Response to Comment A-2

The comment states that “the Land Use and Planning section of the IS/MND must include a discussion of the proposed project's consistency with the City's LCP water supply policies including 10-9, 10-10, 10-11”; the comment further states “The discussion should also address how this proposed “final phase” project relates to the previous phases that have already been implemented. Any conditions of approval for the replacement and re-alignment of this pipeline should be consistent with the conditions of the prior approvals where appropriate and possible, as related to issues regarding buildout.”

Page 52 of the Final Initial Study/Proposed Mitigated Negative Declaration has been revised to read as follows:

Policy 10-10: The City Shall support phased development of water supply facilities (chiefly pumping stations and water treatment) so as to minimize the financial burden on existing residents and avoid growth-inducing impacts, so long as adequate capacity is provided to meet City needs in accordance with the phased development policies (including expected development to the year 2000) and allocations for the floriculture uses.

Policy 10-11: The City will support expansion of water supplies by those sources and methods which produces the highest quality water available to the area in order to assure the highest possible quality to horticulture. All such supplies shall, at minimum, meet potable water standards for domestic use and highest practicable quality for floriculture.

Pages 52 and 53 of the Final Initial Study/Proposed Mitigated Negative Declaration have been revised to read as follows:

- b) ***Less than Significant Impact.*** A proposed project would have a significant impact if it were to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. The proposed project is subject to several local policies, plans, and regulations, as described above. These proposed project actions would not conflict with the City of Half Moon Bay General Plan/LCP or other applicable plans or policies.

The proposed project is consistent with Water Supply Policies in the City of Half Moon Bay Local Coastal Program, including Policies 10-9, 10-10, and 10-11. It replaces an existing water transmission pipeline and therefore does not increase or expand the water supply available to the District. The replacement of 300 feet of 10-

inch diameter pipeline with approximately 1000 feet of 16-inch pipe will have a negligible effect on water transmission and distribution capacity. The pipe to be replaced is the only remaining 10-inch section within over 36,000 feet of continuous 16-inch transmission pipeline running between the District's El Granada Tank #1 in the northern area of the District and the Alves Tank at the southern end of the District's system and represents less than 1% of the pipeline's length.

This project completes replacement of the District's original (circa 1947 and earlier) north-south transmission pipeline, which has been done in a number of phases beginning in 1972. Conditions imposed on the District in Coastal Development Permits for earlier phases, including A-2-SMC-99-63 and A-1-HMB-99-20, address any possible growth-inducing effects of District water supply and distribution system projects. The California Coastal Commission's Adopted Findings for A-2-SMC-99-63 and A-1-HMB-99-20 state as follows:

However, consistent with the LCPs' phasing policies and the coastal access policies of the Coastal Act, future expansion of the region's water supply system to support growth in excess of that already provided under Phase I should not be approved unless the regional transportation system is improved to provide adequate service to support such additional growth. Therefore, Special Conditions 4.C and 4.D. prohibit future expansion of CCWD's water supply capacity from occurring out of phase with transportation and other area infrastructure.

The proposed project complies with the referenced conditions, which continue to apply to all District projects. Impacts would be less than significant. Note the California Coastal Commission has the ability to review the project through an appeal process, contingent on the City of Half Moon Bay's approval of the project. Impacts in this regard would be less than significant.

Response to Comment A-3

The comment seeks clarification of several Biological Resource mitigation measures. The comment further recommends several ways in which these measures can be modified to ensure riparian vegetation is not impacted.

The first full paragraph on page 36 of the Final Initial Study/Proposed Mitigated Negative Declaration has been revised to read as follows:

Mitigation Measure BIO-1:

To the extent feasible, all vegetation removal, ground disturbance, and other construction activities shall occur at minimum 15 feet above the top of the creek bank so as to avoid low-lying mesic areas on the fringe of the creek that may provide suitable habitat for the three special-status plant species with potential to occur in the project area. If vegetation removal and ground disturbance activities cannot be restricted to 15 feet above the top of the creek bank, then protocol rare plant surveys shall occur for these three species between the months of April and June. A qualified biologist, utilizing approved survey methodology by the CDFW, shall conduct these surveys.

Page 38 of the Final Initial Study/Proposed Mitigated Negative Declaration has been revised to read as follows:

Mitigation Measure BIO-6:

All vegetation removal, ground disturbance, and other construction activities shall occur at minimum 15 feet above the TOB and completely avoid impacts to riparian vegetation. If some vegetation removal and/or trimming in riparian areas is determined to be necessary, the following standards shall be implemented:

- Impacted riparian vegetation shall be replaced at a minimum ratio of 3:1, utilizing a vegetation replanting plan prepared by a District-approved qualified biologist;
- Minimize trimming or removal of riparian vegetation;
- Minimize land exposure during construction and use temporary vegetation or mulching to protect critical areas;
- Minimize erosion, sedimentation and runoff by appropriately grading and replanting modified riparian areas;
- Use only adapted native or non-invasive exotic plant species when replanting riparian areas; and
- Maintain natural vegetation buffer areas that protect riparian habitats.

Response to Comment A-4

This comment contains summary information regarding impacts to land use policies and biological resources impacts, but does not state a specific concern or question regarding the sufficiency of the analysis or mitigation measures contained in the Draft Initial Study/Proposed Mitigated Negative Declaration. Please refer to Response to Comments A-2 and A-3.



CLEAR
8-12-15
E



EDMUND G. BROWN JR.
GOVERNOR

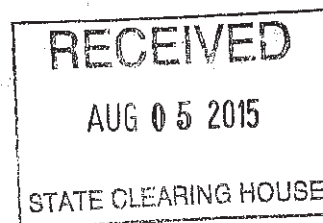


MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

JUL 31 2015

David Dickson
Coastside County Water District
766 Main Street
Half Moon Bay, California 94019



Dear Mr. Dickson:

CLEAN WATER STATE REVOLVING FUND (CWSRF) PROGRAM INFORMATION FOR THE COASTAL COUNTY WATER DISTRICT (DISTRICT); EL GRANADA PIPELINE REPLACEMENT FINAL PHASE PROJECT (PROJECT); SAN MATEO COUNTY; STATE CLEARINGHOUSE NO. 2015072027

B-1

We have received a copy of the District's draft IS/MND from the State Clearinghouse for the Project. Since the Project may be eligible for CWSRF financing, the State Water Resources Control Board (State Water Board) is providing information on the environmental review requirements of the CWSRF Program, should the District decide to pursue CWSRF financing in the future.

The CWSRF Program provides low-cost financial assistance for a wide variety of water quality improvement and enhancement projects that protect water quality and public health. It has grant funds under certain conditions with limited availability. The application period is continuous. For additional information, please refer to the State Water Board's CWSRF Program website at:

http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/index.shtml.

Due to staffing constraints, we are unable to review the IS/MND and provide "specific" comments at this time if there are no clear indications that an agency will seek funding from the CWSRF Program. If the District decides to pursue CWSRF financing, please note that in addition to California Environmental Quality Act (CEQA) requirements, there are federal environmental laws and regulations applicable to the CWSRF Program. Any environmental issues raised must be resolved before the State Water Board can approve CWSRF financing for your Project. Three enclosures are included that further explain the CWSRF Program environmental review process and the additional federal requirements. For the complete environmental application package, please visit:

http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml

The District must meet those listed federal requirements if it decides to seek CWSRF financing.

Response to Comment B-1

This comment contains general information about the project's applicability to the Clean Water State Revolving Fund (CWSRF) Program. It does not state a specific concern or question regarding the sufficiency of the analysis or mitigation measures contained in the Draft Initial Study/Proposed Mitigated Negative Declaration. Also, the District is not seeking CWSRF financing and therefore is not subject to additional federal review pursuant to the National Environmental Policy Act (NEPA) applicable to the CWSRF Program. The comment will be forwarded to the decision-making bodies as part of the Final Initial Study/Mitigated Negative Declaration for their consideration in reviewing the project.



COMMITTEE FOR
GREEN FOOTHILLS

September 28, 2015

Mary Rogren
Assistant General Manager
Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019

Re: Initial Study/Mitigated Negative Declaration for the El Granada Pipeline Replacement Final Phase Project

Dear Mary,

Thank you for the opportunity to comment on the above referenced IS/MND, and for extending the comment period to September 28 for Committee for Green Foothills.

On behalf of Committee for Green Foothills (CGF), I have the following comments.

The Project Description states that the existing 10-inch welded steel pipeline mounted underneath the western walkway on the Main Street Bridge across Pilarcitos Creek will be replaced (emphasis added). The District had planned to replace this section in conjunction with construction of a new Main Street Bridge, but “due to local ballot opposition to the bridge replacement”, it is difficult to predict when the bridge will be replaced or upgraded. This clause should be corrected to state that subsequent to the vote on Measure F on June 2, 2014, the citizen-sponsored Main Street Bridge Preservation Act (“MSBPA”) was adopted by the City Council at their regularly scheduled meeting of June 17, 2014, as Ordinance No. C-2014-07 in lieu of being placed before the voters at the November 2014 statewide election. This action by the City Council has the same force as if the voters had approved the MSBPA. The MSBPA amended Policy 7-8 “Visual Resources” of the Local Coastal Plan Land Use Plan (LCP/LUP) and Chapter 18.39 “Historical Resources Preservation” of the Zoning Code. The City submitted the Amendments to the Coastal Commission for certification, and Commission certification of the Amendments has now been completed.

C-1

The Project Description states that the District has decided to replace and realign the original 10-inch water main with a new 16-inch pipeline that will cross under Pilarcitos Creek. The existing line should be removed from the bridge upon completion of the new line, otherwise the new pipeline is not a replacement, and would be considered growth-inducing. Additionally, removal of the old pipeline will reduce the load on the historic bridge, and will help maintain its historic visual and physical integrity, consistent with the MSBPA.

C-2

Regulatory Setting: Sensitive Biological Communities Regulated by the California Coastal Commission and Half Moon Bay LCP, page 30 et seq.: Discussion of wetland criteria used by CA F&W and the California Coastal Commission should be clarified to state clearly that only one of the three parameters (wetland hydrology, hydric soils, and hydrophytic vegetation) needs to be present as opposed to the Army Corps which requires all three parameters. While Policy 3-9 (a)(5) permits

C-3

“necessary water supply projects” in riparian corridors, it is not necessary to locate the replacement pipeline, or any staging area for this project within the riparian area. Staging areas within the 50-foot buffer zone must minimize removal of vegetation, conform to natural topography to minimize erosion potential and include provisions to prevent runoff and sedimentation into the creek, per LCP Policy 3-13 (a). Mitigation Measure BIO-4 should require that a qualified biologist be on site during construction activities to monitor the project’s compliance with minimization and avoidance measures, and to advise as to measures that must be taken should any of the listed species (CRLF, PPT, SFGS, and steelhead) be present. Mitigation Measure BIO-6 states that “to the extent feasible”, all vegetation removal, ground disturbance, and other construction activities shall occur at a minimum 15 feet above the top of bank and completely avoid impacts to riparian vegetation. This requirement should not be qualified “to the extent feasible”, since there is adequate space that is beyond the edge of riparian vegetation as depicted on the project plans in the IS/MND. This mitigation measure should be revised to require full protection of riparian vegetation through moving the project limits further away from the creek bank and its riparian area in addition to the other measures.

CGF will likely have other comments when the City considers the Coastal Development Permit for this project, as we want to be sure that it complies with all relevant policies of the Half Moon Bay LCP.

Thank you again for the opportunity to comment. Please keep me informed as to the next steps

Sincerely,



Lennie Roberts, Legislative Advocate
Committee for Green Foothills

Cc: Carol Hamilton, Senior Planner, City of Half Moon Bay

Response to Comment C-1

This comment contains information about the project description and suggests including text to discuss that the City of Half Moon Bay Council adopted the Main Street Bridge Preservation Act.

The first full paragraph on page 1 of the Final Initial Study/Proposed Mitigated Negative Declaration has been revised to read as follows:

5. Description of Project:

The El Granada Pipeline Replacement Final Phase (“Project”) will replace Coastside County Water District’s (“District’s”) existing 10-inch welded steel pipeline mounted underneath the western walkway on the City of Half Moon Bay’s (“City’s”) Main Street Bridge, which crosses Pilarcitos Creek (“creek”). The existing pipeline is the principal supply to the southern side of the District’s distribution system and was constructed in 1948. With the exception of the section mounted on the bridge, the District has replaced the original pipeline with 16-inch ductile iron pipe. The District had planned to replace the remaining original section of the Pipeline in conjunction with the construction of a new Main Street Bridge. Subsequent to the vote on Measure F on June 2, 2014, the citizen-sponsored Main Street Bridge Preservation Act (MSBPA) was adopted by the City Council at their regularly scheduled meeting on June 17, 2014, as Ordinance No. C-2014-07 in lieu of being placed before voters at the November 2014 statewide election. This action has the same force as if the voters had approved the MSBPA. The MSBPA amended Policy 7-8 “Visual Resources” of the Local Coastal Plan Land Use Plan (LCP/LUP) and Chapter 18.39 “Historical Resources Preservation” of the Zoning Code. The City submitted the Amendments to the Coastal Commission for certification, and Commission certification of the Amendments has now been completed. ~~However, due to local ballot opposition to the bridge replacement, it is difficult to predict when the bridge will be replaced or upgraded.~~ Consequently, the District has decided to replace and realign the original 10-inch welded steel water main section with a new 16-inch (nominal inner diameter) pipeline that will cross under Pilarcitos Creek.

Response to Comment C-2

The comment states that “the existing line should be removed from the bridge upon completion of the new line, otherwise the new pipeline is not a replacement, and would considered growth-inducing.” As stated in the Project Description on page 2, plans for the existing line are as follows: “The existing pipeline on Main Street will be drained, capped, and abandoned in place between the connection of the new main north of the creek and the connection of the emergency tie-in south of the creek. The existing 2-inch water main on Purissima Street will be capped and abandoned in place between the Mill Street and the cul-de-sac adjacent to the southern bank of the creek.” Due to the draining, capping, and abandonment of the existing line, there would be no growth-inducing impacts.

This comment contains additional information regarding the “historic visual and physical integrity” of the bridge. The comment will be forwarded to the decision-making bodies as part of the Final Initial Study/Mitigated Negative Declaration for their consideration in reviewing the project.

Response to Comment C-3

The comment requests that Section IV Biological Resources Regulatory Setting use language to clarify the criteria used for the delineation of wetlands, due to the different criteria used by the CCC and CDFW versus criteria used by the Corps.

Page 29 of the Final Initial Study/Proposed Mitigated Negative Declaration has been revised to read as follows:

The boundaries of wetland areas regulated by the Corps and CCC/Half Moon Bay LCP are often not the same due to the differing goals of the respective regulatory programs and also because these agencies use different definitions for determining the extent of wetland areas. As previously described, the Corps requires that positive indicators for all three parameters, the presence of wetland hydrology, hydric soils, and a predominance of hydrophytic vegetation, be present for an area to meet the Corps' wetland definition. The CCC/Half Moon Bay LCP does not necessarily require that all three wetland indicators (wetland hydrology, hydric soils, and a predominance of hydrophytic vegetation) be present for an area to be determined to be a "wetland"; rather, the presence of only one of these three parameters ~~hydric soils in the absence of a predominance of hydrophytes (or vice versa)~~ could be sufficient for a positive wetland determination.

The comment seeks clarification of several Biological Resources mitigation measures. The comment further recommends several ways in which these measures can be modified to ensure listed species and riparian vegetation is not significantly impacted.

Page 36 of the Final Initial Study/Proposed Mitigated Negative Declaration has been revised to read as follows:

Mitigation Measure BIO-4:

The following measures shall be implemented to avoid impacts to CRLF, PPT, SFGS, and steelhead:

- A qualified biologist shall be on-site during drilling activities to monitor the project's compliance with avoidance and minimization measures and to advise required measures should a listed species be present.
- A spill response plan shall be prepared for use in the unlikely event of a frac-out during HDD activities.
- Prior to the start of groundbreaking activities, all construction personnel shall receive training on special-status species and their habitats by a qualified biologist. The importance of these species and their habitat shall be described to all employees as well as the minimization and avoidance measures that are to be implemented as part of the project. The original list of employees who attend the training sessions will be maintained by the contractor and be made available for review by the USFWS and the CDFW upon request.
- No trash shall be deposited on the site during construction activities. All trash shall be placed in trash receptacles with secure lids stored in vehicles and removed nightly from the project area.
- Any fueling and maintenance of equipment shall be conducted off-site, if practicable, and at least 50 feet from any designated ESHA.

The first full paragraph on page 38 of the Final Initial Study/Proposed Mitigated Negative Declaration has been revised to read as follows:

Mitigation Measure BIO-6:

~~To the extent feasible,~~ All vegetation removal, ground disturbance, and other construction activities shall occur at minimum 15 feet above the TOB and completely avoid impacts to riparian vegetation. If some vegetation removal and/or trimming in riparian areas is determined to be necessary, the following standards shall be implemented:...

Comment Letter D

From: Rick Hernandez [<mailto:rick.hernandez@gmail.com>]

Sent: Sunday, September 06, 2015 12:43 PM

To: Carol Hamilton

Cc: Bruce Ambo; Bridget Jett; Mary Rogren

Subject: Re: Draft MND/IS for the El Granada Pipeline Replacement Final Phase

Hi Carol,

Thank you for sending this document. I have reviewed it and have the following comments:

- | | |
|--|------|
| 1. Page 1: the opening projection description seems inadequate. For starters it should explicitly state you are replacing a water main. It is also the primary source of drinking water for % of the city's households. The opening paragraph should also quickly summarize the timing of the project and major risks. | D-1 |
| 2. January through March is the proposed time for this project. My understanding is that this is breeding time for some of the species mentioned in this document, species that are likely to be present. I'm not a biologist so please correct me if I'm mistaken. | D-2 |
| 3. 7am M-F seems a little early for construction to start in a residential neighborhood. I would suggest you start at 8am. | D-3 |
| 4. If the city determines it wants to develop this area in the future (e.g. put a bridge across the site turn it into a central park, build a theater), will this project preclude that possibility? | D-4 |
| 5. There is no noise monitoring or mitigation of this project (even spot checking would be nice) | D-5 |
| 6. There is no biological monitor at all. At a minimum I would expect to see a biological monitor during higher risk activities (digging out the pipeline, switching the water main). | D-6 |
| 7. There is no mitigation plan for disrupting the water supply for this portion of town. I'd like to see a basic communication plan before construction and in the event the water supply is disrupted. | D-7 |
| 8. From reading this document, it's unclear to me if you have actually inventoried the location for species, or if you are just relying on previously published data from other sources. | D-8 |
| 9. There is a homeless encampment along the creek very close to this location. Are you concerned about site security, vandalism, etc.? | D-9 |
| 10. Given that there is a known perennial human encampment a little further downstream is there any additional mitigation required? | D-10 |

Thanks,

-Rick

Response to Comment D-1

This comment states general concern for the content of the project description.

The comment requests that the description explicitly state that a water main is being replaced. On page 1, the Description of Project includes the following text: "Consequently, the District has decided to replace and realign the original 10-inch welded steel water main section with a new 16-inch (nominal inner diameter) pipeline that will cross under Pilarcitos Creek."

The comment states the timing of the project should be included in the project description. As provided in the last paragraph on page 2, a description of project timing is provided: "It is anticipated that construction of the proposed project would require approximately two months, beginning in January 2016. Project construction would occur from approximately from ~~7 a.m.~~ 8 a.m. to 6 p.m. Monday through Friday; 8 a.m. to 6 p.m. Saturdays; and 10 a.m. to 6 p.m. Sundays and holidays unless otherwise approved in writing by the Director of Public Works. Nighttime construction may be necessary during the HDD pullback phase. The District will notify the Director of Public Works to acquire necessary approvals."

The comment states that the project description should include a summary of the potential risks of the project. The project description serves as a description of the proposed activities to take place. Potential risks caused by the project are discussed in detail throughout the various topical areas of the Final Initial Study/Proposed Mitigated Negative Declaration. A summary of environmental factors potentially affected by the proposed project is provided on page 20. The comment will be forwarded to the decision-making bodies as part of the Final Initial Study/Mitigated Negative Declaration for their consideration in reviewing the project.

Response to Comment D-2

This comment seeks clarification on species presence and breeding seasons during the proposed project construction timeline. As discussed in the last paragraph on page 2, a description of project construction timing is provided: "It is anticipated that construction of the proposed project would require approximately two months, beginning in January 2016." Construction would take place within the breeding season of birds (approximately from February 1 to August 31). However, Mitigation Measure BIO-3, as stated on page 37, would reduce any potential impact to a less-than-significant level.

As stated in the fourth full paragraph on page 37:

Mitigation Measure BIO-3:

If ground disturbance or removal of vegetation occurs between February 1 and June 30, preconstruction bird surveys shall be performed by a qualified biologist no more than 14 days prior to commencement of such activities to determine the presence and location of nesting bird species. If ground disturbance or removal of vegetation occurs between July 1 and August 31, preconstruction bird surveys shall be performed within 30 days prior to such activities.

Response to Comment D-3

This comment recommends that construction begin at 8:00 a.m. due to the residential uses surrounding the project site.

The last paragraph on page 2 of the Final Initial Study/Proposed Mitigated Negative Declaration has been revised to read as follows:

It is anticipated that construction of the proposed project would require approximately two months, beginning in January 2016. Project construction would occur from approximately from ~~7 a.m.~~ 8 a.m. to 6 p.m. Monday through Friday; 8 a.m. to 6 p.m. Saturdays; and 10 a.m. to 6 p.m. Sundays and holidays unless otherwise approved in writing by the Director of Public Works. Nighttime construction may be necessary during the HDD pullback phase.

Page 54 of the Final Initial Study/Proposed Mitigated Negative Declaration has been revised to read as follows:

Environmental Setting

The City of Half Moon Bay Noise Ordinance limits construction hours to 7 a.m. to 6 p.m. Monday through Friday; 8 a.m. to 6 p.m. Saturdays; and 10 a.m. to 6 p.m. Sundays and holidays. However, the District will voluntarily limit construction to the hours of 8 a.m. to 6 p.m. Monday through Friday. The Director of Public Works/City Engineer may grant exemptions. Noise in the project site and vicinity is primarily from commercial development, residences, and vehicular traffic along roads. The nearest sensitive noise receptors are the businesses along Purissima Street and Mill Street.

Page 57 of the Final Initial Study/Proposed Mitigated Negative Declaration has been revised to read as follows:

Construction activities would generate temporary noise from equipment use and pipeline installation, the most common noise generated would be from mobile diesel equipment such as excavators, dozers, trucks, front end loaders and compactors. Open trench and would be restricted to the hours of ~~7 a.m.~~ 8 a.m. to 6 p.m. Monday through Friday; 8 a.m. to 6 p.m. Saturdays; and 10 a.m. to 6 p.m. Sundays and holidays unless otherwise approved in writing by the Director of Public Works.

Page 58 of the Final Initial Study/Proposed Mitigated Negative Declaration has been revised to read as follows:

Construction hours shall be limited to ~~7 a.m.~~ 8 a.m. to 6 p.m. Monday through Friday; 8 a.m. to 6 p.m. Saturdays; and 10 a.m. to 6 p.m. Sundays and holidays unless otherwise approved in writing by the Director of Public Works.

Response to Comment D-4

This comment relates to future development by the City; however, it is highly unlikely the proposed project would compromise future development at the project site due to the environmental constraints, existing land uses, and that the proposed pipeline would be installed under Pilarcitos Creek, private property, and City streets. It does not state a specific concern or question regarding the sufficiency of the analysis or mitigation measures contained in the Draft Initial Study/Proposed Mitigated Negative Declaration. The comment will be forwarded to the decision-making bodies as part of the Final Initial Study/Mitigated Negative Declaration for their consideration in reviewing the project.

Response to Comment D-5

This comment states that there is no noise monitoring or mitigation for the project. It does not state a specific concern or question regarding the sufficiency of the noise analysis or Mitigation Measure Noise-1 contained in the Draft Initial Study/Proposed Mitigated Negative Declaration. Due to the short-term minimal noise impacts, the project will involve, Mitigation Measure NOISE-1 is sufficient to ensure noise impacts would be reduced to a less-than-significant level. The comment will be forwarded to the decision-making bodies as part of the Final Initial Study/Mitigated Negative Declaration for their consideration in reviewing the project.

Response to Comment D-6

This comment states that there is no biological monitor and recommends one be present during high risk activities. Refer to Response to Comment C-3 for discussion on inclusion of a biological monitor.

Response to Comment D-7

This comment states that there is no mitigation plan for disrupting the water supply. Page 3 of the project description states:

The construction contractor will be responsible for complying with all terms of the contract specifications and drawings. Best management practices (BMPS) to be identified in the contract specifications and drawings include, but are not limited to the following (BMPS):

- Identify locations of other existing underground pipelines in the proposed alignment and take necessary precautions to avoid damaging the pipelines or interfering with their service.
- Maintain water service in the project site at all times, except for short term outages during construction work hours approved in advance by the District.

Response to Comment D-8

This comment requests clarification on the biological resources inventory and assessment of location for species. As stated in the first paragraph on page 27: "The following analysis of biological resources is based on the Biological Resources Evaluation (BRE) prepared by WRA, Inc. in October 2014 (Appendix A)."

Response to Comment D-9

This comment contains information regarding a homeless encampment near the project location. Section XIV of the Draft Initial Study/Proposed Mitigated Negative Declaration concluded that impacts related to police protection would be less than significant. The construction site will be secured to ensure that no significant site security issues will occur.

Response to Comment D-10

This comment inquires if mitigation is required for the known perennial human encampment downstream of the project location. It does not state a specific concern or question regarding the sufficiency of the analysis or mitigation measures contained in the Draft Initial Study/Proposed Mitigated Negative Declaration. Section XIV of the Draft Initial Study/Proposed Mitigated Negative Declaration concluded that impacts related to police protection would be less than significant. The comment will be forwarded to the decision-making bodies as part of the Final Initial Study/Mitigated Negative Declaration for their consideration in reviewing the project.

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Appendix A: Biological Resource Evaluation

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Biological Resources Evaluation Coastside County Water District Pilarcitos Creek Creek Pipe Installation

HALF MOON BAY, SAN MATEO COUNTY
CALIFORNIA

Prepared For:

Jonathan Sutter, P.E.
Erler & Kalinowski, Inc.
1870 Ogdon Drive
Burlingame, California 94010



WRA Contact:

Leslie Lazarotti
lazarotti@wra-ca.com



Date:

June 2015



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LIST OF ACRONYMS AND ABBREVIATIONS

CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife (formerly California Department of Fish and Game [CDFG])
CDFG ESD	California Department of Fish and Game Environmental Services Division
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
City	City of Half Moon Bay
Corps	United States Army Corps of Engineers
CRLF	California red-legged frog
CWA	Clean Water Act
EPA	United States Environmental Protection Agency
ESHA	Environmentally Sensitive Habitat Area
FESA	Federal Endangered Species Act
LCP	Local Coastal Program
MBTA	Migratory Bird Treaty Act
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWPL	National Wetland Plant List
OHWM	Ordinary High Water Mark
PCE	Primary Constituent Element
PPT	Pacific pond turtle
RPW	Relatively permanent water
RWQCB	Regional Water Quality Control Board
SCS	Soil Conservation Service
SFGS	San Francisco garter snake
SWRCB	State Water Resources Control Board
TNW	Traditionally navigable waters
ToB	Top of Bank
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WBWG	Western Bat Working Group
WRA	WRA, Inc.

1.0 INTRODUCTION

On August 4, 2014, WRA, Inc. (WRA) conducted a biological resource assessment of a portion of Pilarcitos Creek (Study Area) located in Half Moon Bay, San Mateo County (Figure 1). The purpose of the site visit and report is to identify, describe, and map any sensitive habitats, including riparian and wetland areas or other Environmental Sensitive Habitat Area (ESHA), and “rare, threatened, or endangered” species, which may occur in the Study Area. WRA performed the biological resources assessment in accordance with the City of Half Moon Bay (City) Local Coastal Program (LCP), including Section 18.38.035 of the Zoning Code LCP Implementation Plan (City of Half Moon Bay 2011), and Chapter 3 of the Land Use Plan (City of Half Moon Bay 1993). This assessment is based on site conditions observed on the dates of the site visits, related information available at the time of the study, and from reviewing past reports completed on the site. This report also contains an evaluation of potential impacts to special-status species or ESHAs that may occur as a result of the proposed project and potential mitigation measures to compensate for those impacts.

1.1 Description of the Study Area

Pilarcitos Creek is a coastal stream which extends approximately 14 miles from its headwaters in the western Santa Cruz Mountains, through Pilarcitos Canyon and terminates in the Pacific Ocean at Half Moon Bay State Beach. The Study Area is located in downtown Half Moon Bay and consists of an approximately 110-foot reach of Pilarcitos Creek and the surrounding area. The site is situated within an incised floodplain and includes dense riparian vegetation, with elevations up to 70 feet above sea level. Properties to the north, west, and south include commercial and residential development. The eastern boundary consists of the Main Street Bridge and Pilarcitos Creek Park.

2.0 REGULATORY BACKGROUND

The following sections explain the regulatory context of the biological resources evaluation, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts.

2.1 Special-Status Species

Special-status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act (FESA) or California Endangered Species Act (CESA). These Acts afford protection to both listed and proposed species. In addition, the California Department of Fish and Wildlife (CDFW, formerly the California Department of Fish and Game [CDFG]) Species of Special Concern and the National Marine Fisheries Service (NMFS) Species of Concern, which are species that face extirpation if current population and habitat trends continue, U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern, sensitive species included in USFWS Recovery Plans, and CDFW special-status invertebrates are all considered special-status species. Although CDFW Species of Special Concern generally have no special legal status, they are given special consideration under the California Environmental Quality Act (CEQA). In addition to regulations for special-status species, most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act (MBTA) of 1918. Under this legislation, destroying active nests, eggs, and young is illegal.



Figure 1. Project Site Location

Pilarcitos Creek Pipe Installation Project
Coastside County Water District

Half Moon Bay,
San Mateo County, CA



Map Date: August 2014
Map By: PK
Base Source: ESRI/National Geographic

Bat species designated as “High Priority” by the Western Bat Working Group (WBWG) qualify for legal protection under Section 15380(d) of the CEQA Guidelines. Species designated “High Priority” are defined as “imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats” (CDFWb 2014). Plant species on California Native Plant Society (CNPS) Lists 1 and 2 are also considered special-status plant species. Impacts to these species are considered significant according to CEQA. California Native Plant Society List 3 plants have little or no protection under CEQA, but are included in this analysis for completeness.

City of Half Moon Bay Local Coastal Program and Land Use Plan

The Half Moon Bay Land Use Policies and Map constitute the Land Use Plan of the LCP. The Zoning Code (Title 18 of the Municipal Code, including Chapter 18.20, which regulates Coastal Development Permits) together with the Zoning District Map constitutes the Implementation Plan of the LCP. The primary goal of the LCP is to ensure that the local government’s land use plans, zoning ordinances, zoning maps, and implemented actions meet the requirements of the provisions and policies of the Coastal Act at the local level. Coastal Resource Conservation Standards are described in Chapter 18.38 of the LCP and define sensitive habitat and coastal resource areas for conservation to include: sand dunes; marine habitats; sea cliffs; riparian areas; wetlands, coastal tidelands and marshes, lakes, ponds, and adjacent shore habitats; coastal or off-shore migratory bird nesting sites; areas used for scientific study, refuges, and reserves; habitats containing unique or rare and endangered species; rocky intertidal zones; coastal scrub communities; wild strawberry habitat; and archaeological resources. Marine and water resources (including riparian habitats) are further defined in Chapter 3 of the Land Use Plan.

Critical Habitat

Critical habitat is a term defined and used in the FESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The FESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species’ recovery. In many cases, this level of protection is similar to that already provided to species by the FESA “jeopardy standard”. However, areas that are currently unoccupied by the species but which are needed for the species’ recovery, are protected by the prohibition against adverse modification of critical habitat.

2.2 Sensitive Biological Communities

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, and riparian habitat. These habitats are regulated under federal regulations (such as the Clean Water Act [CWA]), state regulations (such as the Porter-Cologne Act, the CDFW Streambed Alteration Program, and CEQA), or local ordinances or policies (such as City or County Tree Ordinances, Special Habitat Management Areas, applicable LCPs, and General Plan Elements). Mitigation measures for impacts to these communities are discussed in Section 5 of this report.

2.3 Federal Jurisdiction over Wetlands and “Other Waters”

Section 404 of the Clean Water Act

Section 404 of the CWA gives the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps) regulatory and permitting authority regarding discharge of dredged or fill material into “navigable waters of the United States”. Section 502(7) of the CWA defines waters as “waters of the United States, including territorial seas”. Section 328 of Chapter 33 in the Code of Federal Regulations (CFR) defines the term “waters of the United States” as it applies to the jurisdictional limits of the authority of the Corps under the CWA. A summary of this definition of “waters of the U.S.” in 33 CFR 328.3 includes (1) waters used for commerce; (2) interstate waters and wetlands; (3) “other waters” such as intrastate lakes, rivers, streams, and wetlands; (4) impoundments of waters; (5) tributaries to the above waters; (6) territorial seas; and (7) wetlands adjacent to waters.

In the Corps’ Rivers and Harbors regulations (33 CFR Part 329.4), the term “navigable waters of the U.S.” is defined to include all those waters that are subject to the ebb and flow of the tide, and/or presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

The limits of Corps jurisdiction under Section 404 as given in 33 CFR Section 328.4 are as follows: (a) *Territorial seas*: three nautical miles in a seaward direction from the baseline; (b) *Tidal waters of the U.S.*: high tide line or to the limit of adjacent non-tidal waters; (c) *Non-tidal waters of the U.S.*: ordinary high water mark (OHWM) or to the limit of adjacent wetlands; (d) *Wetlands*: to the limit of the wetland.

Rapanos Guidance

The Corps and EPA issued joint guidance on implementing the June 19, 2006 U.S. Supreme Court opinions resulting from *Rapanos v. United States* and *Carabell v. United States* (Rapanos) cases. Under this guidance, the Corps will maintain jurisdiction over traditionally navigable waters (TNW), relatively permanent water (RPW), and non-relatively permanent waters that have a significant nexus to the biological, chemical, and physical characteristics of a RPW or TNW.

2.4. State Water Resources Control Board and Regional Water Quality Control Board

The Dickey Water Pollution Act of 1949 and Porter Cologne Act of 1969 established the State Water Resources Control Board (SWRCB) and twelve Regional Quality Control Board (RWQCB) Districts in the State of California. The SWRCB and each RWQCB regulate activities in Waters of the State which include Waters of the U.S. Waters of the State are defined by the Porter-Cologne Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.”

The RWQCB regulates discharges of fill and dredged material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act through the State Water Quality Certification Program. State Water Quality Certification is necessary for all projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact waters of the State. In order for a Section 404 permit to be valid, Section 401 of the CWA requires a Water Quality Certification or waiver to be obtained. The Water Quality Certification (or waiver) determines that the permitted activities will not violate water quality standards individually or cumulatively over the term of the action. Water quality certification must be consistent with the requirements of the CWA, the CEQA, the CESA, and Porter-Cologne Act.

The SWRCB and RWQCB have not established a formal wetlands definition, nor have they developed a wetlands delineation protocol. However, these agencies generally adhere to the same delineation protocol set forth by the Corps (Environmental Laboratory 1987). Therefore, the methods used to determine potential Waters of the State were the same as those described above for potential Section 404 jurisdiction

2.5 California Department of Fish and Wildlife

Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by the CDFW under Sections 1600-1616 of California Fish and Game Code. Alterations to or work within or adjacent to streambeds or lakes generally require an application for a Section 1602 Lake and Streambed Alteration Agreement. The term “stream”, which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). In addition, the term “stream” can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG 1994). “Riparian” is defined as “on, or pertaining to, the banks of a stream” (CDFG 1994). “Riparian vegetation” is defined as “vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself” (CDFG 1994). Removal of riparian vegetation also requires an application for a Section 1602 Lake and Streambed Alteration Agreement from the CDFW.

Other Sensitive Biological Communities

Other sensitive biological communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. The CDFW ranks sensitive communities as “threatened” or “very threatened” and keeps records of their occurrences in the California Natural Diversity Database (CNDDDB). Sensitive plant communities are also identified by CDFW on their *List of California Natural Communities Recognized by the CNDDDB*. Impacts to sensitive natural communities identified in local or regional plans, policies, regulations or by the CDFW or USFWS must be considered and evaluated under CEQA (CCR: Title 14, Div. 6, Chap. 3, Appendix G). Specific habitats may also be identified as sensitive in City or County General Plans or ordinances.

2.6 California Coastal Commission and Half Moon Bay Local Coastal Program

The Half Moon Bay California Coastal Commission (CCC)/LCP regulates the diking, filling, or dredging of wetlands within the coastal zone. Section 30121 of the Coastal Act defines “wetlands” as land “which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.” In addition, the Half Moon Bay LCP defines “wetlands” as an area where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils or to support the growth of plants which normally are found to grow in water or wet ground. Wetlands do not include vernal wet areas where the soils are not hydric. The 1981 CCC Statewide Interpretive Guidelines state that hydric soils and hydrophytic vegetation “are useful indicators of wetland conditions,” but the presence or absence of hydric soils and/or hydrophytes alone are not necessarily determinative when the CCC identifies wetlands under the Coastal Act.

The boundaries of areas regulated by the Corps and CCC/LCP are often not the same due to the differing goals of the respective regulatory programs and also because these agencies use different definitions for determining the extent of wetland areas. For example, the Corps requires that positive indicators for the presence of wetland hydrology, hydric soils, and a predominance of hydrophytic vegetation be present for an area to meet the Corps' wetland definition. The CCC does not necessarily require that all three wetland indicators (wetland hydrology, hydric soils, and a predominance of hydrophytic vegetation) be present for an area to be determined to be a "wetland"; rather, the presence of hydric soils in the absence of a predominance of hydrophytes (or vice versa) could be sufficient for a positive wetland determination.

The California Coastal Commission ESHA Definition

The CCC defines an ESHA as follows:

Environmentally sensitive habitat area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.

California Coastal Commission guidelines contain definitions for specific types of ESHAs, including: wetlands, estuaries, streams and rivers, lakes, open coastal waters and coastal waters, riparian habitats, other resource areas, and special-status species and their habitats. For the purposes of this report, WRA has taken into consideration any areas that may meet the definition of any ESHA defined by the CCC guidelines or the Half Moon Bay LCP.

Permitted Uses within Riparian Corridors

The Half Moon Bay LCP outlines permitted uses within specific ESHAs. Permitted uses within riparian corridors, such as the habitat associated with Pilarcitos Creek, are defined as follows:

Within corridors, permit only the following uses: (1) education and research, (2) consumptive uses as provided for in the Fish and Game Code and Title 14 of the California Administrative Code, (3) fish and wildlife management activities, (4) trails and scenic overlooks on public land(s), and (5) necessary water supply projects.

Section 18.38.075 (A) of the Zoning Code LCP Implementation Plan
(City of Half Moon Bay 2011)

Permitted uses within riparian corridors are subject to performance standards as summarized below:

Require development permitted in corridors to: (1) minimize removal of vegetation, (2) minimize land exposure during construction and use temporary vegetation or mulching to protect critical areas, (3) minimize erosion, sedimentation and runoff by appropriately grading and replanting modified areas, (4) use only adapted native or non-invasive exotic plant species when replanting, (5) provide sufficient passage for native and anadromous fish as specified by the State Department of Fish and Game, (6) minimize adverse effects of wastewater discharges and entrainment, (7) prevent depletion of groundwater

supplies and substantial interference with reclamation, (9) maintain natural vegetation buffer areas that protect riparian habitats, and (10) minimize alteration of natural streams.

Section 18.38.075 (C) of the Zoning Code LCP Implementation Plan
(City of Half Moon Bay 2011)

2.7 City of Half Moon Bay Heritage Tree Ordinance

Pursuant to Section 7.40 of the Municipal Code, a heritage tree is defined as a tree located on public or private property, exclusive of eucalyptus, with a trunk diameter of 12 inches or circumference of approximately 38 inches measured at 48 inches above ground level; a tree or stand of trees designated by City Council resolution to be heritage trees base on special historical, environmental, or aesthetic value; or any street tree located within the public right of way along the entire length of Main Street.

3.0 METHODS

On August 4, 2014, the Study Area was traversed on foot to determine (1) plant communities present within the Study Area, (2) if existing conditions provide suitable habitat for any special-status plant or wildlife species, and (3) if sensitive habitats including ESHA are present. All plant and wildlife species encountered were recorded, and are summarized in Appendix A. Prior to the site visit, aerial photographs, local soil maps, the *List of Vegetation Alliances* (CDFG 2010a), and *A Manual of California Vegetation* (Sawyer et al. 2009) were reviewed to assess the potential for sensitive biological communities to occur in the Project Area. Plant nomenclature follows Baldwin et al. (2012) and subsequent revisions by the Jepson Flora Project (2014), except where noted. Because of recent changes in classification for many of the taxa treated by Baldwin et al. and the Jepson Flora Project, relevant synonyms are provided in brackets. For cases in which regulatory agencies, CNPS, or other entities base rarity on older taxonomic treatments, precedence was given to the treatment used by those entities.

3.1 Biological Communities

Prior to the site visit, the Soil Survey of San Mateo County, California (NRCS 2014) was examined to determine if any unique soil types that could support sensitive plant communities and/or aquatic features were present in the Study Area. Biological communities present in the Study Area were classified based on existing plant community descriptions described in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) and *A Manual of California Vegetation*. However, in some cases it is necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Biological communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations.

3.1.1 Non-sensitive Biological Communities

Non-sensitive biological communities are those communities that are not afforded special protection under CEQA, and other state, federal, and local laws, regulations and ordinances. These communities may, however, provide suitable habitat for some special-status plant or wildlife species and are identified or described in Section 4.1.1 below.

3.1.2 Sensitive Biological Communities

Sensitive biological communities are defined as those communities that are given special protection under CEQA and other applicable federal, state, and local laws, regulations and ordinances. Applicable laws and ordinances are discussed above in Section 2.0. Special methods used to identify sensitive biological communities are discussed below.

3.2 Wetland Delineation Methodology

The methods used in this study to delineate federal jurisdictional wetlands and waters are based on the Corps Manual and Arid West Supplement. The methods for evaluating the presence of wetlands and “other waters” of the U.S. employed during the site visit are described in detail below.

Prior to conducting field studies, available reference materials were reviewed, including the Soil Survey of San Mateo County, Western Part (U.S. Department of Agriculture [USDA], Soil Conservation Service [SCS] 1991), online soil data (CSRL 2014, USDA 2011), National Wetlands Inventory (NWI) data (USFWS 2014a), WETS precipitation data (USDA 2014b), the Half Moon Bay United States Geological Survey (USGS) 7.5' quadrangle (USGS 2012), and aerial photos of the site (Google Earth 2014).

A biological resource assessment was performed on August 4, 2014. The methods for evaluating the presence of wetlands and “other waters” employed during the site visit are described in detail below.

3.2.1 Potential Section 404 Jurisdictional Wetlands

The Corps has defined the term “wetlands” as follows:

Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

(33 CFR 328.3)

The three parameters listed in the Corps Manual that are used to determine the presence of wetlands are: (1) hydrophytic vegetation, (2) wetland hydrology, and (3) hydric soils. According to the Corps Manual:

... [E]vidence of a minimum of one positive wetland indicator from each parameter (hydrology, soil, and vegetation) must be found in order to make a positive wetland delineation.

Data on vegetation, hydrology, and soils collected at sample points during the delineation site visit was recorded. Because no wetlands were observed within the Study Area, no data sheets were created. Instead, the stream low flow channel (the deepest part of the stream), the OHWM, and top of bank (ToB) were recorded using a handheld GPS, and a species list for each biological community observed was created. The total acreage of potential jurisdictional waters was measured digitally using ArcGIS software. Indicators described in the Corps Manual that were used to make wetland or waters determinations in the Study Area and are summarized below.

Vegetation

Plant species observed in the Study Area were identified using the Jepson Manual, Second Edition (Baldwin et al. 2012) and the Jepson eFlora (Jepson Flora Project 2014). Plants were assigned a wetland indicator status according to the National Wetland Plant List (NWPL; Lichvar 2012, as modified in 2013). Where differences in nomenclature occur between the Jepson Manual or the Jepson eFlora and the NWPL, the species name as it occurred in the NWPL is listed in brackets.

Wetland indicator statuses listed in the NWPL are based on the expected frequency of occurrence in wetlands as follows:

Classification (Abbreviation)	Definition*	Hydrophytic Species? (Y/N)
Obligate (OBL)	Almost always is a hydrophyte, rarely in uplands	Y
Facultative Wetland (FACW)	Usually is a hydrophyte but occasionally found in uplands	Y
Facultative (FAC)	Commonly occurs as either a hydrophyte or non-hydrophyte	Y
Facultative Upland (FACU)	Occasionally is a hydrophyte but usually occurs in uplands	N
Upland/Not Listed (UPL/NL)	Rarely is a hydrophyte, almost always in uplands	N

*See Lichvar (2012).

The Arid West Supplement requires that a three-step process be conducted to determine if hydrophytic vegetation is present. The procedure first requires the delineator to apply the “50/20 rule” (Indicator 1) described in the manual. To apply the “50/20 rule”, dominant species are chosen independently from each stratum of the community. In general, dominant species are determined for each vegetation stratum from a sampling plot of an appropriate size surrounding the sample point. In general, dominants are the most abundant species that individually or collectively account for more than 50 percent of the total vegetative cover in the stratum, plus any other species that, by itself, accounts for at least 20 percent of the total cover. If greater than 50 percent of the dominant species has an OBL, FACW, or FAC status, ignoring + and - qualifiers, the sample point meets the hydrophytic vegetation criterion.

If the sample point fails Indicator 1 and both hydric soils and wetland hydrology are not present, then the sample point does not meet the hydrophytic vegetation criterion, unless the site is a problematic wetland situation. However, if the sample point fails Indicator 1 but hydric soils and wetland hydrology are both present, the delineator must apply Indicator 2.

Indicator 2 is known as the Prevalence Index. The prevalence index is a weighted average of the wetland indicator status for all plant species within the sampling plot. Each indicator status is given a numeric code (OBL = 1, FACW = 2, FAC = 3, FACU = 4, and UPL = 5). Indicator 2 requires the delineator to estimate the percent cover of each species in every stratum of the community and sum the cover estimates for any species that is present in more than one stratum. The delineator must then organize all species into groups according to their wetland indicator status and calculate the Prevalence Index using the following formula, where A equals total percent cover:

$$PI = \frac{A_{OBL} + 2A_{FACW} + 3A_{FAC} + 4A_{FACU} + 5A_{UPL}}{A_{OBL} + A_{FACW} + A_{FAC} + A_{FACU} + A_{UPL}}$$

The Prevalence Index will yield a number between 1 and 5. If the Prevalence Index is equal to or less than 3, the sample point meets the hydrophytic vegetation criterion. However, if the community fails Indicator 2, the delineator must proceed to Indicator 3.

Indicator 3 is known as Morphological Adaptations. If more than 50 percent of the individuals of a FACU species have morphological adaptations for life in wetlands, that species is considered to be a hydrophyte and its indicator status should be reassigned to FAC. If such observations are made, the delineator must recalculate Indicators 1 and 2 using a FAC indicator status for this species. The sample point meets the hydrophytic vegetation criterion if either test is satisfied.

Soils

The Natural Resources Conservation Service (NRCS) defines a hydric soil as follows:

“A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.”

Federal Register July 13, 1994,
U.S. Department of Agriculture, NRCS

Soils formed over long periods of time under wetland (anaerobic) conditions often possess characteristics that indicate they meet the definition of hydric soils. Hydric soils can have a hydrogen sulfide (rotten egg) odor, low chroma matrix color, generally designated 0, 1, or 2, used to identify them as hydric, presence of redox concentrations, gleyed or depleted matrix, or high organic matter content.

Specific indicators that can be used to determine whether a soil is hydric for the purposes of wetland delineation are provided in the NRCS *Field Indicators of Hydric Soils in the U.S.* (NRCS 2010). The Arid West Supplement provides a list of 23 of these hydric soil indicators which are known to occur in the Arid West region. Soil samples were collected and described according to the methodology provided in the Arid West Supplement. Soil chroma and values were determined by utilizing a standard Munsell soil color chart (Munsell Color 2009).

Hydric soils were determined to be present if any of the soil samples met one or more of the 23 hydric soil indicators described in the Arid West Supplement.

Hydrology

The Corps jurisdictional wetland hydrology criterion is satisfied if an area is inundated or saturated for a period sufficient to create anoxic soil conditions during the growing season (a minimum of 14 consecutive days in the Arid West region). Evidence of wetland hydrology can include primary indicators, such as visible inundation or saturation, drift deposits, oxidized root channels, and salt crusts, or secondary indicators such as the FAC-neutral test, presence of a shallow aquitard, or crayfish burrows. The Arid West Supplement contains 16 primary hydrology indicators and 10 secondary hydrology indicators. Only one primary indicator is required to meet the wetland hydrology criterion; however, if secondary indicators are used, at least two secondary indicators must be present to conclude that an area has wetland hydrology.

The presence or absence of the primary or secondary indicators described in the Arid West Supplement was utilized to determine if sample points within the Study Area met the wetland hydrology criterion.

3.2.2 Potential Section 404 Jurisdictional “Other Waters”

The Study Area was also evaluated for the presence of “other waters”. “Other waters” subject to Corps jurisdiction include lakes, rivers, and perennial or intermittent streams. Corps jurisdiction of “other waters” in non-tidal areas extends to the OHWM, defined as:

The term “ordinary high water mark” means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impresses on the bank, shelving, changes in the characteristics of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Federal Register Vol. 51, No. 219,
Part 328.3 (d). November 13, 1986.

“Other waters” are identified in the field by the presence of a defined river or streambed, a bank, and evidence of the flow of water, or by the absence of emergent vegetation in ponds or lakes. “Other waters” that were found within the Study Area were mapped using a sub-meter accurate GPS with sub-meter accuracy and are described in Section 4.0 of this report. Identification of the OHWM followed the Corps Regulatory Guidance Letter No. 05-05, *Ordinary High Water Mark Identification* (Corps 2005).

3.2.3 Areas Excluded from Section 404 Jurisdiction

Some areas that meet the technical criteria for wetlands or “other waters” may not be jurisdictional under the CWA. Included in this category are some man-induced wetlands, which are areas that have developed at least some characteristics of naturally occurring wetlands due to either intentional or incidental human activities. Examples of man-induced wetlands include, but are not limited to, irrigated wetlands, impoundments (such as stock ponds for livestock), or drainage ditches constructed in uplands, wetlands resulting from filling of formerly deep water habitats, dredged material disposal areas, and wetlands resulting from stream channel realignment.

Other areas that may not be jurisdictional are “isolated” wetlands, or non-navigable waters which are not connected or adjacent to a navigable Waters of the U.S. through either a hydrologic or economic connection (per [*SWANCC v. United States*] Supreme Court decision issued on

January 9, 2001). Therefore, wetland areas which do not have a surface or groundwater connection to, and are not adjacent to a navigable Waters of the U.S., may be considered isolated and not subject to Corps jurisdiction. Potential wetlands in the Study Area suspected of being exempt from Corps jurisdiction are identified in this report; however determination of jurisdictional status is the responsibility of the Corps.

3.2.4 Waters of the State

The SWRCB and RWQCB have not established a formal wetland definition nor have they developed a wetland delineation protocol; however these agencies generally adhere to the same delineation protocol set forth by the Corps (Environmental Laboratory 1987). Therefore, the methods used to determine potential Waters of the State were the same as those described above for potential Section 404 jurisdiction.

Unlike Federal regulations, dredging, filling, or excavation within isolated wetlands and “other waters” constitutes a discharge to Waters of the State, and prospective dischargers are required to submit a report of waste discharge to the RWQCB to comply with requirements of the California Porter-Cologne Water Quality Control Act (SWRCB 2002).

3.3 California Coastal Commission/Local Coastal Program Jurisdiction

The Study Area is within the City LCP boundaries; potential wetlands, waters, and riparian areas within the Study Area will be analyzed in accordance with the LCP definitions.

3.3.1 Wetlands

The Coastal Act defines wetlands as:

Wetland means lands within the Coastal Zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.

(Public Resources Code Section 30121)

The Half Moon Bay LCP defines wetlands as:

...areas where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils or to support the growth of plants which normally are found to grow in water or wet ground.

(City of Half Moon Bay Zoning Code Chapter 18.20)

CCC Administrative Regulations (Section 13577 (b)) provides a more explicit definition:

Wetlands are lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time

during each year and their location within, or adjacent to, vegetated wetlands or deepwater habitats.

The Coastal Commission has considered this definition as requiring the observation of one diagnostic feature of a wetland such as wetland hydrology, dominance by wetland vegetation (hydrophytes), or presence of hydric soils as a basis for asserting jurisdiction under the Coastal Act.

In addition to the above definition, the *Statewide Interpretive Guidelines for Identifying and Mapping Wetlands and Other Wet Environmentally Sensitive Habitat Areas* (CCC 1981) provide technical criteria for use in identifying and delineating wetlands and other ESHAs within the Coastal Zone. The technical criteria presented in the guidelines are based on the Coastal Act definition and indicate that wetland hydrology is the most important parameter for determining a wetland, recognizing that:

... the single feature that most wetlands share is soil or substrata that is at least periodically saturated with or covered by water, and this is the feature used to describe wetlands in the Coastal Act. The water creates severe physiological problems for all plants and animals except those that are adapted for life in water or in saturated soil, and therefore only plants adapted to these wet conditions (hydrophytes) could thrive in these wet (hydric) soils. Thus, the presence or absence of hydrophytes and hydric soils make excellent physical parameters upon which to judge the existence of wetland habitat areas for the purposes of the Coastal Act, but they are not the sole criteria.

The Technical Criteria requires that saturation of soil in a wetland must be at or near the surface continuously for a period of time. The meaning of "at or near the surface" generally is considered to be approximately one-foot from the surface or less (the root zone), and the saturation must be continuously present for a period of time (generally more than two weeks) in order to create the necessary soil reduction (anaerobic) processes that create wetland conditions. For example, water from rain during a storm that causes saturation near the surface but then evaporates or infiltrates to 18 inches or deeper below the surface shortly after the storm does not meet the generally accepted criteria for wetland hydrology.

The presence of wetland classified plants or the presence of hydric soils (generally referred to as the "one parameter approach") can be used to identify an area as being a wetland in the Coastal Zone. There is correlation between the presence of wetland plants, wetland hydrology, and/or hydric soils occurring together, especially in natural undisturbed areas, and in many cases where one of these parameters is found (e.g., wetland plants) the other parameters will also occur. But there are situations which can result in the presence of wetland classified plants without there being wetland conditions, and these areas are not wetlands. Where these situations occur, the delineation study must carefully scrutinize whether the wetland classified plants that are present are growing there as hydrophytes in reducing (anaerobic) conditions caused by the presence of wetland hydrology or are there for some other (non-wetland) reason. Examples may include wetland-classified plants which are also salt-tolerant (e.g., alkali heath) and may be responding to either wetland conditions or saline soil conditions, but not necessarily both, and deep-rooted trees (e.g., willows) which are able to tap into deep groundwater sources and can grow in dry surface soils, but are also found in wetland conditions where surface water is present.

Hydric soils can also occur in upland areas especially in areas where historic disturbances may have exposed substratum or in densely vegetated grasslands (mollisols). Similarly, the

delineation must determine if the hydric soil indicators are a result of frequent anaerobic conditions or if they are the result of non-wetland conditions.

The Coastal Act uses a broad wetland definition in which the presence of any one of the wetland parameters may indicate presence of a wetland. The California Coastal Commission presumes that the area is a wetland if one of the wetland parameters is present. However, there may be exceptions to this presumption if there is strong positive evidence of upland conditions, as opposed to negative evidence of wetland conditions. Positive evidence of upland hydrology might be the observation that a given area saturates only ephemerally following significant rainfall, that the soil is very permeable with no confining layer, or that the land is steep and drains rapidly. Positive evidence of upland conditions should be obtained during the wet season. Based on these facts, this biological resource assessment identified areas within the Study Area that had wetland plants, hydric soils, or wetland hydrology indicators (See Section 3.1.1 for definitions). Soils, hydrology, and vegetation were examined on August 4, 2014 at locations within the Study Area that had the potential to meet the LCP's wetland definition. Sample points were taken in representative areas throughout the Study Area. Once an area was determined to be a potential jurisdictional wetland, its boundaries were delineated using sub-meter accuracy GPS equipment and overlain on a topographic map. Jurisdictional wetland acreage was measured digitally using ArcGIS software.

All areas meeting at least one parameter are depicted on the jurisdictional delineation map as coastal seasonal wetlands. The vegetation, hydrology, and soil criteria used during this delineation are summarized below.

3.3.2 Streams

A stream is a natural watercourse as designated by a solid line or dash and three dots symbol shown on the USGS map most recently published, or any well-defined channel with distinguishable bed and bank that shows evidence of having contained flowing water as indicated by scour or deposit of rock, sand, gravel, soil, or debris (CCC 1981). Prior to visiting the site, WRA reviewed the most recent USGS map for the Study Area.

3.3.3 Open Coastal Waters

Open coastal waters refer to the open ocean overlying the continental shelf and its associated coastline. Salinities exceed 30 parts per thousand with little or no dilution except opposite mouths of estuaries.

3.3.4 Riparian Corridors

The Half Moon Bay LCP defines "riparian corridors" as the "limit of vegetation", which is "a line determined by the association of plant and animal species normally found near streams lakes and other bodies of freshwater". Plant species included in this definition are red alder, big leaf maple, cattail, arroyo willow, horsetail, dogwood, black cottonwood, and box elder. To be considered a riparian corridor; at least 50 percent cover of some combination of the plants listed above must be present. The LCP establishes a mandatory riparian buffer zone extending 50 feet outward from the limit of riparian vegetation on perennial streams. During the August 4, 2014 site visit, WRA made a rapid assessment of the dominant vegetation along the drainage course located within and adjacent to the Study Area. The dripline of vegetation along Pilarcitos Creek within the Study Area boundary was mapped using a hand held GPS unit and aerial photography.

Other Sensitive Biological Communities

The Study Area was evaluated for the presence of other sensitive biological communities, including riparian areas, sensitive plant communities recognized by CDFW, significant areas of native plants, and other ESHAs. These sensitive biological communities were mapped and are described in Section 4.1.2 below.

3.4 Special-Status Species

3.4.1 Literature Review

Potential occurrence of special-status species in the Study Area was evaluated by first determining which special-status species occur in the vicinity of the Study Area through a literature and database search. Database searches for known occurrences of special-status species focused on the Half Moon Bay 7.5 minute USGS quadrangle and the five surrounding USGS quadrangles (Montara Mountain, San Mateo, Woodside, La Honda, and San Gregorio). The following sources were reviewed to determine which special-status plant and wildlife species have been documented to occur in the vicinity of the Study Area:

- CNDDDB records (CDFW 2014a)
- USFWS quadrangle species lists (USFWS 2014b)
- CNPS Electronic Inventory records (CNPS 2014)
- CDFG publication “California’s Wildlife, Volumes I-III” (Zeiner et al. 1990)
- California Bird Species of Special Concern (Shuford and Gardali 2008)
- CDFG publication “Amphibians and Reptile Species of Special Concern in California” (Jennings and Hayes 1994)
- A Field Guide to Western Reptiles and Amphibians (Stebbins 2003)
- NMFS Salmon and Steelhead species boundary maps (NMFS 2013)

3.4.2 Site Assessment

A biological site assessment was conducted to determine if existing conditions provide suitable habitat for any special-status plant or wildlife species. The potential for each special-status species to occur in the Study Area was evaluated according to the following criteria:

- No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

- High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- Present. Species is observed on the site or has been recorded (i.e., CNDDDB, other reports) on the site recently.

The site assessment was intended to identify the presence or absence of suitable habitat for each special-status species known to occur in the vicinity in order to determine its potential to occur in the Study Area. The biological resource assessment does not constitute a protocol-level survey and was not intended to determine the actual presence or absence of a species; however, if a special-status species was observed during the site visit, its presence was recorded and discussed. Appendix B presents the evaluation of potential for occurrence of each special-status plant and wildlife species known to occur in the vicinity of the Study Area with their habitat requirements, potential for occurrence, and rationale for the classification based on criteria listed above. Recommendations for further surveys are made in Section 5.0 for species with a moderate or high potential to occur in the Study Area.

4.0 RESULTS

The following sections present the results and discussion of the biological resources evaluation within the Study Area.

4.1 Biological Communities

Non-sensitive biological communities in the Study Area include developed/disturbed areas. Two ESHAs are found in the Study Area: a perennial stream and riparian corridor habitats (Figure 2). Descriptions for each biological community are contained in the following sections. Acreage summations for biological communities are detailed in Table 1. A list of observed plant and wildlife species is included as Appendix A. A list of special-status plant and wildlife species known to occur in the vicinity and an assessment of their potential to occur within the Study Area is included as Appendix B. Photographs of the Study Area are included as Appendix C.

4.1.1 Non-Sensitive Biological Communities

Developed/Disturbed Areas

The Study Area contains developed and disturbed area including paved parking areas and sidewalks, compacted dirt adjacent to existing commercial development, road shoulders, and lawns.

Table 1. Biological Community Acreages

Biological Community	Listed as Sensitive ^{1,2}	Acreage
Developed/Disturbed	No	0.85 acre
Riparian Corridor	Yes	0.42acre
Pilarcitos Creek	Yes	0.02 acre (110 linear feet)
Total		1.30 acres

¹Determination based on the *List of California Terrestrial Natural Communities* (CDFG 2010b)

²Determination based on the *Half Moon Bay Local Coastal Program* (City of Half Moon Bay 1993) and *Coastal Resource Zoning Code* (City of Half Moon Bay 2011)

4.1.2 Environmentally Sensitive Habitat Areas

Two ESHAs are found in the Study Area: a perennial stream and riparian corridor habitats (Figure 2). Given that both of these communities are potentially under the jurisdiction of the Corps and the City LCP, they are discussed in Section 4.2, as results of the formal delineation.

Although a formal tree survey was not performed as part of the site assessment, given the presence of a dense tree overstory, it is likely that several trees within the Study Area meet the Half Moon Bay Municipal Code definition of a heritage tree, as discussed in Section 2.2.4.

4.2 Corps and California Coastal Commission/Local Coastal Program Delineation

A delineation of the Study Area was conducted on August 4, 2014 as part of the biological resources evaluation. Soil types within the Study Area are shown in Figure 3. Potentially jurisdictional resources observed within the Study Area are shown in Figure 4 and are summarized in Table 2. Because no wetlands were observed within the Study Area, no Corps or CCC/CLP wetland delineation data sheets were created. Instead, the stream low flow channel (the deepest part of the stream), the OHWM, and ToB were recorded using a handheld GPS, and a species list for each biological community observed was created. Photographs of the Study Area are included as Appendix C.

Perennial Stream

Pilarcitos Creek, a perennial stream, extends through the Study Area in an east-west direction. Water was present within the creek during the August 2014 site visit. The local substrate is primarily composed of fine gravels. No submerged or emergent vegetation was observed along the stream edge, with the exception of small patches of algae within shallow areas. Along Pilarcitos Creek, within the OHWM, the understory was dominated by facultative and obligate wetland plants including watercress (*Nasturtium officinale*, OBL), dotted smartweed (*Persicaria punctate*, OBL), spotted monkeyflower (*Mimulus guttatus*, OBL), fringed willowherb (*Epilobium ciliatum* ssp. *ciliatum*), and bee plant (*Scrophularia californica*, FAC), which were observed along the stream within the OHWM and ToB. Approximately 110 linear feet of Pilarcitos Creek averaging six feet in width was documented in the Study Area.

Riparian Corridor

Within the Study Area, vegetation along Pilarcitos Creek is dominated by red alder (*Alnus rubra*, FACW), red willow (*Salix laevigata*, FACW) and arroyo willow (*Salix lasiolepis*, FACW). This community meets the definition of red willow riparian forest *Salix laevigata* Woodland Alliance (Sawyer et al. 2009). In upland areas outside of the creek ToB, the understory was dominated by herbs and forbs including stinging nettle (*Urtica dioica*, FAC), cape ivy (*Delairea odorata*, NL), Himalayan blackberry (*Rubus armeniacus*, FACU), and California blackberry (*Rubus ursinus*,

Figure 2.
Biological Communities

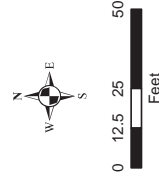
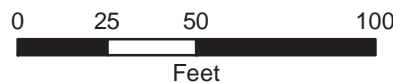




Figure 3. Soil Types Within Study Area

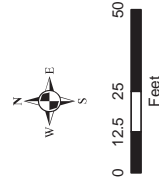
Coastside County Water District
Pilarcitos Creek Pipe Installation

Half Moon Bay, California



Date: October 2014
Map By: PK
Base Source: Esri Streaming Imagery

Figure 4.
Section 404, Section 1602,
CCC/LCP Jurisdictional
CCC/LCP Jurisdictional
Wetlands, Waters,
and Riparian Map



FACU). The overstory consisted of more than 50 percent of riparian species including red alder, arroyo willow, and alder; accordingly, the vegetation within the Study Area meets the Half Moon Bay LCP definition of riparian corridor.

4.2.1 Corps and California Coastal Commission/Local Coastal Plan Delineation Summary

All of the areas mapped as potential Section 404/Section 401 jurisdictional areas are also considered to be under CCC/LCP jurisdiction. In addition, riparian habitat within the Study Area is under both the jurisdiction of CDFW and of the CCC/LCP. As aforementioned, Pilarcitos Creek runs through the Study Area. The creek and the associated riparian corridor constitute the sensitive habitat features for this site.

Table 2. Jurisdictional Features within the Study Area

REGULATORY AGENCY	JURISDICTIONAL AREA	HABITAT SIZE
Corps (Section 404) /RWQCB	Waters of the U.S. (OHWM)	110 linear feet (0.02 acre)
CORPS TOTAL		110 linear feet (0.02 acre)
SWQCB (Section 401)	Waters of the State (OHWM)	110 linear feet (0.02 acre)
SWQCB TOTAL		110 linear feet (0.02 acre)
CDFW (Section 1602)	Waters of the State (ToB)	110 linear feet (0.07 acre)
	Riparian Corridor	0.38 acre
CDFW TOTAL		110 linear feet (0.45 acre)
CCC/LCP*	Waters of the Study Area (ToB)	0.07 acre
	Riparian Corridor	0.38 acre
CCC/LCP TOTAL		110 linear feet (0.45 acre)

**CCC/LCP jurisdiction includes Corps jurisdictional areas listed above.*

4.2.2 Soils

The Study Area has relatively steep topography sloping down from adjacent development towards Pilarcitos Creek, an incised channel. Soils in the study area are classified as Farallone coarse sandy loam, sloping, and Gullied land (alluvial soil material).

Farallone loam consists of well-drained, well drained soils that formed in alluvium derived from granitic rocks and is considered a hydric soil. Gullied land is a miscellaneous land type occurring near streams extending through certain soil types, including Farallone, and is considered a hydric soil (USDA 1991).

4.2.3 Hydrology

Hydrology in the Study Area is provided by precipitation and overland runoff from adjacent areas. Precipitation for Half Moon Bay was below normal during the 2013 rainy season, defined as October 1 to March 31. During the 2014 rainy season, precipitation was below normal from October to January, with February, March, and April at normal levels of precipitation (NRCS 2014). The below-normal rainfall in 2013 and 2014, with a late season at-normal rainfall during 2014 may have influenced the vegetation and hydrological indicators within the Study Area.

4.3 Special-Status Species

4.3.1 Plants

Based upon a review of the resources and databases given in Section 3.2.1, 47 special-status plant species have been documented in the vicinity of the Study Area. Appendix B summarizes the potential for occurrence for each special-status plant species occurring in the Half Moon Bay USGS 7.5 minute quadrangle and six surrounding quadrangles. One special-status plant species, Choris' popcorn flower (*Plagiobothrys chorisianus* var. *chorisianus*), was documented within two miles of the Study Area in 1995 and 2004 adjacent to the coastal Wavecrest Trail (CNPS Rank 1B.2, CDFW 2014a) and by WRA during protocol-level rare plant surveys conducted in May and July, 2013, which is within 2 miles of the Study Area. Two other special-status plant species have a moderate potential to occur in the Study Area: Hickman's cinquefoil (*Potentilla hickmanii*) and saline clover (*Trifolium hydrophilum*). However, no special-status plant species were observed during the August 2014 site visit. The remaining species documented to occur in the vicinity of the Study Area are unlikely or have no potential to occur due to lack of suitable habitat within the Study Area.

The site assessments occurred during the blooming period of the three special-status plant species with potential to occur in the Study Area; none of the potentially blooming species were observed. The plants observed during the site visits are listed in Appendix A.

Choris' popcorn flower (*Plagiobothrys chorisianus* var. *chorisianus*), CNPS Rank 1B.2 Choris' popcorn flower is an annual herbaceous species in the family Boraginaceae. Typical habitat for this species includes chaparral, coastal prairie, and coastal scrub. Choris' popcorn flower has been recorded in Alameda, San Francisco, San Mateo, and Santa Cruz counties at elevations ranging from 15 to 160 meters and blooms from March through June. Choris' popcorn flower has documented occurrences within two miles of the Study Area within the Wavecrest property during 1995 and 2004 plant surveys and field visits conducted by T Corelli and D Lake, respectively (CNDDDB Occurrence No. 57049, CDFW 2014a). WRA documented occurrences of this species within 2 miles of the Study Area during rare plant surveys conducted on May 20, 2013, and July 25, 2013 (WRA 2014) near the Wavecrest Coastal Trail. Within the Study Area, this species has a moderate potential to occur in low-lying mesic areas on the fringe of the freshwater stream and surrounding areas.

Hickman's cinquefoil (*Potentilla hickmanii*), FE, SE, CNPS Rank 1B.2. Hickman's cinquefoil is a perennial herb in the family Rosaceae. It occurs in coastal bluff scrub, closed-cone coniferous forest, vernal mesic meadows and seeps, and freshwater marshes and swamps. It is recorded from 10 to 149 meters in elevation in Monterey, San Mateo, and Sonoma counties. It blooms between April and August. Within the Study Area, this species has a moderate potential to occur in low-lying mesic areas on the fringe of the freshwater stream and surrounding areas.

Saline clover (*Trifolium hydrophilum*), CNPS Rank 1B.2. Saline clover is an annual herb in the family Fabaceae. It occurs in marshes and swamps, valley and foothill grassland on alkaline soils, vernal pools, and mesic sites at elevations of 0 to 300 meters in elevation in Alameda, Contra Costa, Monterey, Santa Cruz, San Mateo, Solano, and Sonoma counties. It blooms between April and June. Within the Study Area, this species has a moderate potential to occur in low-lying mesic areas on the fringe of the freshwater stream and surrounding areas.

4.3.2 Wildlife

Based upon a review of the resources and databases given in Section 3.4.1, 68 special-status wildlife species have been documented in the vicinity of the Study Area. Appendix B summarizes the potential for each of these species to occur in the Study Area. Species may have been considered unlikely to occur due to lack of available habitat or, in some cases, the distance of the Study Area from documented occurrences. The special-status wildlife species discussed below have a moderate or high potential to occur in the Study Area. The remaining species documented to occur in the vicinity of the Study Area are unlikely or have no potential to occur due to lack of suitable habitat within the Study Area.

Following the discussion of the species that have a moderate potential to occur is a discussion of Federal-listed species that have been documented in the vicinity of the Study Area, but are unlikely to occur.

Western red bat (*Lasiurus blossevillei*), CDFW Species of Special Concern, WBWG High Priority. Western red bat are highly migratory and broadly distributed, reaching from southern Canada through much of the western United States. They are typically solitary, roosting primarily in the foliage of trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas possibly in association with riparian habitat (particularly willows, cottonwoods, and sycamores). This species may occasionally roost in suitable trees within the Study Area, though the close proximity of urban downtown Half Moon Bay may deter bats from roosting within the Study Area. Therefore, there is a moderate potential for this species to occur within the Study Area.

Hoary bat (*Lasiurus cinereus*), WBWG Medium Priority. Hoary bats are highly associated with forested habitats in the western United States, particularly the Pacific Northwest. They are a solitary species and roost primarily in foliage of both coniferous and deciduous trees, near the ends of branches, usually at the edge of a clearing. Roosts are typically 10 to 30 feet above the ground. Hoary bats have also been reported to roost in caves, beneath rock ledges, in woodpecker holes, in grey squirrel nests, under driftwood, and clinging to the side of buildings, though this latter behavior is not typical. Hoary bats are thought to be highly migratory; however, wintering sites and migratory routes have not been well documented. This species tolerates a wide range of temperatures and have been captured at air temperatures between 0 and 22 degrees C. Hoary bats probably mate in the fall, followed by delayed implantation and birth the following May through July. Hoary bats usually emerge late in the evening to forage, typically from just over one hour after sunset to after midnight. Hoary bats reportedly have a strong preference for moths, but are also known to eat beetles, flies, grasshoppers, termites, dragonflies, and wasps (WBWG 2005). This species may occasionally roost in suitable trees within the Study Area, though the close proximity of urban downtown Half Moon Bay may deter bats from roosting within the Study Area. Therefore, there is a moderate potential for this species to occur within the Study Area.

San Francisco (salt marsh) common yellowthroat (*Geothlypis trichas sinuosa*), USFWS Bird of Conservation Concern, CDFW Species of Special Concern. This subspecies of the common yellowthroat is found in freshwater marshes, coastal swales, riparian thickets, brackish marshes, and saltwater marshes. Their breeding range extends from Tomales Bay in the north, Carquinez Strait to the east, and Santa Cruz County to the south. This species requires thick, continuous cover such as tall grasses, tule patches, or riparian vegetation down to the water surface for foraging and prefers willows for nesting. Although willows within the Study Area are not particularly dense, they may provide suitable nesting habitat for this species. Additionally, this species has been documented to occur less than 1 mile from the Study Area (CDFW 2014a). Therefore, there is a high potential for this species to nest and forage within the Study Area.

Yellow warbler (*Setophaga petechia*), CDFW Species of Special Concern. USFWS Bird of Conservation Concern. Yellow Warbler breeds most commonly in wet, deciduous thickets, especially those dominated by willows, and in disturbed and early successional habitats (Lowther et al. 1999). This species is found between 300 to 9,000 feet elevation in California and at higher elevations along watercourses with riparian growth (Lowther et al. 1999). Yellow warbler populations have declined due to brood parasitism by brown-headed cowbirds (*Molothrus ater*) and habitat destruction. This species' diet is primarily comprised of insects supplemented with berries. The Study Area provides suitable riparian habitat for this species to nest, and yellow warblers have been documented to nest in San Mateo County (Shuford and Gardali 2008). Therefore, there is a high potential for this species to nest and forage within the Study Area.

Loggerhead shrike (*Lanius ludovicianus*), CDFW Species of Special Concern. USFWS Bird of Conservation Concern. Loggerhead shrike is a common resident and winter visitor in lowlands and foothills throughout California. It prefers open habitats with scattered trees, shrubs, posts, fences, utility lines or other perches. Nests are usually built on a stable branch in a densely-foliaged shrub or small tree and are usually well-concealed. The highest densities occur in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill, riparian, pinyon-juniper, juniper, and desert riparian habitats. While this species eats mostly arthropods, they also take amphibians, small to medium-sized reptiles, small mammals, and birds. They are also known to scavenge on carrion. The Study Area provides suitable nesting and foraging habitat for loggerhead shrikes. Though suitable habitat is present, the immediately surrounding area is dominated by urban development, which does not provide suitable forage for this species and may deter nesting attempts in the Study Area. Therefore, this species has a moderate potential to occur within the Study Area.

Pacific pond turtle (PPT, *Actinemys marmorata*), CDFW Species of Special Concern. The Pacific pond turtle (PPT) is the only native freshwater turtle in California. This turtle is uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and Transverse Ranges. Pacific pond turtle inhabits annual and perennial aquatic habitats, such as coastal lagoons, lakes, ponds, marshes, rivers, and streams from sea level to 5,500 feet in elevation. Pacific pond turtle also occupies man-made habitats such as stock ponds, wastewater storage, percolation ponds, canals, and reservoirs. This species requires low-flowing or stagnant freshwater aquatic habitat with suitable basking structures, including rocks, logs, algal mats, mud banks, and sand. Warm, shallow, nutrient-rich waters are ideal as they support PPT prey items, which include aquatic invertebrates and occasionally fish, carrion, and vegetation. Turtles require suitable aquatic habitat for most of the year; however, PPT often occupy creeks, rivers, and coastal lagoons that become seasonally unsuitable. To escape periods of high water flow, high salinity, or prolonged dry conditions, PPT may move upstream and/or take refuge in vegetated, upland habitat for up to four months (Rathbun et al.

2002). Although upland habitat is utilized for refuging and nesting, this species preferentially utilizes aquatic and riparian corridors for movement and dispersal.

There have been no documented occurrences of this species within 5 miles of the Study Area (CDFW 2014a). At the time of the August 4, 2014 site visit, the portion of Pilarcitos Creek within the Study Area was very slow-moving, which is a positive attribute for turtles. It was extremely shallow and clear, however, and did not provide aquatic escape habitat for turtles to evade predators. It is likely that during the rainy season, the creek would provide more aquatic escape habitat. The creek is also very entrenched through the Study Area, likely making it impossible for turtles to move to upland habitat for nesting or seasonal refuge. Pacific pond turtle is unlikely to nest in or adjacent to the Study Area, though it may occasionally move through or bask within the Study Area when there are appropriate water levels and sufficient sunlight passes through the tree canopy. Therefore, there is a moderate potential for this species to occur within the Study Area.

San Francisco garter snake (SFGS, *Thamnophis sirtalis tetrataenia*), Federal Endangered, State Endangered, CDFW Fully Protected. Historically, San Francisco garter snake (SFGS) occurred in scattered wetland areas on the San Francisco Peninsula from approximately the San Francisco County line south along the eastern and western bases of the Santa Cruz Mountains, at least to the Upper Crystal Springs Reservoir, and along the coast south to Año Nuevo Point, San Mateo County, and Waddell Creek, Santa Cruz County. The preferred habitat of the SFGS is a densely vegetated pond near an open hillside where they can sun themselves, feed, and find cover in rodent burrows; however, considerably less-ideal habitats can be successfully occupied. Temporary ponds and other seasonal freshwater bodies are also used. Emergent and bankside vegetation such as cattails (*Typha* spp.), bulrushes (*Scirpus* spp.) and spike rushes (*Juncus* spp. and *Eleocharis* spp.) apparently are preferred and used for cover. The area between stream and pond habitats and grasslands or bank sides is used for basking, while nearby dense vegetation or water often provide escape cover. Snakes also use floating algal or rush mats, if available.

There are two significant components to SFGS habitat: 1) ponds or suitable habitat that support California red-legged frog (CRLF), American bullfrog (*Rana catesbeiana*), or the Pacific chorusfrog (*Pseudacris regilla*) and 2) surrounding upland that supports Botta's pocket gopher (*Thomomys bottae*) or the California meadow vole (*Microtus californicus*). Ranid frogs are an obligate component of the SFGS's diet (USFWS 2006a).

Specific information on the home range/territory of the SFGS is unknown. In Manitoba, Canada the same species (different sub-species) moved an average of 6.6 miles. The SFGS's home range would probably be less and determined by site conditions (food availability, cover, etc.) (USFWS 1985). Studies at Año Nuevo State Reserve found the mean distance of female hibernacula to the Visitor Center Pond was 459 feet, with a maximum distance of 637 feet. Distances greater than 637 feet have been reported, including an unconfirmed distance of approximately 1000 feet (McGinnis et al. 1987).

SFGS has been documented to occur in Pilarcitos Creek less than 0.25 mile downstream of the Study Area (CDFW 2014a). There is not a substantial amount of emergent vegetation within the Study Area, but the snake may still move through and occasionally forage within aquatic habitat and uplands on-site. Based on habitat conditions and the close proximity of documented occurrences, there is a high potential for this species to occur, at least as a transient, within the Study Area.

California red-legged frog (CRLF, *Rana draytonii*), Federal Threatened, CDFW Species of Concern. The historic range of CRLF extended along the coast from the vicinity of Point Reyes National Seashore, Marin County, California and inland from Redding, Shasta County southward to northwestern Baja California, Mexico (Jennings and Hayes 1994, Hayes and Krempels 1986). The current distribution of this species includes only isolated localities in the Sierra Nevada, northern Coast and Northern Traverse Ranges. It is still common in the San Francisco Bay Area and along the Central Coast and it is now believed extirpated from the southern Transverse and Peninsular Ranges (USFWS 2002).

There are four Primary Constituent Elements (PCEs) that are considered to be essential for the conservation or survival of this species. The PCEs for CRLF include: aquatic breeding habitat; non-breeding aquatic habitat; upland habitat; and dispersal habitat (USFWS 2006b). Aquatic breeding habitat consists of low-gradient fresh water bodies including natural and manmade (e.g., stock) ponds and pools in perennial streams (Jennings and Hayes 1994), marshes, lagoons, and dune ponds. Aquatic breeding habitat must hold water for a minimum of 20 weeks in most years. This is the average amount of time needed for egg, larvae, and tadpole development and metamorphosis so that juveniles can become capable of surviving in upland habitats (USFWS 2006b). Optimal habitat is characterized by dense, shrubby riparian vegetation associated with deep (less than 2.3 feet), still, or slow-moving water (Hayes and Jennings 1986, Jennings 1988). Arroyo willow seems to provide the most suitable riparian habitat structurally, although cattails and bulrushes also can provide suitable habitat (Jennings 1988). Although CRLF are found in ephemeral streams and ponds, populations cannot be maintained where all surface water disappears (Jennings and Hayes 1994).

Aquatic non-breeding habitat may or may not hold water long enough for this species to hatch and complete its aquatic life cycle, but it provides shelter, foraging, predator avoidance, and aquatic dispersal for juvenile and adult CRLF. These waterbodies include: plunge pools within intermittent creeks; seeps; quiet water refugia during high water flows; and springs of sufficient flow to withstand the summer dry period. California red-legged frog can use large cracks in the bottom of dried ponds as refugia to maintain moisture and avoid heat and solar exposure (Alvarez 2004). Non-breeding aquatic features enable CRLF to survive drought periods, and disperse to other aquatic breeding habitat (USFWS 2006b).

Upland habitats include areas within 200 to 300 feet of aquatic and riparian habitat and are comprised of grasslands, woodlands, and/or vegetation that provide shelter, forage, and predator avoidance. These upland features provide breeding, non-breeding, feeding, and sheltering habitat for juvenile and adult frogs (e.g., shelter, shade, moisture, cooler temperatures, a prey base, foraging opportunities, and areas for predator avoidance). Upland habitat can include structural features such as boulders, rocks and organic debris (e.g., downed trees, logs), as well as small mammal burrows and moist leaf litter (USFWS 2006b). Dispersal habitat includes accessible upland or riparian habitats between occupied locations within 0.7 mile of each other that allow for movement between these sites (USFWS 2002).

Dispersal habitat includes various natural and altered habitats such as agricultural fields, which do not contain barriers to dispersal. Moderate to high density urban or industrial developments, large reservoirs and heavily traveled roads without bridges or culverts are considered barriers to dispersal (USFWS 2006b). Short-distance dispersal movements are generally straight-line movements (Bulger et al. 2003). Overland dispersal movements through upland habitats typically occur at night during wet weather (USFWS 2002, Bulger et al. 2003, Fellers and Kleeman 2007). During dry weather, CRLF tend to remain very close to a water source;

however, overland dispersal may occur in response to receding water (USFWS 2002). California red-legged frog has been documented to disperse up to 1.8 miles (Fellers and Kleeman 2007).

The portion of Pilarcitos Creek within the Study Area may provide suitable aquatic breeding and dispersal habitat for this species. The riparian canopy cover and low gradient, slow-moving perennial creek are positive habitat attributes. This species is unlikely to use uplands within the Study Area, however, due to the highly entrenched banks around the creek, which are likely impossible for this frog to climb, and due to the highly developed area surrounding the Study Area. This species was documented 0.25 mile downstream of the Study Area in 2006 (CDFW 2014a). Based on habitat conditions and the close proximity of documented occurrences, there is a high potential for this species to occur within the Study Area.

Steelhead - Central California Coast DPS (*Oncorhynchus mykiss irideus*), Federal Threatened. The Central California Coast DPS includes all naturally spawned populations of steelhead (and their progeny) in California streams from the Russian River to Aptos Creek, and the drainages of San Francisco and San Pablo Bays eastward to the Napa River (inclusive), excluding the Sacramento-San Joaquin River Basin.

Steelhead typically migrate to marine waters after spending two years in freshwater, though they may stay up to seven. They then reside in marine waters for 2 or 3 years prior to returning to their natal stream to spawn as 4-or 5-year-olds. Steelhead adults typically spawn between December and June. In California, females typically spawn two times before they die. Preferred spawning habitat for steelhead is in perennial streams with cool to cold water temperatures, high dissolved oxygen levels, and fast flowing water. Abundant riffle areas (shallow areas with gravel or cobble substrate) for spawning and deeper pools with sufficient riparian cover for rearing are necessary for successful breeding.

This species has been observed within Pilarcitos Creek, and both adults and smolting juveniles likely pass through the Study Area on their way to or from breeding grounds. This species is likely to be present only seasonally when water levels allow fish passage, during migrations to spawning grounds further upstream, and during outmigration. Based on habitat characteristics and documented occurrences within Pilarcitos Creek, this species has a high potential to occur within the Study Area.

Federal Listed Species Unlikely to Occur within the Study Area

Tidewater goby (*Eucyclogobius newberryi*), Federal Endangered Species, CDFG Species of Special Concern. Tidewater goby are found within estuaries, marshes, lagoons, and streams along the California coast ranging from Del Norte to San Diego County (Lafferty et al. 1999, USFWS 2005). Water depth and velocity are strong indicators of a habitat's capacity to support this species (Chamberlain 2006). Tidewater Goby is generally found in waters less than one meter in depth, and within areas of little to no current. Unique among fishes of the Pacific coast, this primarily annual species prefers waters with low salinity in coastal estuaries, but can tolerate periods of high salinity. They feed along the bottom, preferring clean, shallow, slow-moving waters. They can tolerate a wide range of abiotic conditions. Substrate and vegetation composition varies among occupied habitats; however, spawning generally occurs in unvegetated areas with sand or slightly coarser material (Swenson 1999). Spawning can occur virtually year round, with peak spawning typically occurring in the spring and a smaller peak in late summer/early fall (Lafferty et al. 1999, Swenson 1999).

No lagoon habitat is present at the mouth of Pilarcitos Creek, and without their primary habitat component missing from the creek mouth, no goby would be expected to occur more than 1 mile upstream where the Study Area is located. There is no known population downstream of the Study Area. Thus, it is unlikely that this species would occur within or adjacent to the Study Area.

Coho salmon - Central California Coast ESU (*Oncorhynchus kisutch*), Federal Endangered, State Endangered. The Central California Coast ESU includes all naturally spawned populations of coho salmon (and their progeny) in California streams from the Eel River to Aptos Creek, including the Russian River and its tributaries, excluding the Sacramento-San Joaquin River Basin.

Coho salmon typically migrate in late-fall to early winter to spawn in smaller, coastal streams. Spawning migration known as “runs” occur throughout the year. Spawning occurs mainly between November and January, but can occur as late as March during drought conditions. Juveniles may spend several years in the freshwater habitat before migrating to the ocean. Most adult fish return “home” maintaining fidelity to their natal stream. Preferred spawning habitat for coho salmon is small freshwater streams, with cool to cold water temperatures, medium to small gravel substrate, high dissolved oxygen levels, at the head of a riffle where water changes from laminar flow to turbulent flow (provides greater dissolved oxygen). Abundant riffle areas (shallow areas with gravel substrate) for spawning and deeper pools with sufficient riparian cover for rearing are necessary for successful breeding.

There are no current or historical records available that indicate coho salmon have inhabited the Half Moon Bay hydrologic sub-area (CDFG 2004). Without records of historical or recent occurrences, it is unlikely that this species would occur within the Study Area.

5.0 SUMMARY AND RECOMMENDATIONS

The Coastside County Water District (CCWD) proposes to conduct upgrades to their system and, as part of this process, install a new, larger water main within the Study Area; this water main is required to meet the needs of the local population. As a replacement to the existing, smaller water supply pipe, the larger water supply pipe will cross beneath Pilarcitos creek within the Study Area and will be installed via micro-tunneling (directional drilling). Project activities will be conducted greater than 15 feet from the creek ToB.

Proposed project activities will likely require the following permits:

- A Section 1602 Streambed Alteration Agreement from the CDFW, and
- A Coastal Development Permit from the City of Half Moon Bay.

The following sections present recommendations for future studies and/or measures to avoid or reduce impacts to special-status species and sensitive habitats.

5.1 Biological Communities

The CCC and LCP generally prohibit land use or development which would have significant adverse impact on ESHAs. The LCP defines specific criteria for allowable development areas in ESHAs, requires ESHA impacts to be minimized to the maximum extent feasible through siting and design, requires that mitigation measures implemented where impacts to ESHAs may occur. However, some permitted uses within ESHAs are allowed, as per Section 2.4.3 of this report and

Section 18.38.075 (A) of the Zoning Code LCP Implementation Plan (City of Half Moon Bay 2011). The proposed water supply project may temporarily impact portions of the riparian corridor along Pilarcitos Creek. While considered a permitted activity, applicable avoidance and minimization measures are described below.

Riparian Corridor

Specific permitted uses, including necessary water supply projects, are allowed within riparian corridors. The following standards are recommended to minimize adverse effects (Section 18.38.075 (C), Half Moon Bay Municipal Code):

- Minimize removal of vegetation,
- Minimize land exposure during construction and use temporary vegetation or mulching to protect critical areas,
- Minimize erosion, sedimentation and runoff by appropriately grading and replanting modified areas,
- Use only adapted native or non-invasive exotic plant species when replanting,
- Provide sufficient passage for native and anadromous fish as specified by the State Department of Fish and Game,
- Minimize adverse effects of wastewater discharges and entrainment,
- Prevent depletion of groundwater supplies and substantial interference with reclamation,
- Maintain natural vegetation buffer areas that protect riparian habitats, and
- Minimize alteration of natural streams.

General Avoidance Measures

Below, general avoidance measures for projects to reduce potential impacts to sensitive habitats and specific performance criteria for ESHAs are described:

- Install temporary silt fencing along the entire perimeter of land disturbing activities to protect potential ESHAs.
- Soil disturbance in the riparian corridor and the 50-foot buffer zone around the riparian corridor should be minimized as much as possible. This will reduce the impact to existing soils and vegetation that will remain as natural habitat and reduce the potential for soil erosion. Perimeter erosion and sediment control measures (i.e., silt fencing, straw wattles) should be installed within the buffer zone area as an extra precaution to reduce the possibility of sediments entering the adjacent potential ESHAs.
- Solid materials, including wood, masonry/rock, glass, paper, or other materials should not be stored in the 50-foot riparian buffer zone to the extent practicable. Solid waste materials should be properly disposed of off-site. Fluid materials, including concrete, wash water, fuels, lubricants, or other fluid materials used during construction should not be disposed of on-site and should be stored or confined as necessary to prevent spillage into natural habitats. If a spill of such materials occurs, the area should be cleaned and contaminated materials disposed of properly. The affected area should be restored to its natural condition.

5.2 Special-Status Plant Species

Of the 47 special-status plant species known to occur in the vicinity of the Study Area, three were determined to have a moderate potential to occur in the Study Area: Choris' popcorn flower, Hickman's cinquefoil, and saline clover. No special-status plant species were observed within the Study Area during the August 2014 biological resource assessment site visit; however, this visit does not constitute a protocol-level rare plant survey since it was not conducted during the blooming period for species with potential to occur on-site. Accordingly, WRA recommends that rare plant surveys are conducted during the blooming periods for species with a high to moderate potential to occur if vegetation clearing and/or earthmoving activities within suitable habitat for these three species; this should include one protocol-level rare plant survey to occur between the months of April through June.

5.3 Special-Status Wildlife Species

Of the 68 special-status wildlife species known to occur within the vicinity of the Study Area, nine species were determined to have a moderate or high potential to occur within the Study Area. Recommendations to avoid take of these species is included in the following sections.

5.3.1 Bats

If tree removal or tree trimming is necessary, trees should be trimmed or removed between September and May, outside the maternity roosting season. If trees are slated for removal or trimming during the maternity roosting season (May – August), a qualified biologist should conduct a bat survey prior to the initiation of work. If a bat roost is observed, a 50-foot buffer around the roost should be demarcated and observed.

5.3.2 Birds

Nearly all the habitats within the Study Area have the potential to support nesting birds. Vegetation removal or other ground disturbance activities have the potential to directly or indirectly impact nesting birds. WRA recommends the following measures be implemented to avoid take of special-status birds and breeding birds protected by the MBTA.

Breeding Season: February 1 through August 31

If ground disturbance or removal of vegetation occurs between February 1 and June 30, pre-construction surveys should be performed by a qualified biologist no more than 14 days prior to commencement of such activities to determine the presence and location of nesting bird species. If ground disturbance or removal of vegetation occurs between July 1 and August 31, pre-construction surveys should be performed within 30 days prior to such activities. If active nests are present, establishment of temporary protective breeding season buffers will avoid direct mortality of these birds, nests, or young. The appropriate buffer distance is dependent on the species, surrounding vegetation, and topography and should be determined by a qualified biologist as appropriate to prevent nest abandonment and direct mortality during construction.

Non-Breeding Season: September 1 through January 31

Ground disturbance and removal of vegetation within the Study Area does not require pre-construction surveys if performed between September 1 and January 31.

5.3.3 California red-legged frog, San Francisco garter snake, Pacific pond turtle and Steelhead

It is not anticipated that HDD activities will affect CRLF, SFGS, PPT, or steelhead. However, HDD does have the potential for “frac-out”, where pressure built up in the bore tunnel can force drilling mud up through the ground and into the natural environment. Although it is unlikely, if frac-out occurs, it may affect habitat and potentially individuals of these species. California red-legged frog, PPT and SFGS are likely to inhabit aquatic habitat and the banks of Pilarcitos Creek within the Study Area, and steelhead habitat includes aquatic features and the cover provided by riparian trees, in-channel root wads and debris, and emergent vegetation. These species may forage and disperse through the Study Area; CRLF may also breed in and adjacent to the Study Area. WRA recommends the following measures be implemented to avoid take of CRLF, PPT, SFGS and steelhead.

- The project should be designed to avoid frac-out to the greatest extent feasible. A spill response plan should be prepared for use in the event of a frac-out.
- Prior to the start of groundbreaking activities, all construction personnel will receive training on special-status species and their habitats by a qualified biologist. The importance of these species and their habitat will be described to all employees as well as the minimization and avoidance measures that are to be implemented as part of the project. The original list of employees who attend the training sessions will be maintained by the contractor and be made available for review by the USFWS and the CDFW upon request.
- No trash shall be deposited on the site during construction activities. All trash shall be placed in trash receptacles with secure lids stored in vehicles and removed nightly from the Study Area.
- Any fueling and maintenance of equipment should be conducted off-site, if practicable, and at least 50 feet from any designated ESHA.

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APPENDIX A

LIST OF OBSERVED PLANT AND ANIMAL SPECIES

Appendix A. Plant and wildlife species observed in the Study Area on August 4, 2014.

Scientific Name	Common Name
Plants	
<i>Alnus rubra</i>	red alder
<i>Avena barbata</i>	slender oat
<i>Bromus catharticus</i> var. <i>elatus</i>	Chilean brome
<i>Bromus diandrus</i>	ripgut brome
<i>Centranthus ruber</i>	red valerian
<i>Dactylis glomerata</i>	orchard grass
<i>Delairea odorata</i>	Cape ivy
<i>Ehrharta erecta</i>	panic veldtgrass
<i>Epilobium ciliatum</i> ssp. <i>ciliatum</i>	fringed willowherb
<i>Eucalyptus camaldulensis</i>	river redgum
<i>Eucalyptus globulus</i>	blue gum
<i>Festuca perennis</i>	Italian rye grass
<i>Geranium maderense</i>	Madeira Island geranium
<i>Hesperocyparis macrocarpa</i>	Monterey cypress
<i>Hirschfeldia incana</i>	short podded mustard
<i>Holcus lanatus</i>	common velvet grass
<i>Lactuca serriola</i>	prickly lettuce
<i>Ligusticum apiifolium</i>	celeryleaf licorice root

Scientific Name	Common Name
<i>Lotus corniculatus</i>	bird's-foot trefoil
<i>Mimulus guttatus</i>	common yellow monkeyflower
<i>Nasturtium officinale</i>	watercress
<i>Oenothera elata</i> ssp. <i>hookeri</i>	common evening-primrose
<i>Persicaria punctata</i>	dotted smartweed
<i>Poa annua</i>	annual bluegrass
<i>Raphanus sativus</i>	wild radish
<i>Rubus armeniacus</i>	Himalayan blackberry
<i>Rubus ursinus</i>	California blackberry
<i>Rumex crispus</i>	curly dock
<i>Salix laevigata</i>	red willow
<i>Salix lasiolepis</i>	arroyo willow
<i>Scrophularia californica</i>	California figwort
<i>Stachys mexicana</i>	Mexican hedgenettle
<i>Taraxacum officinale</i>	common dandelion
<i>Tragopogon dubius</i>	yellow salsify
<i>Tropaeolum majus</i>	nasturtium
Wildlife	
<i>Carpodacus mexicanus</i>	house finch
<i>Melospiza melodia</i>	song sparrow
<i>Melospiza crissalis</i>	California towhee

Scientific Name	Common Name
<i>Carduelis psaltria</i>	lesser goldfinch
<i>Sayornis nigricans</i>	black phoebe
<i>Calypte anna</i>	Anna's hummingbird
<i>Poecile rufescens</i>	chestnut-backed chickadee
<i>Turdus migratorius</i>	American robin
<i>Larus</i> sp.	gull
<i>Pacifastacus leniusculus</i>	signal crayfish

APPENDIX B

POTENTIAL FOR SPECIAL-STATUS PLANT AND WILDLIFE SPECIES TO OCCUR IN THE STUDY AREA

Appendix B. Potential for special-status plant and wildlife species to occur in the Study Area. List compiled from the California Department of Fish and Wildlife (CDFW) Natural Diversity Database (2014), U.S. Fish and Wildlife Service (USFWS) Species Lists (2014), and California Native Plant Society (CNPS) Electronic Inventory search of the Half Moon Bay, Montara Mountain, San Mateo, Woodside, La Honda, and San Gregorio USGS 7.5' quadrangles (2014), and a review of other CDFW lists and publications (Jennings and Hayes 1994, Shuford and Gardali 2008, Zeiner et al. 1990).

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Plants				
<i>Acanthomintha duttonii</i> San Mateo thorn mint	FE, SE, Rank 1B.1	Chaparral, valley and foothill grassland, often on serpentine soils. 50-300m elevation. Blooms April-June.	Unlikely. No suitable habitat such as chaparral, grassland, or serpentine soils are present within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	Rank 1B.2	Cismontane woodland, valley and foothill grassland, found on dry clay, volcanic and often serpentine soils. 100-300m elevation. Blooms May-June.	No Potential. No suitable habitat such as chaparral, grassland, or serpentine soils are present within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	Rank 1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. 3-500m elevation. Blooms March-June.	Unlikely. No suitable habitat such as coastal bluff scrub, cismontane woodland, or grassland habitats are present within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Arctostaphylos andersonii</i> Anderson's manzanita	Rank 1B.2	Broadleaved upland forest, chaparral, and North Coast coniferous forest. Found on open sites and redwood forest at elevations of 60-700m. Known only from Santa Cruz Mountains. Blooms Nov-April.	Unlikely. Suitable habitat for this species is not present within the Study Area. Species found only in the Santa Cruz mountains.	The vegetative form of this species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Arctostaphylos montaraensis</i> Montara manzanita	Rank 1B.2	Slopes and ridges on chaparral, coastal scrub. 150-500m elevation. Blooms January-March.	No Potential. No suitable habitat is present within the Study Area, and the Study Area is outside of the elevation range for this species.	No further surveys or mitigation measures are recommended.

<i>Arctostaphylos regismontana</i> Kings Mountain manzanita	Rank 1B.2	Broadleaved upland forest, chaparral, north coast coniferous forest, often on granite or sandstone soils. 305-730 meters. Blooms Jan-April.	Unlikely. No suitable habitat is present within the Study Area, and the Study Area is outside of the elevation range for this species.	No further surveys or mitigation measures are recommended.
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> coastal marsh milk-vetch	Rank 1B.2	Coastal dunes (mesic) and marshes and swamps (coastal salt, streamsides). Found at elevations of 0-30m. Blooms April-Oct.	Unlikely. Suitable coastal salt marsh and mesic coastal dune habitat is not present within the Study Area.	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>California macrophylla</i> round leaved filaree	Rank 1B.1	Cismontane woodland, valley and foothill grassland, often found on clay. Found at elevations of 2-420m. Blooms May-Nov.	Unlikely. Suitable habitat for this species is not present on-site. The closest documented occurrence of this species is greater than five miles away, where it has not been observed since 1896 (CNDDB 2014).	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Centromadia parryi</i> ssp. <i>parryi</i> pappose tarplant	Rank 1B.2	Coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland. Vernal mesic, often alkaline sites. 2-420m. Blooms May-November.	Unlikely. Mesic habits are present in the Study Area, however, suitable coastal prairie, meadow, salt marsh, and grassland habitat for this species is not present on-site. The nearest documented occurrence of this species is greater than five miles from the Study Area.	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Chloropyron maritimum</i> spp. <i>palustre</i> Point Reyes salty bird's-beak	Rank 1B.2	Coastal salt marshes and swamps. 0-10 meters. Blooms June-Oct.	No Potential. The Study Area is outside of the elevation range for this species, and suitable coastal salt marsh or swamp habitat is not present.	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.

<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> San Francisco Bay spineflower	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub, often sandy sites. 3-215m. Blooms April-Aug.	Unlikely. Suitable coastal bluff scrub, coastal dune, and coastal prairie habitats are not present. The nearest documented occurrence of this species is greater than five miles from the Study Area and is presumed extant at that location.	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Cirsium andrewsii</i> Franciscan thistle	Rank 1B.2	Broad leaved upland forest, coastal bluff scrub, coastal prairie, coastal scrub/ mesic, sometimes serpentine. 0-135m. Blooms March-July.	Unlikely. While the Study Area is mesic, no coastal scrub habitat, upland forest, coastal prairie or serpentine soil occurs on-site.	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Cirsium fontinale</i> var. <i>fontinale</i> Crystal Springs fountain thistle	FE, SE, Rank 1B.1	Chaparral, cismontane woodlands, valley and foothill grasslands, often in serpentine seeps. 90-175m elevation. Blooms June-Oct.	Unlikely. Small patches of non-native grassland are present on-site. However, woodlands and serpentine soil habitats do not occur within the Study Area.	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Collinsia multicolor</i> San Francisco collinsia	Rank 1B.2	Closed cone coniferous forest, coastal scrub, sometimes on serpentine soils. 30-250m elevation. Blooms March-May.	Unlikely. No coastal scrub, coniferous forest or serpentine soils occur on-site. The nearest documented occurrences of this species is greater than five miles from the Study Area.	No further surveys or mitigation measures are recommended.
<i>Dirca occidentalis</i> western leatherwood	Rank 1B.2	Broad leaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, riparian woodland/mesic. 50-395m. Blooms January - April.	Unlikely. Suitable chaparral, forest and woodland habitat is not present within the Study Area.	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.

<i>Eriophyllum latilobum</i> San Mateo woolly sunflower	FE, SE, Rank 1B.1	Cismontane woodland, often on roadcuts, on and off of serpentine, 45-150 m elevation. Blooms May-June.	Unlikely. No suitable woodland or serpentine habitat occurs within the Study Area. This species is a strict serpentine endemic.	The vegetative form of this species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Fritillaria biflora</i> var. <i>ineziana</i> Hillsborough chocolate lily	Rank 1B.1	Cismontane woodland, valley and foothill grassland in serpentine soils. 150-150m. Blooms March-April.	Unlikely. No suitable woodland or grassland habitat occurs within the Study Area. This species is strongly affiliated with serpentine soils, which do not occur within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Fritillaria lanceolata</i> var. <i>tristulis</i> Marin checker lily	Rank 1B.1	Coastal bluff scrub, coastal prairie, coastal scrub. 15-150m. Blooms February-May.	Unlikely. No coastal scrub, coastal bluff scrub, or coastal prairie habitat is present within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area (CNDDDB 2014).	No further surveys or mitigation measures are recommended.
<i>Fritillaria liliacea</i> fragrant fritillary	Rank 1B.2	Coastal scrub, valley and foothill grassland, cismontane woodland, coastal prairie, wetland-riparian areas. Often on serpentine; various soils reported though usually clay, in grassland. 3-410m. Blooms February-April.	Unlikely. Riparian habitat is present on-site. However, suitable grassland, woodland, serpentine and clay soils do not occur within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area (CNDDDB 2014).	No further surveys or mitigation measures are recommended.
<i>Grindelia hirsutula</i> var. <i>maritima</i> San Francisco gumplant	Rank 3.2	Coastal scrub, coastal bluff scrub, and valley and foothill grassland. Found on sandy or serpentine slopes and sea bluffs at elevations of 15-400m. Blooms June-September.	Unlikely. Suitable coastal scrub, bluff scrub, grassland, and serpentine habitats are not present within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area (CNDDDB 2014).	No further surveys or mitigation measures are recommended.

<i>Hesperervax sparsiflora</i> var. <i>brevifolia</i> short-leaved evax	Rank 1B.2	Coastal bluff scrub in sandy soils and coastal dunes. 0-215m elevation. Blooms March-June.	Unlikely. Suitable coastal scrub, bluff scrub, grassland, and serpentine habitats are not present within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area (CNDDDB 2014).	No further surveys or mitigation measures are recommended.
<i>Hesperolinon congestum</i> Marin western flax	FT, ST, Rank 1B.1	Chaparral and valley and foothill grassland on serpentine soils. 5-370 m. Blooms April- July.	Unlikely. Suitable chaparral habitat, grassland, and serpentine soil do not occur within the Study Area.	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia	Rank 1B.1	Closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub in sandy soils or gravelly openings. 10-200m elevation. Blooms April -September.	Unlikely. Suitable coniferous forest, bluff scrub, chaparral, coastal dune, and coastal scrub habitats are not present within the Study Area. A documented occurrence of this species is located within three miles of the Study Area (CNDDDB 2014).	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Horkelia marinensis</i> Point Reyes horkelia	Rank 1B.2	Coastal dunes, coastal prairie, coastal scrub in sandy soils. 10-150m elevation. Blooms May-September.	Unlikely. Suitable coniferous forest, bluff scrub, chaparral, coastal dune, and coastal scrub habitats are not present within the Study Area.	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Lasthenia californica</i> ssp. <i>macrantha</i> perennial goldfields	Rank 1B.2	Coastal dunes, coastal scrub. 5-520m elevation. Blooms January - November.	Unlikely. Suitable, coastal dune and coastal scrub habitats are not present within the Study Area.	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.

<i>Leptosiphon croceus</i> coast yellow leptosiphon	Rank 1B.1	Coastal bluff scrub and coastal prairie. 10-150m elevation. Blooms April-May.	Unlikely. Suitable coastal bluff scrub and prairie habitat is not present within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area (CNDDB 2014).	No further surveys or mitigation measures are recommended.
<i>Leptosiphon rosaceus</i> rose leptosiphon	Rank 1B.1	Coastal bluff scrub. 0-100m elevation. Blooms April-July.	Unlikely. Suitable coastal bluff scrub is not present within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Lessingia arachnoidea</i> Crystal Springs lessingia	Rank 1B.2	Cismontane woodland, coastal scrub, serpentine soils in valley and foothill grasslands, often roadsides. 60-200m elevation Blooms July-Oct.	No Potential. Riparian woodland habitat is present on-site. However, no coastal scrub or grassland habitat is present, and this species is endemic to serpentine soils, which do not occur within the Study Area.	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Lessingia hololeuca</i> woolly-headed lessingia	Rank 3	Broadleaved upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland on clay and serpentine. 15-305m elevation. Blooms June-October.	Unlikely. Suitable habitat is not present within the Study Area; species is more typical of undisturbed native grassland and serpentine soils.	No further surveys or mitigation measures are recommended.
<i>Lilium maritimum</i> coast lily	Rank 1B.1	Broadleaved upland forest, closed cone coniferous forest, coastal prairie, coastal scrub, marshes and swamps, North Coast coniferous forest, sometimes on roadsides. 90-550m. Blooms May-August.	Unlikely. Suitable mesic habitat is present within the Study Area, however this species is considered extirpated in San Mateo County.	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.

<i>Limnanthes douglasii</i> ssp. <i>ornduffii</i> Ornduff's meadowfoam	Rank 1B.1	Meadows and seeps, agricultural fields. 10-20m elevation. Blooms November – May.	Unlikely. While mesic habitats are present onsite, the Study Area is outside of the elevation range for this species. The nearest documented occurrences of this species is greater than five miles from the Study Area. This species is known from a single occurrence in San Mateo County.	No further surveys or mitigation measures are recommended.
<i>Lupinus arboreus</i> var. <i>eximius</i> San Mateo tree lupine	Rank 3.2	Coastal prairie, mesic meadows and seeps, freshwater marshes and swamps, and vernal pools. 1-140m elevation. Blooms April-July.	Unlikely. Mesic habitat is present within the Study Area; however, no coastal prairie, marsh, swamp, or vernal pool habitat is present. The nearest documented occurrences of this species is greater than five miles from the Study Area.	The vegetative form of this species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Malacothamnus aboriginum</i> Indian Valley bush-mallow	Rank 1B.2	Chaparral, cismontane woodland on rocky soil, often in burned areas. 150-1700m. Blooms April-October.	No Potential. No suitable habitat occurs within the Study Area and the Study Area is outside of the documented range for this species.	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Malacothamnus arcuatus</i> arcuate bush-mallow	Rank 1B.2	This evergreen shrub is found in chaparral at elevations of 15-355m. Blooms April-Sept.	Unlikely. No suitable chaparral habitat occurs within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Malacothamnus davidsonii</i> Davidson's bush-mallow	Rank 1B.2	Chaparral, cismontane woodland, coastal scrub and riparian woodland. 185-855m. Blooms June-January.	Unlikely. Suitable riparian woodland is present within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area.	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Malacothamnus hallii</i> Hall's bush-mallow	Rank 1B.2	Chaparral and coastal scrub; on serpentine. 10-550m. Blooms May-September.	Unlikely. Coastal scrub and suitable serpentine habitat is not present within the Study Area.	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.

<i>Microseris paludosa</i> marsh microseris	Rank 1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. 5-300m elevation. Blooms April-July.	Unlikely. No suitable coniferous forest, woodland, coastal scrub, or grassland habitat is present within the Study Area. Documented occurrences in the vicinity of the Study Area (> five miles) are presumed extirpated (CNDDDB 2014).	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Monolopia gracilens</i> woodland woollythreads	Rank 1B.2	Broadleaved upland forest in openings, chaparral in openings, cismontane woodland, north Coast coniferous forest in openings, valley and foothill grassland on serpentine. 100-1200m elevation. Blooms Feb-July.	No Potential. No suitable habitat occurs within the Study Area. And the study Area is outside of the documented elevation range for this species.	No further surveys or mitigation measures are recommended.
<i>Pedicularis dudleyi</i> Dudley's lousewort	Rank 1B.2	Maritime chaparral, cismontane woodland, North Coast coniferous forest, valley and foothill grassland. 60-900m elevation. Blooms April-June.	Unlikely. No suitable habitat occurs within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	FE, SE, Rank 1B.1	Open and dry slopes on valley and foothill grassland (often on serpentine soil) and cismontane woodland. 35- 620m elevation. Blooms March- May.	No Potential. No suitable habitat occurs within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> Choris' popcornflower	Rank 1B.2	Chaparral, coastal prairie, and coastal scrub. Found in mesic areas at elevations of 15-100m. Blooms March-June.	Moderate. Mesic habitat is present within the Study Area, however no chaparral, coastal prairie, or coastal scrub habitat is present. Documented occurrences are located one mile east of the Study Area for this species near Wavecrest Road (CNDDDB 2014).	No further surveys or mitigation measures are recommended. A protocol-level rare plant survey is recommended.

<i>Polemonium carneum</i> Oregon polemonium	Rank 2B.2	Chaparral, coastal prairie, coastal scrub, yellow pine forest. Found in mesic areas at elevations of 15-160m. Blooms April- September.	Unlikely. Mesic habitat is present within the Study Area, however, no chaparral, coastal prairie, coastal scrub, or yellow pine forest habitat is present. The nearest documented occurrence of this species is greater than five miles from the Study Area	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Potentilla hickmanii</i> Hickman's cinquefoil	FE, SE, Rank 1B.1	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps, freshwater marshes and swamps. 10-135m elevation. Blooms April-August.	Moderate. Freshwater habitat is present within the study area, however, suitable meadow and seep habitat are not present within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area.	This species was not observed during the August 2014 site visit. A protocol-level rare plant survey is recommended.
<i>Silene verecunda</i> ssp. <i>verecunda</i> San Francisco campion	Rank 1B.2	Coastal bluff scrub, chaparral, coastal prairie, coastal scrub, valley and foothill grassland (sandy). 30-645m elevation. Blooms March to August.	Unlikely. Suitable coastal scrub, coastal bluff scrub, coastal prairie, and grassland habitats are not present within the Study Area.	This species was not observed during the August 2014 site visit. No further surveys or mitigation measures are recommended.
<i>Trifolium hydrophilum</i> Saline clover	Rank 1B.2	Marshes and swamps, valley and foothill grassland on alkaline soils, vernal pools. Found on mesic sites at elevations of 0-300m. Blooms April-June.	Moderate. Mesic habitat is present, however, the site contains a fast-moving stream. Suitable marsh and swamp, vernal pool, and alkaline soil habitats are not present within the Study Area.	This species was not observed during the August 2014 site visit. A protocol-level rare plant survey is recommended.
<i>Triphysaria floribunda</i> San Francisco owl's clover	Rank 1B.2	Coastal prairie, coastal scrub, valley and foothill grassland usually on serpentine. 10-160m elevation. Blooms April-June.	Unlikely. Suitable serpentine habitat is not present within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area and is considered extirpated (CNDDDB 2014).	No further surveys or mitigation measures are recommended.

<i>Triquetrella californica</i> Coastal triquetrella	Rank 1B.2	Rocky substrates in coastal bluff scrub, coastal scrub valley, and foothill grasslands. 10-100m.	Unlikely. Suitable coastal scrub, coastal bluff scrub, coastal prairie, and grassland habitats are not present within the Study Area.	No further surveys or mitigation measures are recommended.
Mammals				
Fringed myotis <i>Myotis thysanodes</i>	WBWG High Priority	Associated with a wide variety of habitats including mixed coniferous-deciduous forest and redwood/sequoia groves. Buildings, mines and large snags are important day and night roosts.	Unlikely. The Study Area does not occur within typical habitat for this species. No large snags with open cavities were observed, and no mines or buildings are present within the Study Area. Fringed myotis may occasionally forage over the Study Area.	No further actions are recommended for this species
Big free-tailed bat <i>Nyctinomops macrotis</i>	SSC, WBWG	Occurs rarely in low-lying arid areas. Requires high cliffs or rocky outcrops for roosting sites.	No Potential. The Study Area does not contain any high cliffs or rock outcroppings suitable for roosting. This species may migrate over the Study Area.	No further actions are recommended for this species
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	SSC, WBWG	Primarily found in rural settings in a wide variety of habitats including oak woodlands and mixed coniferous-deciduous forest. Day roosts highly associated with caves and mines. Building roost sites must be cave like. Very sensitive to human disturbance.	Unlikely. No suitable buildings or mines for roosting are present within or adjacent to the Study Area. This species may occasionally forage over the Study Area.	No further actions are recommended for this species
Pallid bat <i>Antrozous pallidus</i>	SSC, WBWG	Occupies a variety of habitats at low elevation including grasslands, shrublands, woodlands, and dry forests. Most common in open, dry habitats with rocky areas for roosting.	Unlikely. The Study Area does not contain any rocky areas or buildings with crevices that might be used for roosting. This species may occasionally forage over the Study Area.	No further actions are recommended for this species.

Western red bat <i>Lasiurus blossevillii</i>	WBWG High Priority	Roosts primarily in trees and are often found in edge habitats adjacent to streams, fields, or urban areas.	Moderate Potential. The larger trees within the Study Area provide suitable roosting habitat for western red bat. This species may occasionally forage or migrate over the Study Area.	No further actions are recommended for this species. If tree trimming or removal will occur, follow guidance in Section 5.3.1.
Hoary bat <i>Lasiurus cinereus</i>	WBWG Medium	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Moderate Potential. The larger trees within the Study Area provide suitable roosting habitat for hoary bat. This species may occasionally forage or migrate over the Study Area.	No further actions are recommended for this species. If tree trimming or removal will occur, follow guidance in Section 5.3.1.
Salt marsh harvest mouse <i>Reithrodontomys raviventris</i>	FE, SE, CFP	Occurs in pickleweed habitats in tidal, muted-tidal, and diked areas.	No Potential. The Study Area does not contain salt marsh habitat and is outside the documented range for this species.	No further actions are recommended for this species.
San Francisco dusky-footed woodrat <i>Neotoma fuscipes annectens</i>	SSC	Typically occurs in forest habitats of moderate canopy and moderate to dense understory. Also found in chaparral habitats. Feeds mainly on woody plants, such as live oak, maple, coffeeberry, alder, and elderberry.	Unlikely. While riparian vegetation may support the characteristic middens that are built by this species, no middens were observed during the August 4, 2014 site visit.	No further actions are recommended for this species.
American badger <i>Taxidea taxus</i>	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable, uncultivated soils. Prey on burrowing rodents.	Unlikely. Urban development and habitat fragmentation have extirpated badger from the northern San Francisco Peninsula (CDFW 2014). Furthermore, the Study Area does not contain the large, open habitats necessary to support this species and is surrounded by urban development.	No further actions are recommended for this species.

Birds				
California brown pelican <i>Pelecanus occidentalis californicus</i>	FD, SD, CFP	Nests colonially on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Does not breed north of the Channel Islands. Winter visitor and post-breeding disperser to San Francisco Bay region.	Unlikely. The Study Area is outside this species' known breeding range, but brown pelicans may roost in areas adjacent to the Study Area.	No further actions are recommended for this species.
White-tailed kite <i>Elanus leucurus</i>	CFP	Year-long resident of coastal and valley lowlands. Preys on small diurnal mammals and occasional birds, insects, reptiles, and amphibians. Nests in tree tops.	Unlikely. Although trees within the Study Area are suitable for nesting, the site is located within urban downtown Half Moon Bay. This species tends to nest away from extensive development.	No further actions are recommended for this species.
Northern harrier <i>Circus cyaneus</i>	SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	No Potential. The Study Area lacks suitable nesting sites for this species, and the site does not contain typical marsh habitat for foraging.	No further actions are recommended for this species.
Golden eagle <i>Aquila chrysaetos</i>	CFP	Year-round resident in rolling foothills with open grasslands, scattered trees, and cliff-walled canyons.	Unlikely. Although trees within the Study Area are suitable for nesting, no nests were observed during the August 4, 2014 site visit. Additionally, the site is located within urban downtown Half Moon Bay, which does not provide foraging opportunities for golden eagle.	No further actions are recommended for this species.

Bald eagle <i>Haliaeetus leucocephalus</i>	FD, SE, CFP	Frequents ocean shores, lake margins, and rivers for both nesting and wintering. Requires abundant fish and adjacent snags or other perches. Nests in large, old-growth, or dominant live tree with open branch-work. Shows a preference for ponderosa pine. Roosts communally in winter.	Unlikely. No suitable nest trees for bald eagles were observed, and no suitable foraging habitat is present. This species may occasionally fly over the Study Area.	No further actions are recommended for this species.
Peregrine falcon <i>Falco peregrinus</i>	FD, SD, CFP BCC	Resident and winter visitor to region. Occurs near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape on a depression or ledge in an open site.	Unlikely. The Study Area lacks cliffs, banks or tall buildings suitable of supporting nesting peregrines. This species may occasionally forage or fly over the Study Area.	No further actions are recommended for this species.
California clapper rail <i>Rallus longirostris obsoletus</i>	FE, SE, CFP	Associated with tidal salt marsh and brackish marshes supporting emergent vegetation, upland refugia, and incised tidal channels.	No Potential. There is no salt marsh habitat in the Study Area, and it is outside the documented range of this species.	No further actions are recommended for this species.
California black rail <i>Laterallus jamaicensis coturniculus</i>	ST, CFP, BCC	Occurs in tidal salt marsh with dense stands of pickleweed as well as freshwater to brackish marshes.	No Potential. There is no salt marsh habitat in the Study Area, and it is outside the documented range of this species.	No further actions are recommended for this species.
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT, SSC, BCC, RP	Federal listing applies only to the Pacific coastal population. Found on sandy beaches, salt pond levees, and shores of large alkali lakes. Requires sandy, gravelly, or friable soils for nesting.	No Potential. The Study Area does not contain suitable beaches, salt ponds, or alkali flats capable of supporting this species.	No further actions are recommended for this species.

California least tern <i>Sterna antillarum browni</i>	FE, SE	Nests along the coast from San Francisco bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	No Potential. The Study Area does not contain suitable beaches, salt ponds, or alkali flats capable of supporting this species.	No further actions are recommended for this species.
Short-tailed albatross <i>Diomedea albatrus</i>	FE	Nests on Japanese islands. Very rare winter visitor to offshore California waters.	No Potential. This Study Area is not located within the known breeding range of this species and is inset from the coast where they primarily forage.	No further actions are recommended for this species.
Xantú's murrelet <i>Synthliboramphus hypoleucus</i>	SSC	Generally rare post-breeding disperser to the region. Pelagic, breeding on offshore islands in rock crevices or under bushes. Does not breed north of the Channel Islands.	No Potential. This Study Area is not located within the known breeding range of this species and is inset from the coast where they primarily forage.	No further actions are recommended for this species.
Cassin's auklet <i>Ptychoramphus aleuticus</i>	SSC, BCC	Pelagic species, nesting colonially in burrows on coastal and offshore islands.	No Potential. This Study Area is not located within the known breeding range of this species and is inset from the coast where they primarily forage.	No further actions are recommended for this species.
Marbled murrelet <i>Brachyramphus marmoratus</i>	FT, SE	Breed in old-growth redwood stands containing platform-like branches along the coast. Winters in coastal waters.	No Potential. This Study Area does not contain old-growth redwood or fir habitats capable of providing nesting for marbled murrelets. Foraging occurs off-shore only.	No further actions are recommended for this species.

Western burrowing owl <i>Athene cunicularia</i>	SSC, BCC	Open, dry annual or perennial grasslands, deserts and scrub lands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	No Potential. The Study Area does not provide suitable burrows or open areas for foraging.	No further actions are recommended for this species.
Short-eared Owl <i>Asio flammeus</i>	SSC	Resident and mostly winter visitor to the region. Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	Unlikely. Short-eared owls are not known to breed in coastal San Mateo County (Shuford and Gardali 2008). The Study Area does not provide swamp, meadow, open marsh or agricultural areas, and thus does not provide suitable nesting or foraging habitat. May occasionally fly over the site.	No further actions are recommended for this species.
Long-eared Owl <i>Asio otus</i>	SSC	(Nesting) riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	Unlikely. No nest structures for this species were observed during the August 4, 2014 site visit. Additionally, no open habitat suitable for foraging is present. May occasionally fly over the site.	No further actions are recommended for this species.
Olive-sided flycatcher <i>Contopus cooperi</i>	SSC, BCC	Conifer forests where tall trees overlook canyons, meadows, lakes, coastal areas, or other open terrain	Unlikely. The Study Area is not located within or adjacent to coniferous forest. This species may be observed within the Study Area during seasonal migrations.	No further actions are recommended for this species.

Little willow flycatcher <i>Empidonax traillii brewsteri</i>	SE	Most numerous where extensive thickets of low, dense willows edge on wet meadows, ponds, or backwaters. Winter migrant.	Unlikely. This species is not known to breed in San Mateo County. May occasionally forage in or fly over the Study Area.	No further actions are recommended for this species.
Black Swift <i>Cypseloides niger</i>	BCC, SSC	Coastal belt of Santa Cruz and Monterey County; central and southern Sierra Nevada; San Bernardino and San Jacinto Mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above surf; forages widely.	Unlikely. The Study Area does not contain cliffs or canyon habitat typical of breeding in this species. This species may forage over the Project Area.	No further actions are recommended for this species.
Vaux's Swift <i>Chaetura vauxi</i>	SSC	Redwood, Douglas fir, and other coniferous forests. Nests in large hollow trees and snags. Often nests in flocks. Forages over most terrains and habitats but shows a preference for foraging over rivers and lakes.	Unlikely. The Study Area is not located within or adjacent to coniferous forest. This species may be observed within the Study Area during seasonal migrations.	No further actions are recommended for this species.
Purple martin <i>Progne subis</i>	SSC	Inhabits woodlands, low elevation coniferous forest. Nest in snags, old woodpecker cavities and human-made structures.	Unlikely. Breeding in San Mateo County is localized to mid-elevation coastal woodlands, but very few breeding pairs remain in the Santa Cruz mountains (Shuford and Gardali 2008). This species may occasionally be seen within the Study Area during migration or as pre- and post-breeding dispersers.	No further actions are recommended for this species.

Bank swallow <i>Riparia riparia</i>	ST	Migrant in riparian and other lowland habitats in western California. Colonial nester in riparian areas with vertical cliffs and bands with fine-textured or fine-textured sandy soils near streams, rivers, lakes or the ocean.	Unlikely. This species is not known to breed in western California. This species may be observed within the Study Area during seasonal migrations.	No further actions are recommended for this species.
Loggerhead shrike <i>Lanius ludovicianus</i>	SSC, BCC	Prefers open habitats with scattered shrubs, trees, posts, or other perches. Eats mostly large insects.	Moderate Potential. The Study Area and immediate surrounds provide suitable nesting and foraging habitat for nesting loggerhead shrikes. Though suitable habitat is present, the immediately surrounding area is dominated by urban development, which does not provide suitable forage for this species and may deter nesting attempts in the Study Area.	If work begins during the breeding bird season (Feb 1 – Aug 31), perform a preconstruction breeding bird survey within 14 days of the start of Project activities. If active nests are found, an exclusion buffer should be established around the nest under the direction of a qualified biologist.
San Francisco (saltmarsh) common yellowthroat <i>Geothlypis trichas sinuosa</i>	SSC, BCC	Resident of San Francisco bay region fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging, tall grasses, tule patches, willows for nesting.	High Potential. The Study Area contains suitable vegetated riparian habitat to support nesting, and this species has been documented less than 1 mile downstream of the Study Area (CDFW 2014).	If work begins during the breeding bird season (Feb 1 – Aug 31), perform a preconstruction breeding bird survey within 14 days of the start of Project activities. If active nests are found, an exclusion buffer should be established around the nest under the direction of a qualified biologist.
Yellow-breasted chat <i>Icteria virens</i>	SSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian thickets consisting of willow, blackberry, wild grape	Unlikely. Although the Study Area contains riparian habitats capable of supporting nesting in this species, San Mateo County is outside the documented breeding range of this species (Shuford and Gardali 2008).	No further actions are recommended for this species.

Yellow warbler <i>Dendroica petechia</i>	SSC	Summer resident in the region. Nests in riparian stands of aspens, sycamores and alders with a dense understory of willows. Also nests in montane shrubbery in open conifer forests.	High Potential. The Study Area contains riparian habitat and vegetation capable of supporting nesting yellow warblers. This species may also be observed within the Study Area during seasonal migrations.	If work begins during the breeding bird season (Feb 1 – Aug 31), perform a preconstruction breeding bird survey within 14 days of the start of Project activities. If active nests are found, an exclusion buffer should be established around the nest under the direction of a qualified biologist.
Grasshopper sparrow <i>Ammodramus savannarum</i>	SSC	Frequents dense tall, dry or well-drained grasslands, especially native grasslands with mixed grasses and forbs for foraging and nesting. Nests on ground at base of overhanging clumps of vegetation.	Unlikely. The Study Area does not contain grasslands suitable for foraging or nesting.	No further actions are recommended for this species.
Bryant's savannah sparrow <i>Passerculus sandwichensis alaudinus</i>	SSC	Year-round resident of tidal marshes and grasslands in coastal fog belt. Breeds from April through July.	Unlikely. The Study Area does not contain marshes or grasslands suitable for foraging or nesting.	No further actions are recommended for this species.
Alameda song sparrow <i>Melospiza melodia pusillula</i>	BCC, SSC	Year-round resident in tidal-influenced marshes along the eastern and southern portions of San Francisco Bay.	No Potential. Alameda song sparrows are known to occur in marshes associated with the southern San Francisco Bay. It is not documented to occur on the Pacific Coast side of the San Francisco Peninsula.	No further actions are recommended for this species.

Tricolored blackbird <i>Agelaius tricolor</i>	SSC, BCC	Usually nests over or near freshwater in dense cattails, tules, or thickets of willow, blackberry, wild rose or other tall herbs. Nesting area must be large enough to support about 50 pairs.	Unlikely. The Study Area does not contain any marsh habitat or other vegetation capable of supporting nesting tricolored blackbirds. Furthermore, this species has not been documented near the Study Area (CDFW 2014).	No further actions are recommended for this species.
Reptiles and Amphibians				
Pacific pond turtle <i>Actinemys marmorata</i>	SSC	Occurs in perennial ponds, lakes, rivers and streams with suitable basking habitat (mud banks, mats of floating vegetation, partially submerged logs) and submerged shelter.	Moderate Potential. Although there have been no documented occurrences of this species within 5 miles of the Study Area (CDFW 2014), aquatic habitats within the Study Area may provide dispersal habitat. Basking habitat is very limited, and the creek is likely (at least seasonally) to be too shallow to provide suitable submerged shelter.	Design project to avoid fragmentation as feasible. Conduct sensitive species training and implement BMPs.
San Francisco garter snake <i>Thamnophis sirtalis tetrataenia</i>	FE, SE, CFP	Vicinity of freshwater marshes, ponds, and slow moving streams in San Mateo County and extreme northern Santa Cruz County. Prefers dense cover and water depths of at least one foot. Upland areas near water are also very important.	High Potential. The stream habitat within the Study Area contains suitable habitat for this species and a preferred prey species, California red-legged frog has been documented approximately 0.25 mile downstream.	Design project to avoid fragmentation as feasible. Conduct sensitive species training and implement BMPs.
California red-legged frog <i>Rana draytonii</i>	FT, SSC	Associated with quiet perennial to intermittent ponds, stream pools, and wetlands. Prefers shorelines with extensive vegetation. Documented to disperse through upland habitats after rains.	High Potential. The Study Area contains suitable vegetated stream habitat for this species. This species was documented 0.25 mile downstream of the Study Area in 2006 (CDFW 2014).	Design project to avoid fragmentation as feasible. Conduct sensitive species training and implement BMPs.

California Tiger Salamander, Central California DPS <i>Ambystoma californiense</i>	FT, ST	Populations in Santa Barbara and Sonoma counties currently listed as endangered. Inhabits grassland, oak woodland, ruderal and seasonal pool habitats. Seasonal ponds and vernal pools are crucial to breeding. Adults utilize mammal burrows as estivation habitat.	No Potential. The Study Area is outside the known distribution of this DPS, as well as outside the known distribution of the species.	No further actions are recommended for this species.
Fish				
River lamprey <i>Lampetra ayresi</i>	SSC	Lower Sacramento River, San Joaquin River and Russian River. May occur in coastal streams north of San Francisco Bay. Adults need clean, gravelly riffles, ammocoetes need sandy backwaters or stream edges, good water quality and temps < 25 degrees C.	No Potential. The Study Area is outside this species' known distribution.	No further actions are recommended for this species.
Green sturgeon <i>Acipenser medirostris</i>	FT	Spawn in the Sacramento River and the Klamath River. Spawn at temperatures between 8-14 degrees C. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	No Potential. The Study Area is outside this species' known distribution.	No further actions are recommended for this species.

Tidewater goby <i>Eucyclogobius newberryi</i>	FE, SSC	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.	Unlikely. No lagoon habitat is present at the mouth of Pilarcitos Creek, and without their primary habitat component missing from the creek mouth, no goby would be expected to occur more than 1 mile upstream where the Study Area is located. There is no known population downstream of the Study Area.	No further actions are recommended for this species.
Longfin smelt <i>Spirinchus thaleichthys</i>	ST, RP	Found in open waters of estuaries, mostly in the middle or bottom of the water column. This species prefers salinities of 15 to 30 ppt, but can be found in completely freshwater to almost pure seawater.	No Potential. The Study Area is outside this species' known distribution.	No further actions are recommended for this species.
Delta smelt <i>Hypomesus transpacificus</i>	FT	Lives in the Sacramento-San Joaquin estuary in areas where salt and freshwater systems meet. Occurs seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 ppt; most often at salinities < 2 ppt.	No Potential. The Study Area is outside this species' known distribution.	No further actions are recommended for this species.

Steelhead - Central Valley ESU <i>Oncorhynchus mykiss irideus</i>	FT	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Populations in the Sacramento and San Joaquin Rivers and their tributaries. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	No Potential. The creek within the Study Area is not a part of this ESU's distribution.	No further actions are recommended for this species.
Steelhead, Central California Coast ESU <i>Oncorhynchus mykiss</i>	FT	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	High Potential. This species has been observed within Pilarcitos Creek, and both adults and smolting juveniles likely pass through the Study Area on their way to or from breeding grounds.	Design project to avoid fragment out as feasible. Conduct sensitive species training and implement BMPs.
Winter-run chinook salmon, Sacramento River <i>Oncorhynchus tshawytscha</i>	FE	Occurs in the Sacramento River below Keswick Dam. Spawns in the Sacramento River but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 and 14 degrees C for spawning. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles typically migrate to the ocean soon after emergence from the gravel.	No Potential. The creek within the Study Area is not a part of this ESU's distribution.	No further actions are recommended for this species.

Central Valley Spring-run chinook salmon <i>Oncorhynchus tshawytscha</i>	FT	Occurs in the Feather River and the Sacramento River and its tributaries, including Butte, Mill, Deer, Antelope and Beegum Creeks. Adults enter the Sacramento River from late March through September. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams from mid-August through early October. Juveniles migrate soon after emergence as young-of-the-year, or remain in freshwater and migrate as yearlings.	No Potential. The creek within the Study Area is not a part of this ESU's distribution.	No further actions are recommended for this species.
Central Valley Fall- and Late Fall-run chinook salmon ESU <i>Oncorhynchus tshawytscha</i>	SSC	Populations spawning in the Sacramento and San Joaquin Rivers and their tributaries. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	No Potential. The creek within the Study Area is not a part of this ESU's distribution.	No further actions are recommended for this species.
Coho salmon - Central CA Coast ESU <i>Oncorhynchus kisutch</i>	FE, SE	Federal listing includes populations between Punta Gorda and San Lorenzo River. State listing includes populations south of San Francisco Bay only. Occurs inland and in coastal marine waters. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	Unlikely. There are no current or historical records available that indicate coho have inhabited the Half Moon Bay hydrologic sub-area (CDFG 2004).	No further actions are recommended for this species.

Invertebrates				
White abalone <i>Haliotes sorenseni</i>	FE	White abalone is the first marine invertebrate to be listed under the ESA and are reported to be most abundant between 25-30 m (80-100 ft depth).	No Potential. No portion of the Study Area is located within or adjacent to the Pacific Ocean and therefore there is no potential for white abalone to occur.	No further actions are recommended for this species.
Black abalone <i>Haliotes cracherodii</i>	FE	Ranges from Cabo San Lucas to Mendocino County. Found in intertidal and shallow subtidal areas.	No Potential. No portion of the Study Area is located within or adjacent to the Pacific Ocean and therefore there is no potential for black abalone to occur.	No further actions are recommended for this species.
Myrtle's silverspot butterfly <i>Speyeria zerene myrtilae</i>	FE	Foggy, coastal dunes and hills of the Point Reyes Peninsula.	No Potential. Extirpated from San Mateo County (CDFW 2014).	No further actions are recommended for this species.
Bay checkerspot butterfly <i>Euphydryas editha bayensis</i>	FT	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. <i>Plantago erecta</i> is the primary host plant; <i>Orthocarpus densiflorus</i> and <i>O. purpurascens</i> are the secondary host plants.	No Potential. This species is believed to be extirpated from San Mateo County (USFWS 2009).	No further action recommended for this species.
Monarch butterfly <i>Danaus plexippus</i>	winter roosts monitored by CDFW	Winter roost sites located in wind-protected tree groves (Eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Unlikely. The mature trees in the Study Area occur within an urbanized setting with few features to block winds and maintain required thermal conditions. Additionally, with the levels of human disturbance, the degradation of native habitat due to agricultural and urban development, and the relatively small size of the eucalyptus grove in and adjacent to the Study Area, it is unlikely that monarchs would use the site as a winter roost site.	No further action recommended for this species.

conservancy fairy shrimp <i>Branchinecta conservatio</i>	FE	Endemic to the grasslands of the northern two-thirds of the central valley. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.	No Potential. The Study Area does not contain suitable habitat for this species as is outside of this species' documented range.	No further actions are recommended for this species.
vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT	Endemic to the grasslands of the central valley, central coast mountain, and south coast mountains. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	No Potential. The Study Area does not contain suitable habitat for this species as is outside of this species' documented range.	No further actions are recommended for this species.
longhorn fairy shrimp <i>Branchinecta longiantenna</i>	FE, SSI	Endemic to the eastern margin of the central coast mountains in seasonally astatic grassland vernal pools. Inhabit small, clear-water depressions in sandstone and clear-to-turbid clay/grass-bottomed pools in shallow swales.	No Potential. The Study Area does not contain suitable habitat for this species as is outside of this species' documented range.	No further actions are recommended for this species.
vernal pool tadpole shrimp <i>Lepidurus packardii</i>	FE	Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	No Potential. The Study Area does not contain suitable habitat for this species as is outside of this species' documented range.	No further actions are recommended for this species.
valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT	Occurs only in association with blue elderberry (<i>Sambucus mexicana</i>). Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for "stressed" elderberries.	No Potential. The Study Area does not contain suitable habitat for this species and is outside this species' documented range.	No further actions are recommended for this species.

San Francisco tree lupine moth <i>Grapholita edwardsiana</i>	SMC LCP	Occurs only on sandy northern peninsula sites. Tree lupine (<i>Lupinus arboreus</i>) host the larvae of this species. This species is addressed in the San Mateo County LCP.	No Potential. No tree lupine observed near the Study Area.	No further actions are recommended for this species.
California brackish water snail <i>Tryonia imitator</i>	SMC LCP	Occurs in brackish water, such as Pescadero Marsh.	No Potential. The Study Area does not contain suitable brackish water habitat for this species.	No further actions are recommended for this species.
globose dune beetle <i>Coelus globosus</i>	SMC LCP	Inhabits California's coastal dune system.	No Potential. No dune habitat is present within the Study Area.	No further actions are recommended for this species.

*** Key to status codes:**

BCC	U.S. Fish & Wildlife Service (USFWS) Birds of Conservation Concern
CFP	CDFW Fully Protected Animal
FD	Federal Delisted
FE	Federal Endangered
FT	Federal Threatened
RP	Sensitive species included in a USFWS Recovery Plan or Draft Recovery Plan
SD	State Delisted
SE	State Endangered
SSC	California Department of Fish and Game (CDFG) Species of Special Concern
ST	State Threatened
Rank 1A	California Native Plant Society (CNPS) Rank 1A: Plants presumed extirpated in California and rare or extinct elsewhere
Rank 1B.1	California Native Plant Society (CNPS) Rank 1B.1: Plants rare, threatened or endangered in California and elsewhere (seriously threatened in California)
Rank 1B.2	California Native Plant Society (CNPS) Rank 1B.2: Plants rare, threatened, or endangered in California and elsewhere (moderately threatened in California)
Rank 2B.2	California Native Plant Society (CNPS) Rank 2B.2: Plants rare, threatened, or endangered in California, but more common elsewhere (moderately threatened in California)
Rank 4.3	California Rare Plant Rank 4.3: Plants of Limited Distribution - A Watch List (not very threatened in California)
WBWG	Western Bat Working Group Priority Species

****Potential species occurrence definitions:**

Present. Species was observed on the site during site visits or has been recorded (i.e. CNDDDB, other reports) on the site recently.

High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species has a low probability of being found on the site.

No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

APPENDIX C
STUDY AREA PHOTOGRAPHS



Top: View of the Study Area and approximate HDD exit location from Purisima Street, facing North.

Bottom: Riparian corridor and dripline facing east towards Main Street.

Photographs taken August 4, 2014.





Top: View of Study Area and approximate HDD entry location from Main Street.

Bottom: View of riparian corridor along northern stream bank from Main Street.

Photographs taken August 4, 2014.





Top: Riparian corridor and upland areas along Pilarcitos Creek.

Bottom: Pilarcitos Creek facing downstream.

Photographs taken August 4, 2014.





Top: Pilarcitos Creek facing upstream.

Bottom: View of the northern streambank from southern streambank.

Photographs taken August 4, 2014.

