



INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
COASTSIDE COUNTY WATER DISTRICT
PILARCITOS PIPELINE

JUNE 2018

LEAD AGENCY:

Coastside County Water District
Attn: David Dickson, General Manager
766 Main Street
Half Moon Bay, CA 94019
(650) 726-4405



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1.0 INTRODUCTION

The proposed Coastside County Water District (CCWD) Pipeline Replacement Project meets the definition of a “project” as defined under the California Environmental Quality Act (CEQA). This Initial Study/Mitigated Negative Declaration (IS/MND) was prepared pursuant to California Environmental Quality Act of 1970, Public Resources Code § 21000, et seq., as amended and implementing State CEQA Guidelines, Title 14, Chapter 3 of the California Code of Regulations.

- | | |
|--------------------------------------|---|
| 1. PROJECT TITLE | Pilarcitos Pipeline Replacement |
| 2. LEAD AGENCY NAME AND ADDRESS | Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019 |
| 3. CONTACT | David R. Dickson, General Manager
650-276-0887 |
| 4. PROJECT LOCATION | Pilarcitos Creek Road, San Mateo |
| 5. APPLICANT’S NAME AND ADDRESS | David R. Dickson, General Manager
766 Main Street
Half Moon Bay, CA 94019
(650) 726-4405 |
| 6. GENERAL PLAN LAND USE DESIGNATION | General Open Space |
| 7. ZONING | Resource Management District (RM) |
| 8. SURROUNDING LAND USES | Rural and Open Space |
| 9. PROJECT DESCRIPTION | A temporary plastic pipeline positioned on top of Pilarcitos Creek Road would be removed and replaced with a permanent buried ductile iron pipeline along the same alignment. The new pipeline would tie into an existing San Francisco Public Utilities Commission pipeline at the north end and an existing Coastside County Water District CCWD pipeline at the south end. |
| 10. DATE OF INITIAL STUDY | June 2018 |

1.1 PURPOSE AND INTENT

CCWD provides municipal water service to an area covering over 14 square miles in San Mateo County along the California coast. The CCWD service area includes the City of Half Moon Bay and unincorporated areas of San Mateo County, including Miramar, Princeton by the Sea, and El Granada. CCWD has several sources of water, including San Francisco Public Utilities Commission (SFPUC) water from Stone Dam. This water has historically been delivered via a steel pipeline that roughly follows an existing road grade generally parallel to Pilarcitos Creek (project site). The steel pipeline (circa 1948) failed several years ago and was replaced with a temporary plastic pipeline, which is proposed to be replaced with a new underground permanent pipeline (Proposed Project). The Proposed Project would increase the reliability of the existing water source.

This IS, prepared pursuant to CEQA, examines the Proposed Project's potential effects on the environment, and mitigation measures to reduce identified effects to less-than-significant levels. Mitigation measures have been designed to be consistent with federal, State, and local regulatory requirements. Thus, this IS supports a Mitigated Negative Declaration under CEQA Guidelines Section 15070. Results of technical biological and cultural studies have been incorporated into this document and are included as **Appendices A, B, and C**.

1.2 ENVIRONMENTAL ISSUE AREAS


The environmental issue areas checked below could be potentially affected by the Proposed Project, and constitute an effect requiring additional environmental review in accordance with Section 15183 of the CEQA Guidelines. Impacts to these resources are evaluated using the checklist included in **Section 3.0**. The Proposed Project was determined to have a less-than-significant impact or no impact on unchecked issue areas, and these areas do not warrant mitigation.

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

1.3 DETERMINATION

On the basis of the environmental evaluation presented in **Section 3.0**:

- I find that the Proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION would be prepared.
- I find that although the Proposed Project could have a significant effect on the environment, there would 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 NEGATIVE DECLARATION would be prepared.
- I find that the Proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the Proposed Project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed
- I find that although the Proposed Project could have a significant effect on the environment, because all 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

6/18/2018

Date

DAVID R. DICKSON

Printed Name

Coastside County Water District

Lead Agency

2.0 PROJECT DESCRIPTION

2.1 LOCATION

The project site is located in the central portion of northern San Mateo County on Pilarcitos Creek Road, approximately 4 miles northeast of the City of Half Moon Bay (**Figures 1 and 2**). The proposed pipeline alignment is approximately 2,335 feet long by 30 feet wide, and lies predominantly within the existing unpaved road grade across portions of two parcels; Accessor Parcel Number 093060050 in the northern portion and 056370080 in the southern portion. Pilarcitos Creek flows southward in the vicinity of the project site, and turns westward near State Route 92 before reaching the Pacific Ocean. The project site is situated in a rural and open space setting, and the surrounding land is predominantly owned by CCWD and/or SFPUC. Elevations on the project site range from approximately 300 to 600 feet above mean sea level (amsl), and the area is within the United States Geological Survey (USGS) 7.5 minute topographic quadrangle “Montara Mountain” (USGS, 2017).

2.2 PROJECT COMPONENTS

The Proposed Project consists of the removal of a temporary plastic pipeline currently positioned on top of the road and the installation of a permanent buried ductile iron pipeline along the same alignment. The permanent pipeline is proposed to be a 12-inch diameter pipe approximately 2,335 feet long. Installation of the new pipeline would occur in a trench approximately 3 feet wide by 3 feet deep, primarily within an existing grade of Pilarcitos Creek Road. The new pipeline would tie into an existing SFPUC pipe at the north end and an existing CCWD 1994 pipeline at the south end (**Figure 3**). The tie-in point to the SFPUC system would eliminate pressure issues and facilitate the existing gravity-flow nature of the pipeline. Approximately 330 linear feet of temporary pipe upstream of the SFPUC tie-in point would also be removed. An approximately 70-foot long section of the proposed pipeline near the southern end of the alignment would be placed up-slope from the road due to the steepness of the down-slope.

2.2.1 CONSTRUCTION

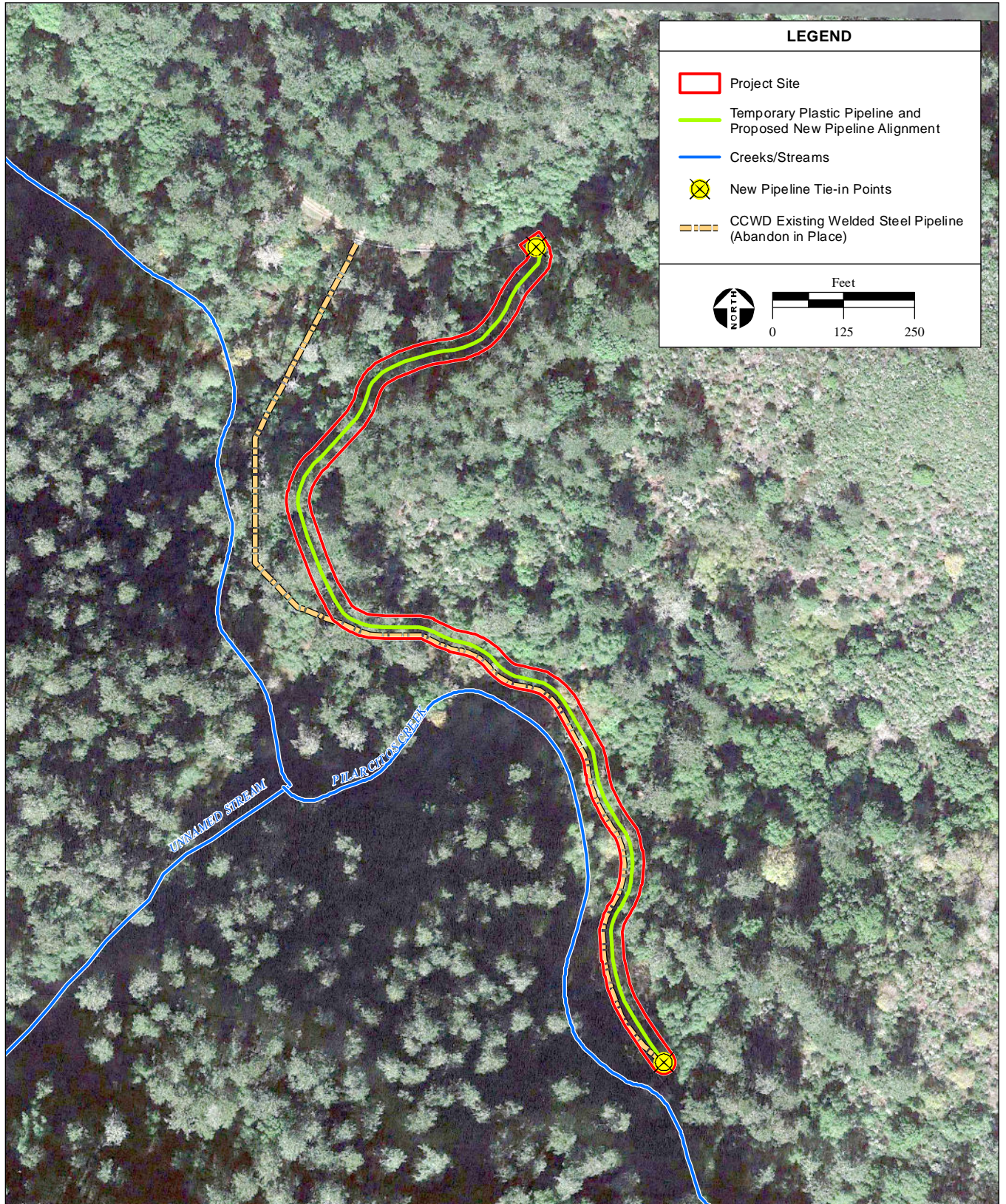
Construction would occur predominantly within the existing road grade of Pilarcitos Creek Road. Construction activity would be limited to the installation of the new permanent pipeline and the removal of the existing temporary plastic pipeline. Construction activities would include excavation of the trench, pipeline installation, backfill and compaction, and re-grading where necessary. Trenching would be completed using a small excavator. Native material generated during trenching would be retained for backfill to the degree feasible. Excavated materials that cannot be utilized for backfill would be hauled offsite to an appropriate disposal facility, and a limited amount of additional backfill material would be imported if needed. Construction parking and staging would be on portions of Pilarcitos Creek Road.

2.2.2 REGULATORY REQUIREMENTS

CCWD is the Lead Agency for the Proposed Project under CEQA, and the SFPUC is a Responsible Agency. The project site is not within the Coastal Zone or the jurisdiction of the California Coastal Commission. The Proposed Project does not require permitting under CDFW Section 1600 (Lake and Streambed Alteration Agreement), or certification under the Clean Water Act (CWA) Sections 401 or 404, because no stream crossings would occur, and no wetlands would be impacted.



Figure 1
Regional Location



SOURCE: Coastside Water District, 2017, DigitalGlobe Aerial Photograph, 11/2/2016; AES, 6/13/2018

CCWD Pilarcitos Creek Initial Study / 217516 ■

Figure 3
Pipeline Alignment and Project Site

3.0 ENVIRONMENTAL CHECKLIST

Pursuant to CEQA Guidelines Section 15063, an IS should provide the lead agency with sufficient information to determine whether to prepare an environmental impact report (EIR), a negative declaration (ND), or Mitigated ND (MND) for a Proposed Project. CEQA Guidelines also state that an IS may identify environmental impacts by use of a checklist, matrix, or other method, provided that conclusions are briefly explained and supported by relevant evidence. Should it be determined that a physical impact to the environment could occur, the checklist must then indicate whether the impact is “**potentially significant**”, “**less-than-significant with mitigation**”, or “**less-than-significant**”. Findings of “**no impact**” for issues that are not applicable to a Proposed Project do not require further discussion.

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

ENVIRONMENTAL SETTING

The project site is adjacent to scenic resources characteristic of the San Mateo area, including mountainous landscapes, rural open space, reservoirs, ocean views, and riparian areas. The project site is comprised of mixed coastal forest habitat. The existing land use of the project site is consistent with the rural aesthetic quality of the region.

IMPACT DISCUSSION

QUESTION A

The Proposed Project involves the replacement of a pipeline, which currently lies aboveground. The majority of the new pipeline would be placed within an existing road grade. Because the new pipeline would be underground, the Proposed Project would have **no impact** on scenic vistas.

QUESTION B

The Proposed Project would not damage trees, rock outcroppings, or historic buildings. The nearest designated state scenic highways are State Route 35 to the southwest and Interstate 280 to the west. However, both highways are approximately two miles from the project site. No large building components would be constructed, and the pipeline would be placed underground. The Proposed Project would have **no impact** on scenic resources or scenic highway views.

QUESTIONS C AND D

The surrounding visual character and quality would not be altered, as project components would be placed underground. No new sources of light or glare would result from the Proposed Project. The Proposed Project would have **no impact** on the existing visual character of the area.

3.2 AGRICULTURE AND FORESTRY RESOURCES	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping & Monitoring Program of the California Resources Agency, to non-agricultural uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

The project site is surrounded by rural open space, and is located four miles northeast of the City of Half Moon Bay. The area is composed of steep hillslopes of undeveloped mixed coastal forest, and roughly parallels Pilarcitos Creek. Permitted land uses within the General Open Space category include low density residential use, production of resources, and watershed or other resource protection (San Mateo

County, 1986). The project site has not been used for agricultural purposes and the nearest residence is approximately one mile south of the project site (CDC, 2014).

IMPACT DISCUSSION

QUESTION A-C

The Proposed Project would not convert farmland and would not change agricultural resources to nonagricultural. Land within the project site is not designated as prime farmland, unique farmland, or farmland of statewide importance. The area is not restricted by the Wouldiamson Act Contract or designated as Timberland within the Specific Plan Area (CDC, 2014). Furthermore, the Proposed Project is consistent with the San Mateo County General Plan (General Plan) Land Use Plan. The project site is currently designated as General Open Space and zoned as Resource Management (RM) (San Mateo, 1986). The Proposed Project would have **no impact** on farmland and agricultural zoning.

QUESTIONS D AND E

The project site is currently designated as General Open Space and would not convert designated forest or farmland to non-forest or non-agricultural uses (San Mateo, 1986). The majority of the new pipeline would be placed within the existing road, and trees may be trimmed if necessary but are not anticipated to be removed during construction. Due to limited vegetative impacts, a Timber Harvest Plan is not required for the Proposed Project. The Proposed Project would have **no impact** on agricultural and forest resources.

3.3 AIR QUALITY	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

The project site is located within the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The climate of the region is characterized as Mediterranean, with mild and rainy winter weather from November through April, and warm to cool weather with persistent coastal stratus and fog from May through October. The SFBAAB is generally affected by regionally high pollution emissions.

Table 1 shows state standards for ozone, PM_{2.5}, and PM₁₀. The SFBAAB is designated under the NAAQS as nonattainment for 8-hour ozone and 24-hour PM_{2.5}. The SABAAB is designated under the CAAQS as nonattainment 1- and 8-hour ozone, annual and 24-hour PM₁₀, and annual PM_{2.5}. The SFBAAB is in attainment or is unclassified for all other criteria pollutants under the NAAQS and the CAAQS. Air quality in the area is a function of the criteria air pollutants emitted locally, the existing regional ambient air quality, and the meteorological and topographic factors that influence the intrusion of pollutants into the area from sources outside the immediate vicinity.

TABLE 1
CALIFORNIA AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	CAAQS	NAAQS
Ozone	8-hour	0.07 ppm	0.07 ppm
	1 hour	0.09 ppm	-
Particulate Matter (PM _{2.5})	24 hour	-	35 µg/m ³
	Annual	12 µg/m ³	12 µg/m ³
Respirable Particulate Matter (PM ₁₀)	24 hour	50 µg/m ³	150 µg/m ³
	Annual	20 µg/m ³	-
ppm = parts per million by volume µg/m ³ = micrograms per cubic meter of air Source: BAAQMD, 2017a.			

IMPACT DISCUSSION

QUESTIONS A THROUGH C

Construction activities for the Proposed Project would include trenching, backfilling, and limited on-site soil hauling along the length of the pipeline. In accordance with the 2017 BAAQMD CEQA Guidelines, the Proposed Project is below screening levels set forth by the BAAQMD based on the following:

- Project design includes basic construction mitigation measures provided in the 2017 BAAQMD CEQA Guidelines;
- Construction of the Proposed Project does not include construction of two or more phases or land uses concurrently, or extensive site preparation (BAAQMD, 2017b).

No significant operational air pollutant emissions would occur with implementation of the Proposed Project. Therefore, construction and operation of the Proposed Project would not conflict with or obstruct implementation of applicable air quality plans, violate air quality standards, contribute substantially to an

existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The Proposed Project would have a **less-than-significant impact** on air quality and pollutant concentrations.

QUESTION D

Past, present and future development projects contribute to a region’s air quality on a cumulative basis; thus air pollution is predominantly a cumulative impact. A single project is not usually sufficient in size to result in nonattainment of the NAAQS or CAAQS. Should a project’s individual emissions contribute toward exceedance of such standards, the project’s cumulative impact on air quality would then be considered significant. In developing attainment designations for criteria pollutants, the EPA considers the region’s past, present, and future emission levels. The Proposed Project would not change the volume of water delivered to CCWD and would not result in indirect or cumulative growth impacts.

The Proposed Project would not cause an exceedance of BAAQMD CEQA standards and thresholds, and would not result in a cumulatively considerable net increase in NO_x, ROG, PM₁₀, or PM_{2.5} to the extent that SFBAAB would be in nonattainment. Additionally, the Proposed Project would not create objectionable odors. The Proposed Project would have a **less-than-significant impact** on ambient air quality standards.

QUESTION E

Construction of the Proposed Project could temporarily and intermittently emit minor odors from construction equipment and vehicles. The nearest odor sensitive receptors consist of a residence approximately one mile south of the project site and residences in the City of San Mateo across the Lower Crystal Springs Reservoir, located at least two miles east of the project site. Construction odors often dissipate quickly and are generally not noticeable beyond project boundaries. Given the distance to the nearest sensitive receptor and the temporary and intermittent nature of construction, no significant odor impact would occur due to construction of the Proposed Project. Additionally, no odors would be emitted during operation of the Proposed Project. The Proposed Project would have a **less-than-significant impact** on sensitive receptors due to odors.

3.4 BIOLOGICAL RESOURCES	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the DFG or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the DFG or USFWS?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the federal Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, <i>etc.</i>) through direct removal, filling, hydrological interruption or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

The project site occurs in San Mateo County, on the western slope of the coastal range. The dominant vegetation within the project site is mixed coastal forest. The primary canopy species observed included coast redwood (*Sequoia sempervirens*), douglas fir (*Pseudotsuga menziesii*), California bay (*Umbellularia californica*), big leafed maple (*Acer macrophyllum*), and sparse oak trees (*Quercus ssp*). The understory was primarily comprised of giant chain fern (*Woodwardia fimbriata*), stinging nettle (*Urtica dioica*), poison oak (*Toxicodendron*), elderberry (*Sambucus*), willow (*Salix*), and other herbaceous shrubs. The proposed pipeline alignment occurs along an unpaved road grade through the mixed coastal forest on previously disturbed land that is free of woody vegetation and has been graded in a manner that allows for easy access by heavy equipment. No special-status species or wetlands or Waters of the U.S. were observed within the project site. A biological resources report and a delineation of Waters of the U.S are included as **Appendices A** and **B**, respectively.

VEGETATION COMMUNITIES

The project site and existing road grade occur in a mixed coastal forest (**Figure 4**). Riparian habitat exists in the immediate area surrounding Pilarcitos Creek, however, all activities associated with the Proposed Project occur outside the riparian corridor and ordinary high water mark (OHWM). The primary canopy species observed within the project site include coast redwood (*Sequoia sempervirens*), Douglas fir (*Pseudotsuga menziesii*), California bay (*Umbellularia californica*), big-leafed maple (*Acer macrophyllum*), and sparse oak trees (*Quercus ssp*). The understory was dominated by giant chain fern (*Woodwardia fimbriata*), stinging nettle (*Urtica dioica*), poison oak (*Toxicodendron*), elderberry

(*Sambucus*), willow (*Salix*), and other herbaceous shrubs. A list of plant species observed on the project site is provided in Attachment D of **Appendix A**.

WETLANDS AND WATERS OF THE U.S.

No Waters of the U.S. occur within the project site. Pilarcitos Creek, a Water of the U.S, located at least 35 feet outside the project site, was identified using OHWM criteria outlined in the *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* but was found to be outside of the project site. The USFWS National Wetlands Inventory (NWI) was used to identify previously mapped aquatic features within the project site (**Figure 5**). The NWI map depicts three intermittent channels crossing the project site. None of the intermittent features contained identifiable bed or bank, presence of an OHWM, hydric soils, or hydrophytic vegetation. The *Munsell Soil Color Charts* were used in the field to identify hydric soils. Plant identification and nomenclature followed *The Jepson Manual: Higher Plants of California* and the *Arid West 2014 Regional Plant List* (**Appendix B**).

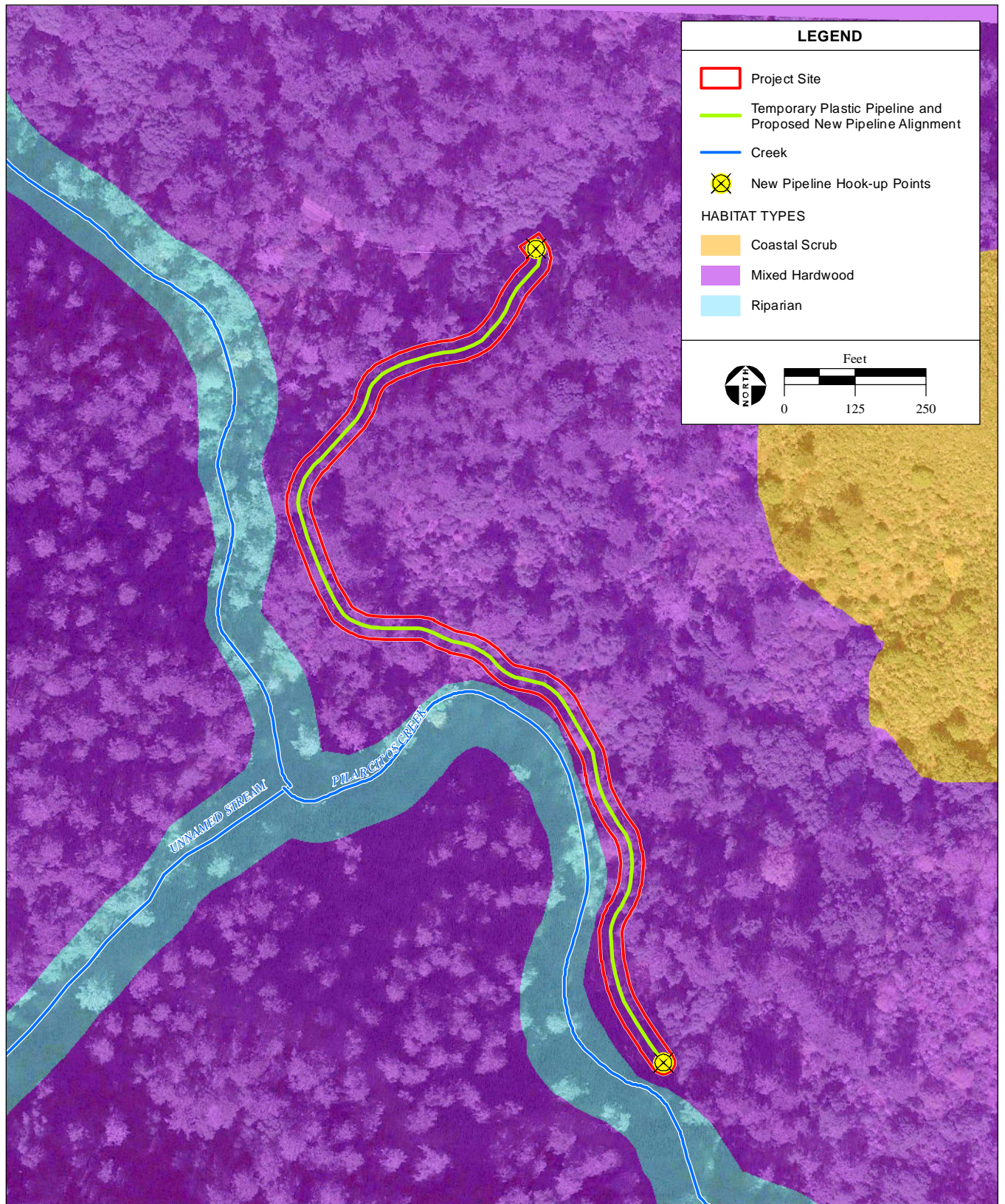
SPECIAL-STATUS SPECIES

Seven special-status plant species and 10 special-status animal species were identified as having the potential to occur within the project site. Special-status species are those that are listed as federally or state endangered or threatened by the USFWS, and CDFW, or are classified as list 1 or 2 species by the California Native Plant Society (CNPS). The potential for a special-status species to occur on the project site was determined based on each species' habitat requirements, geographic range, elevation range, and past occurrences. Findings were compared to habitats occurring within the project site and surrounding area. A complete list of potential special-status species that occur in the region is provided in Attachment B of **Appendix A**. Special-status species determined to have no potential to occur on the project site are not discussed further. Additionally, the project site falls within federally designated critical habitat for California red-legged frog (*Rana draytonii*; CRLF), and the adjacent portion of Pilarcitos Creek is designated as critical habitat for California Central Coast Distinct Population Segment steelhead (*Oncorhynchus mykiss*) and the Central California Coast Evolutionary Significant Unit Coho salmon (*Oncorhynchus kisutch*) (**Appendix A**).

IMPACT DISCUSSION

QUESTION A

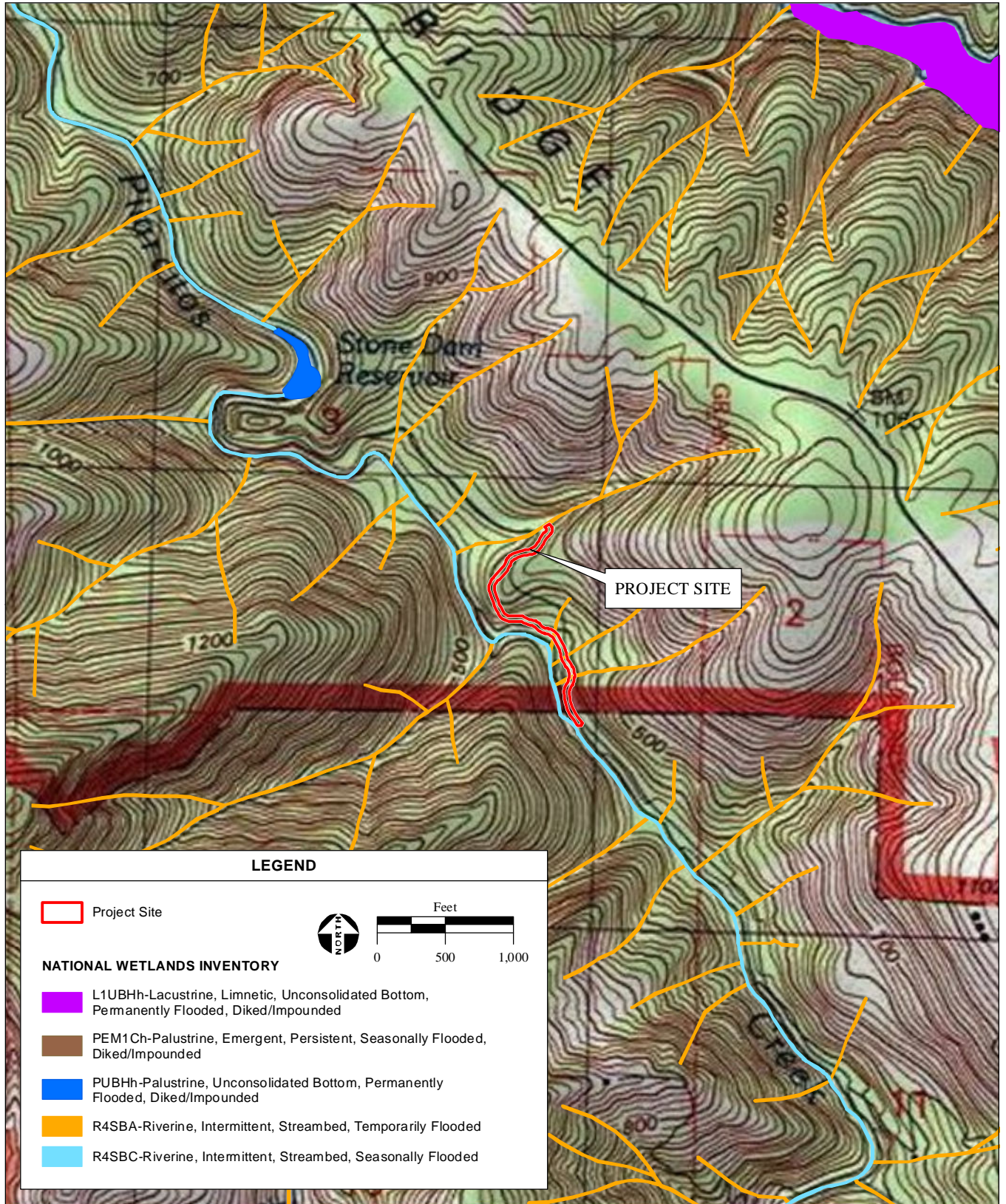
A total of seven special-status plant species and 10 special-status animal species (Attachment B of **Appendix A**) have the potential to occur within the project site. No special-status plant species, special-status animal species, or sensitive vegetation communities were observed during the survey. All but one special-status plant species (western leatherwood) were surveyed for within identifiable bloom periods. The western leatherwood is a deciduous shrub with yellow flowers that emerge prior to leafing. This species is identifiable outside the bloom period and was not observed. The Proposed Project has the potential to result in significant impacts to special-status species should they occur onsite. With implementation of mitigation measures BIO-1 through BIO-5, the Proposed Project would have a **less-than-significant impact** on potentially occurring special-status species.



SOURCE: Coastside Water District, 2017, DigitalGlobe Aerial Photograph, 11/2/2016;
 AES, 6/13/2018

CCWD Pilarcitos Creek Initial Study / 217516 ■

Figure 4
 Habitat Types



SOURCE:USFWS National Wetlands Inventory Survey, "Monterea Mountain, CA" 7.5 Minute Quadrangle, 2005-2009; "Monterea Mountain, CA" USGS 7.5 Minute Topographic Quadrangle R5S T5W Section 3,10 Mt. Diablo Baseline & Meridia; AES, 6/13/2018

CCWD Pilarcitos Creek Initial Study / 217516 ■

Figure 5
National Wetlands Inventory

QUESTION B

The project site does not contain sensitive vegetation communities or riparian vegetation. The proposed alignment is outside the riparian corridor by no less than approximately 35 feet. The remainder of the proposed alignment is a minimum of approximately 50 feet outside the riparian corridor and within the road grade. The Proposed Project would have a **less-than-significant impact** on riparian habitat or sensitive vegetation communities.

QUESTION C

With the exception of Pilarcitos Creek, no potential wetlands or Waters of the U.S. were found within or adjacent to the project site. The proposed alignment is no less than approximately 50 feet from the OHWM of Pilarcitos Creek. The Proposed Project would have a **less-than-significant impact** on wetlands and Waters of the U.S.

QUESTION D

The project site consists primarily of an existing unpaved road surrounded by coastal forest habitat, and is outside of the OHWM of Pilarcitos Creek. Approximately 70 feet of the replacement pipeline would be placed roughly 10 feet up-slope from the current road grade and is outside the riparian corridor by at least 35 feet. No other potential wildlife corridors, other than the road grade itself, occur in the immediate vicinity of the project site and no nursery sites occur on-site. The buried pipeline would not impede wildlife movement along the road grade. The Proposed Project would have a **less-than-significant impact** on wildlife movement.

QUESTIONS E AND F

Several local plans and policies, including the San Mateo County General Plan, apply to the project site. The Proposed Project is not within jurisdiction of the California Coastal Commission. The Proposed Project would adhere to guidelines outlined in the local plans pertaining to vegetation, wildlife, and waters, and would not violate applicable habitat conservation plans. The Proposed Project would have a **less-than-significant impact** on local plans, policies, and habitat conservation plans.

MITIGATION MEASURES

The following mitigation measures are recommended to avoid potential adverse effects to special-status Species:

- BIO-1 Brush clearing outside the existing road grade should be limited to hand tools whenever possible.
- BIO-2 Should work occur during the general nesting season for migratory birds, (February 15 to September 15), a preconstruction nesting bird survey shall be conducted no more than 14 days prior to the start of ground disturbing activities. Areas within 500 feet of construction shall be surveyed for active nests. Should an active nest be identified, an avoidance buffer will be established based on the needs of the species identified. Consultation with the USFWS and/or CDFW will occur if necessary. The preconstruction survey shall also assess

presence/absence of other special-status species with the potential to occur on the project site, listed in Attachment B of **Appendix A**. Survey results shall be submitted to SFPUC Natural Resources staff.

- BIO-3 The period of least disturbance relative to the marbled murrelet occurs from approximately October through February (ARA, 2017). Should work occur during the nesting season for the special-status marbled murrelet (May 1 through August 1), protocol-level surveys shall be conducted no more than 14 days prior to the start of ground disturbing activities. Areas within 500 feet of construction shall be surveyed for active nests by a qualified biologist pursuant to USFWS and/or CDFW requirements. Survey results shall be submitted to SFPUC Natural Resources staff. If no active marbled murrelet nests are identified, no further mitigation is required. Should active murrelet nests be identified, consultation with the USFWS and/or CDFW shall occur to determine appropriate avoidance measures in accordance with SFPUC Natural Resources staff.
- BIO-4 Exclusionary fencing (silt fencing) shall be installed on both sides of the pipeline to ensure no special-status species can access the project site. Should any special-status species be observed within the project site, they would be avoided and allowed to exit the area prior to fence installation. Installation of the silt fencing on the down-slope of the pipeline would also prevent silt and debris from entering Pilarcitos Creek, thus minimizing indirect impacts to aquatic species.
- BIO-5 A qualified biological monitor shall be onsite during construction activities to ensure no special-status animal species enter into the project site. Burrows identified during the preconstruction survey or indicators of active special-status species shall be flagged for avoidance by the qualified biological monitor. Only hand-digging shall be allowed near identified burrows or indicators of active special-status species. Should the biological monitor observe a special-status animal species within the project site, work should cease and the animal would be allowed to exit the area. If the animal does not exit the area, the appropriate agency would be contacted and the animal would be removed by a qualified professional.

3.5 CULTURAL AND TRIBAL RESOURCES	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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"/>
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"/>
e) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resource Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

Archaeological evidence indicates that the San Francisco Bay region has been inhabited since the terminal Pleistocene, creating a distinctive cultural center with influences extending beyond the Central Valley and Coast Ranges (Moratto, 1984). The lands of western San Mateo County, where the project site lies, are in the traditional territory of the Kotxen (*aka* La Purísima) tribelet of the Ramaytush, who belonged to a language family called Costanoos (Costanoan) by the Spanish (meaning “coast people”) (Levy, 1978; Pritzker, 2000). The geographic range for the Costanoan language family stretches from the San Francisco Bay Area south to the Monterey Bay and east to the central valley. Around the time Missionization began, the Costanoan population ranged from 7,000 to 10,200 years before present (Kroeber, 1925; Levy, 1978). Costanoan society was arranged in autonomous tribelets. The term “tribelet” was used to describe a unit of linguistic and ethnic differentiation (Kroeber, 1962). A tribelet also constituted a sovereign entity that held a defined territory and exercised control over its resources (Levy, 1978; Margolin, 1978; Milliken, 1995). These delineations were clearly marked and outside tribelets would not enter without permission. In 1770, the Costanoan-speaking people lived in approximately 50 separate and politically autonomous tribelets. Within any particular ecological zone, population density would vary based on the resources and climate of the area. The highest density (approximately six people per square mile) occurred along the southern and northern extremities of the shores of San Francisco Bay.

Following Mexican independence from Spain in 1821, large tracts of land in California were granted to military heroes and loyalists. Under Mexico's liberal colonization policy, individuals could obtain rancho grants up to 50,000 acres. A number of these land grants were made on the Peninsula south of San Francisco; though the Proposed Project site was not part of any land grant, neighboring properties were part of Rancho Feliz, Corral de Tierra (Vasquez), and Rancho Miramontes.

In 1768, Captain Gaspar de Portolá was appointed Governor of Alta California and volunteered to lead a large expedition of settlers, missionaries, and soldiers up the California coast to San Diego and Monterey in order to establish Franciscan missions; the expedition was planned by the *Visitador-General* in New Spain José de Gálvez. Portolá's overland expedition began in the spring of 1769, and included Father Junipero Serra and 63 other men. They reached San Diego Bay in July and on July 16th, Father Serra established the first mission in Alta California. Others soon followed as the Spanish progressed northwards.

From their inception, the Spanish missions had an enormous impact on California Native lifeways; in the Proposed Project vicinity, three missions (San Francisco, Santa Clara, and San Jose) affected the local tribes. Founded by Catholic priests in order to convert the Native Americans, missionaries forced the Indians to abandon their villages, provide labor for the missions, learn European lifeways, and adopt Christianity (Milliken, 1995). Between 1770 and 1832, the Costanoan population dropped by more than 80 percent due to disease, hardship and forced labor (Pritzker, 2000). There were a few attempts to resist the Spanish, but to no avail.

After 1833, when Mexico secularized the missions, many Costanoans sought work on the local ranches or attempted to return to their traditional lands and lifeways. Although the mission Indians were supposed to be given private land grants comprised of former mission lands for those who wished to remain, most of the land was generously given away to private citizens. However, a few Costanoans were successful in obtaining a land grant after the secularization of the missions.

The Bay Area, particularly San Francisco, underwent significant transformations after gold was discovered in Coloma in 1848. At the onset of the rush for gold, San Francisco had a population of about 500 or 600, but by the end of the following year, it had increased to nearly 25,000. The city became an urban center, as well as a center of influence over the social and economic affairs of much of the American west. SFPUC evolved over time as San Francisco was settled and a growing population required an increasing water supply as well as other utilities. Early organized efforts to bring large quantities of water in the 1850s focused on local sources and met with some success but proved inadequate for San Francisco's increasing needs (SFPUC, 2005).

Alexei Waldemar von Schmidt, the chief engineer of one of these early efforts, turned towards the Peninsula south of San Francisco, including the upper tributary to Pilarcitos Creek. The creek empties into the ocean at Half Moon Bay, but the upper watershed is on the western slope of the local mountains and receives the highest average annual rainfall on the Peninsula. Schmidt started building the first dam across Pilarcitos Canyon in 1861. Water delivery began in 1865 using a series of pipes and flumes. However almost immediately it became clear that still other sources are needed, and so the San Andreas Dam and Reservoir were built in the 1860s, 2.5 miles north of Pilarcitos. Then in 1871, the Stone Dam

diversion was built less than ¼-mile north of the Proposed Project, diverting more water to the San Andreas Reservoir (SFPUC, 2005).

San Mateo County experienced slower growth, but eventually also needed greater water supply. The CCWD was formed in 1947, and provides potable water and water for fire suppression for a 14-square mile area for Half Moon Bay, Miramar, Princeton-by-the-Sea, and El Granada. The CCWD receives water from Pilarcitos Reservoir, Upper Crystal Springs Reservoir, Pilarcitos Well Field, and the Denniston Project. SFPUC and CCWD share the water generated in the San Francisco Peninsula watershed through an interlocking network of reservoirs, dams, tunnels, flumes, and pipelines. In 1948, soon after its formation, CCWD began receiving water from SFPUC facilities. To do this, a steel waterline was constructed from the SFPUC Stone Dam Aqueduct along Pilarcitos Creek; the dirt road crossing the project site may have been built at the same time the pipeline was constructed.

BACKGROUND RESEARCH

A records search for the project site was conducted at the Northwest Information Center (NWIC) of the California Historical Resources Information System on May 9, 2017 (NWIC #16-1783) (**Appendix C**). No cultural resources were identified within the project site. One previous survey by Tim Spillane in 2014, an Archaeological Overview and Assessment: Indigenous Sites of the GGNRA, included the project site area. As Spillane's report was a focused overview, it did not document intensive examination of the project site.

No cultural resources were identified on the 1865 or 1868 General Land Office (GLO) Plat maps, though an unnamed road is visible to the west of the project site. The 1956 USGS Montara Mountain 7.5' quadrangle map indicates that the unpaved access road from Stone Dam Reservoir is present. However, the earlier 1949 map showed the road only existing south of the project site.

The online records of the University of California Museum of Paleontology (UCMP) for San Mateo County were also examined. The UCMP search indicated that 1488 fossil specimens have been registered in San Mateo County; those near Half Moon Bay largely consist of microfossil amoeboids. Many of the other fossil finds are bivalves or gastropods found along the coastline; none were identified as coming from the immediate project vicinity.

NATIVE AMERICAN CONTACT PROGRAM

On May 5, 2017, AES sent a letter to the Native American Heritage Commission (NAHC) requesting a Sacred Lands File search and a list of Native American contacts who may have information about the area. The NAHC responded in a letter dated May 11, 2017 that the Sacred Lands file did not indicate the presence of Native American cultural resources in the project area. The NAHC provided a list of Native American individuals who might have information about the area. Those individuals were mailed a map and project description with a request for information on May 11, 2017 and follow-up telephone calls were made on May 22, 2017. Two people responded to the phone calls, and no concerns regarding the project were expressed.

FIELD SURVEY

A field examination of the project site was conducted on May 9, 2017. The survey found no cultural resources aside from a dirt road bed which may be associated with construction of the waterline in 1948 (**Appendix C**).

IMPACT DISCUSSION

QUESTION A

The field investigation did not locate cultural resources other than the dirt road bed which would be used as part of the Proposed Project. The dirt road is not associated with specific events in California history (CRHR Criterion 1), though it is part of the pattern of providing a water supply to expand development in California. Background research did not show that formation of CCWD was associated with specific individuals important in California history (CRHR Criterion 2). The dirt road is a basic cut-and-fill design that presents no artistic or distinctive architectural values (CRHR Criterion 3). Neither its construction, location, nor physical characteristics offer any data that could be important to the interpretation of history in the region (CRHR Criterion 4). Therefore, the dirt road does not appear to contain values that make it eligible for listing on the CRHR. The Proposed Project would have **no impact** on historical resources.

QUESTION B

The steep terrain makes it unlikely that prehistoric or historic resources (other than the access road) are located in the Proposed Project footprint. In the unlikely event that prehistoric or historic archaeological resources are discovered during construction, the provisions of mitigation measure CUL-1 shall be implemented. The Proposed Project would have a **less-than-significant impact** on prehistoric or historic archaeological resources with implementation of mitigation measure CUL-1.

QUESTION C

No unique paleontological or geological specimens or features were identified in the Proposed Project footprint during the field survey. The UCMP record search failed to identify any fossil localities in or near the project site. In the unlikely event that unique paleontological or geological resources are discovered during construction, the provisions of mitigation measure CUL-1 shall be implemented. The Proposed Project would have a **less-than-significant impact** on paleontological and geological resources with implementation of mitigation measure CUL-1.

QUESTION D

The steep landscape on the project site renders it unlikely that buried human remains would be uncovered during construction. However, should human remains be encountered during construction, the provisions of mitigation measure CUL-2 shall be implemented. The Proposed Project would have a **less-than-significant impact** on human remains with implementation of mitigation measure CUL-2.

QUESTION E

No tribal cultural resources were identified during the cultural survey or Native American Consultation. No tribal groups have proactively contacted CCWD with a request to consult on projects, and therefore the provisions of AB 52 do not apply. However, it is possible that in the future, tribal contacts would identify Tribal Cultural Resources (TCRs) within the Proposed Project footprint, particularly if resources are uncovered during project construction. The Proposed Project would have a **less-than-significant impact** on TCRs with implementation of mitigation measure CUL-1.

MITIGATION MEASURES

The following mitigation measures are recommended to avoid potential adverse effects to cultural and tribal resources:

- CUL-1 If archaeological, paleontological, or geological resources are uncovered during construction, construction work should be halted in the area. The significance of the find should be assessed and the resource appropriately managed. If previously unrecorded cultural resources (e.g., unusual amounts of shell, animal bone, bottle glass, ceramics, structure/building remains, etc.), unique paleontological or geological specimens are encountered during project-related construction, all ground-disturbing activities shall be halted within a 100-foot radius of the find. CCWD shall retain a qualified professional archaeologist, paleontologist, or registered geologist (as appropriate) to identify the materials, determine possible significance, and formulate appropriate measures for treatment, which shall be implemented prior to the resumption of construction. Potential treatment methods for significant and potentially significant resources may include, but would not be limited to, avoidance of the resource through changes in construction methods or project design, or implementation of a program of testing, documentation, or specimen collection in accordance with applicable CEQA requirements. If a find is a prehistoric archaeological site, CCWD shall consult with appropriate representatives of the Native American community to determine if the find represents a TCR. If it does, the consultation process shall be used to develop appropriate mitigation for the resource.
- CUL-2 If human remains are uncovered during construction, construction work should be halted in the area. The significance of the find should be assessed and the resource appropriately managed. California law recognizes the need to protect interred human remains, particularly Native American burials and items of cultural patrimony, from vandalism and inadvertent destruction. Procedures for the treatment of discovered human remains are contained in California Health and Safety Code §7050.5 and §7052 and California Public Resources Code §5097. In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, all construction activities within a 100-foot radius of the find shall be halted immediately and the CCWD shall be notified. CCWD shall immediately notify the county coroner and a qualified professional archaeologist. The coroner is required to examine discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by telephone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). CCWD and the professional archaeologist shall contact the

Most Likely Descendent (MLD), as determined by the NAHC, regarding the remains. The MLD, in cooperation with the CCWD and archaeologist shall determine the ultimate disposition of the remains, which shall be implemented prior to the resumption of construction.

3.6 GEOLOGY AND SOILS	Potentially Significant Impact	Less-Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated in 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? Refer to Division of Mines & Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is 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"/>
d) Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternate 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"/>

ENVIRONMENTAL SETTING

TOPOGRAPHY

The project site is located on sloping terrain in the northern section of the Santa Cruz Mountain Range. Elevations on the project site range from approximately 300 to 600 feet amsl, and steep hillslopes occur to the east and west of the area.

SOILS

Soils on the project site consist of Hugo and Josephine loams and Sheridan coarse sandy loam (**Figure 6**) (NRCS, 2017). These are well-drained soils usually present on or near steep slopes and derived from sandstone and shale parent material. A summary of soils and corresponding characteristics on the project site is provided in **Table 2**.

TABLE 2
PROJECT SITE SOILS

Map Unit Symbol	Map Unit Name	Expansiveness	Erosion Susceptibility
HuF	Hugo and Josephine loams, very steep	Low	Severe
ShF	Sheridan coarse sandy loam, very steep	Low	Severe

Source: NRCS, 2017

SEISMICITY

Active faults are defined as those that have shown seismic activity within the past 11,000 years, which are classified as Holocene faults by the USGS (CGS, 2016). The USGS definition, adopted by the California Geological Survey (CGS), defines active faults as faults showing signs of activity up to the beginning of the Quaternary age (1.6 million years ago). As shown in **Figure 7**, the Pilarcitos Fault transects the vicinity of the project site. The Pilarcitos Fault Zone is part of the San Gregorio Fault system. The San Andreas Fault system is located approximately 1.5 miles east of the project site.

LANDSLIDES

Areas susceptible to landslides are typically comprised of weak soils on sloping terrain. Landslides can be induced by weather, such as heavy rains, or strong seismic shaking events. Soil slopes on each side of the project site are defined as 40 to 75 percent; however the road grade itself is relatively flat (NRCS, 2017).

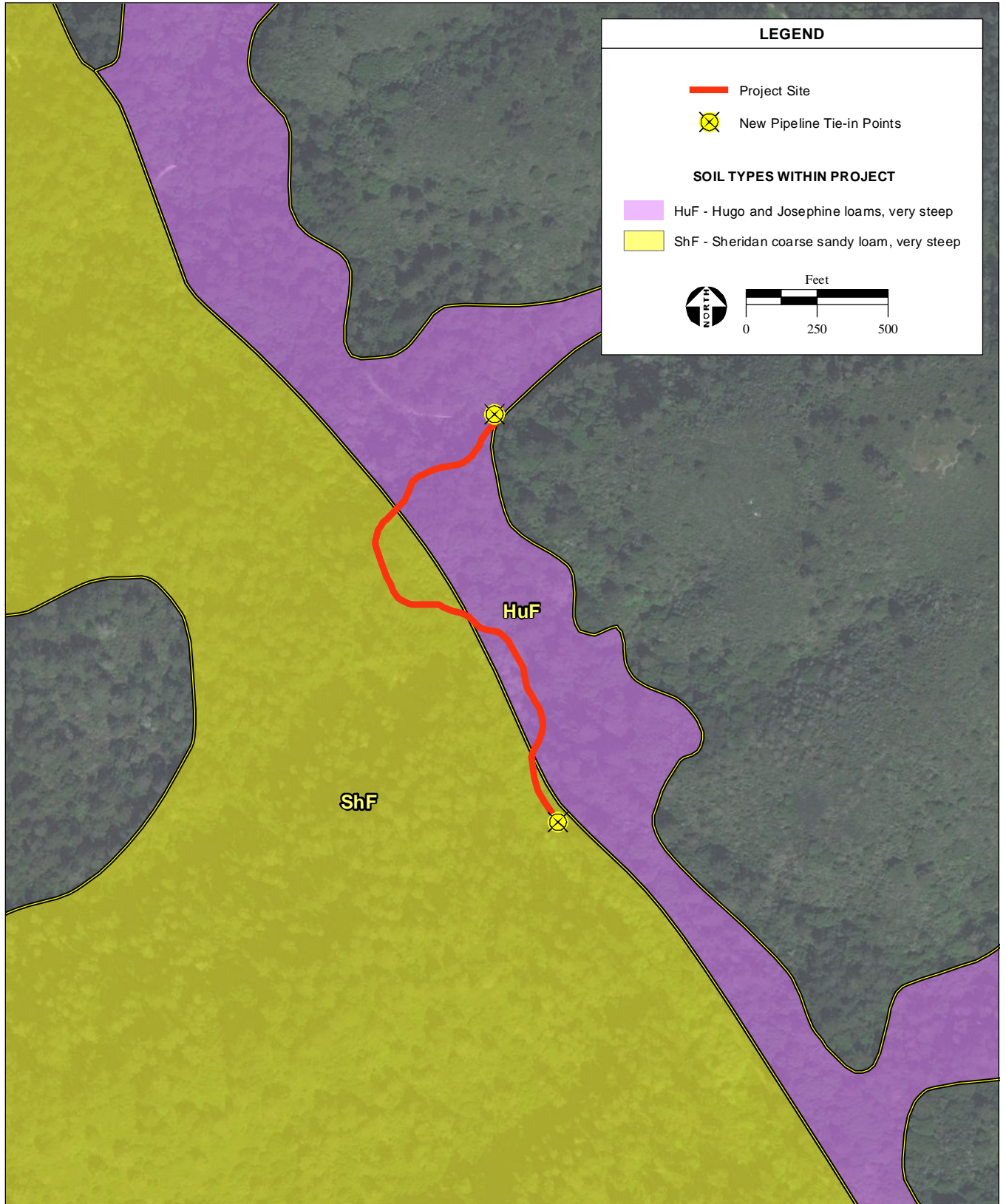
IMPACT DISCUSSION

QUESTION A

Although the project site lies within an Alquist-Priolo Special Studies Zone, the Proposed Project does not include the construction of human occupied structures, and the proposed pipeline would be underground. Replacing the temporary plastic pipe with a buried ductile iron pipe would decrease its susceptibility to earthquakes. Most construction activity would be limited to the existing road grade of Pilarcitos Creek Road, which is relatively flat. Approximately 70 feet of the pipeline would be placed upslope of the road grade, where erosion and slippage is less likely to occur. The Proposed Project would have a **less-than-significant impact** relating to geologic hazards such as landslides or ground failures.

QUESTIONS B-D

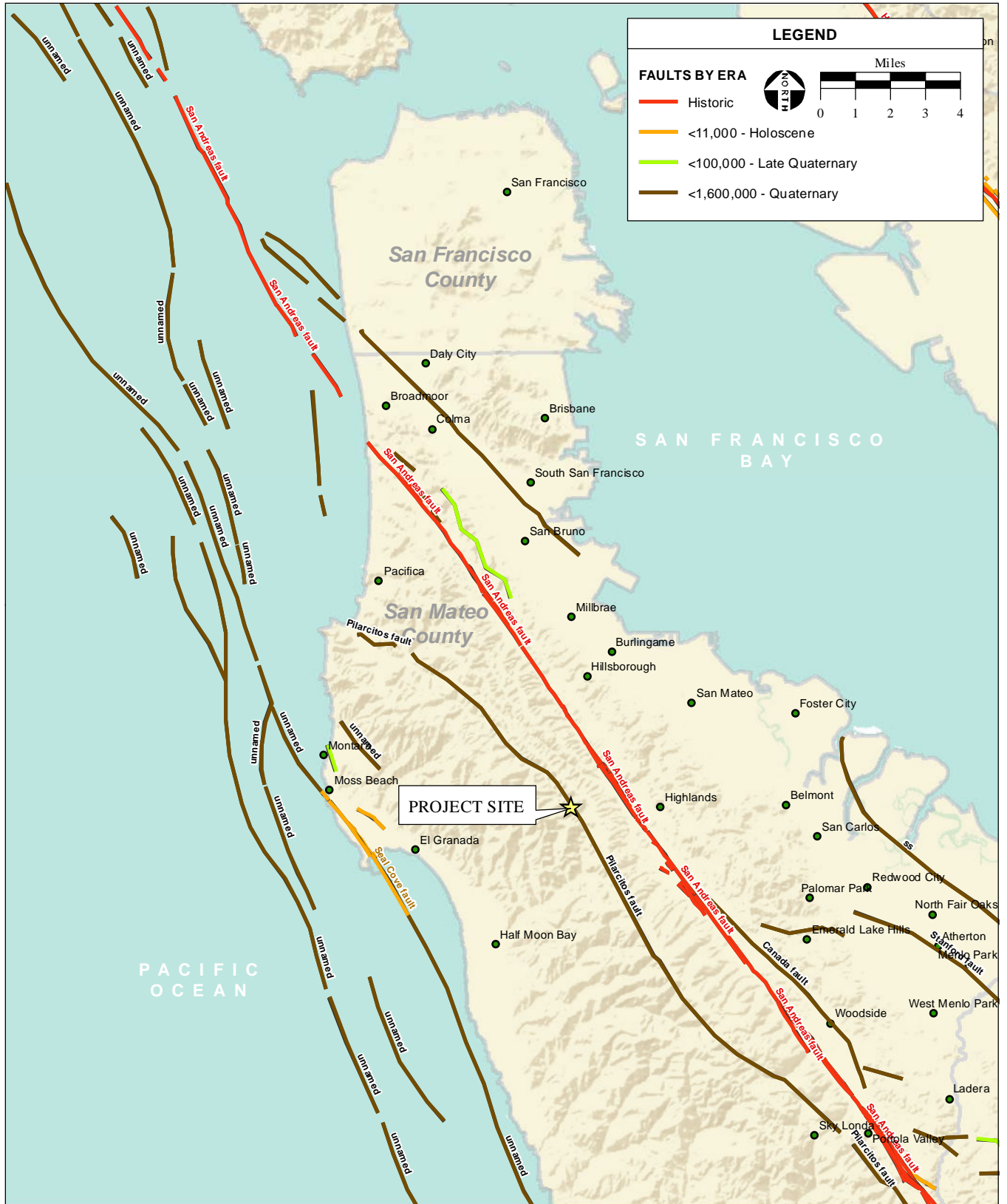
The Proposed Project does not include features that would place people or structures at risk due to unstable geologic units or soil types. Soils on the project site are not considered expansive, and are well-drained and derived from sandstone and shale parent material.



SOURCE: USDA NRCS SSURGO Soils Database, 2016; Coastside Water District, 2017; DigitalGlobe Aerial Photograph, 11/2/2016; AES, 6/13/2018

CCWD Pilarcitos Creek Initial Study / 217516 ■

Figure 6
Soil Types



SOURCE: USGS Earthquake Hazards Program, 2010; AES, 6/13/2018

CCWD Pilarcitos Creek Initial Study / 217516 ■

Figure 7
Regional Fault Locations

No hydric soils were found on the project site. Installation of the new pipeline would occur primarily on or within 10 feet of the existing unpaved road grade on relatively flat terrain. Approximately 70 feet of the pipeline would be placed upslope of the road grade, where erosion and slippage is less likely to occur. The Proposed Project would have a **less-than-significant impact** on soil erosion or impacts relating to liquefaction or expansive soils.

QUESTION E

The Proposed Project does not include the addition of septic tanks or wastewater disposal systems. Soils on the project site would not contribute to hazardous conditions relating to existing septic tanks or wastewater disposal systems. The Proposed Project would have **no impact** on septic tanks or wastewater disposal systems.

3.7 GREENHOUSE GAS EMISSIONS	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

Climate change is the change in average weather that can be measured by wind patterns, storms, precipitation, and temperature. Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, established the first comprehensive greenhouse gas (GHG) regulatory program in the U.S. and requires GHG emissions to be reduced to 1990 levels by 2020. Executive Order (EO) B-30-15 was signed by the Governor on April 29, 2015. EO B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030. This intermediate GHG emissions reduction target would make it possible to meet the ultimate GHG emissions reduction target of 80 percent below 1990 levels by 2050, as established in EO S-3-05.

San Mateo County adopted an Energy Efficiency Climate Action Plan (EECAP) in June of 2013. The EECAP is intended to streamline future environmental review of projects in San Mateo County by following CEQA Guidelines and meeting BAAQMD exceptions for a Qualified GHG Reduction Strategy. The EECAP proposes emission reduction measures designed to reduce emissions by 17 percent

below 2005 emissions levels by 2020 and sets forth goals, policies, and actions in order to reach this target. Although the EECAP is not required by State law, the BAAQMD has concluded in its 2017 CEQA Guidelines that development projects that are consistent with a qualified Climate Action Plan would not result in significant climate change impacts under CEQA. The Climate Action Plan requires that new development projects must attain higher levels of energy efficiency while incorporating more sustainable design standards. The EECAP provides a Development Checklist to ensure new development projects are compliant with the standards outlined (San Mateo, 2013).

IMPACT DISCUSSION

QUESTIONS A AND B

The Proposed Project would directly generate limited amounts of GHGs during the short-term construction activities and from worker vehicle traffic during construction. Emissions are anticipated to occur from the small trenching excavator and vehicle exhaust due to the combustion of natural gas and fuel. GHG emissions would include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). This is a potentially significant impact. However, to ensure minimal impacts during construction activities, the Proposed Project would incorporate BAAQMD basic construction mitigation measures.

Additionally, given the small scale of project activities and the inclusion of BAAQMD basic mitigation measures in accordance with the 2017 BAAQMD CEQA Air Quality Guidelines, the Proposed Project would not violate air quality standards or contribute substantially to an existing or projected air quality violation. With implementation of mitigation measures GHG-1 to GHG-6, the Proposed Project would have a **less-than-significant impact** on the environment with regards to GHG emissions.

MITIGATION MEASURES

The following mitigation measures shall be implemented during construction to reduce GHG emissions:

- GHG-1 Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose materials on the site. Haul trucks that would be traveling along freeways or major roadways should be covered.
- GHG-2 Use wet power vacuum street sweepers to remove visible tracks of mud or dirt onto nearby public roads as needed. Use of dry power sweeping is prohibited.
- GHG-3 Limit vehicle speeds on unpaved roads to 15 miles per hour.
- GHG-4 Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to five minutes (required by California Code of Regulations, Title 13, sections 249(d)(3) and 2485). Provide clear signage that posts this requirement for workers at the entrance to the project site.
- GHG-5 Maintain all construction equipment in proper working condition according to manufacturer's specifications. Equipment must be checked by a certified mechanic and determined to be running in proper condition before being operated.
- GHG-6 Post a publicly visible sign with the telephone number and person to contact at the lead

agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMDs phone number shall also be visible to ensure compliance with applicable regulations (BAAQMD, 2017b).

3.8 HAZARDS AND HAZARDOUS MATERIALS	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 a 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"/>
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"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

Based on field observations and government hazardous materials database searches, the project vicinity does not contain known hazardous material sites. The database search resulted in zero sites listed as leaking underground storage tanks within a one-mile radius of the project site (SWRCB, 2017). The

project site is not listed pursuant to Government Code §65962.5.

The nearest school is the Nueva School Hillsborough Campus located across the Lower Crystal Springs Reservoir in San Mateo, approximately 2.7 miles northeast of the project site. The closest airport is the Half Moon Bay Airport located 5.75 miles west of the project site.

IMPACT DISCUSSION

QUESTIONS A AND B

Limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, and hydraulic fluid, may be stored at a designated location on the project site during construction. Workers would be required to comply with applicable federal and State environmental and workplace safety laws, including OSHA and Uniform Building Codes. The Proposed Project would have a **less-than-significant impact** with regards public hazards.

QUESTION C

The nearest school is the Nueva School Hillsborough Campus located across the Lower Crystal Springs Reservoir in San Mateo, approximately 2.7 miles northeast of the project site. The Proposed Project would not result in hazardous emissions or the utilization of hazardous or acutely hazardous materials, substances, or waste within a one-quarter mile of an existing or proposed school. The Proposed Project would have **no impact** on schools.

QUESTION D

A search of government environmental records did not reveal any known hazardous materials sites within the project site (SWRCB, 2017). The Proposed Project would have **no impact** with regards to public or environmental hazards.

QUESTIONS E AND F

The nearest airport to the Proposed Project is the Half Moon Bay Airport, located 5.75 miles west of the project site. The project site is not located within the flight path of the Half Moon Bay Airport or within the San Mateo Airport Overlay District (Coffman Associates, 2014). There are no private airstrips in the project vicinity. The Proposed Project would have **no impact** on airports or flight paths.

QUESTION G

Construction activities would not interfere with emergency access in the project vicinity. Implementation of the Proposed Project would not impact emergency response or evacuation routes in the project site. The Proposed Project would have **no impact** on emergency response plans.

QUESTION H

Fire hazard severity has been mapped by the Department of Forestry and Fire Protection. The Proposed Project is located in a High fire hazard zone (CALFIRE, 2007). This zone contains fuels susceptible to

wildland fire (e.g., grasses, shrubs, trees, vines). The combination of highly flammable fuel, long dry summers, and steep slopes creates a significant natural hazard of wildland fires in many areas of San Mateo County. The risk of wildland fire for the Proposed Project is similar to that for other construction sites in the vicinity and would be minimized with implementation mitigation measures HAZ-1 to HAZ-3. The Proposed Project would have a **less-than-significant impact** regarding fire hazards with implementation of mitigation.

MITIGATION MEASURES

The following mitigation measures shall be implemented during construction to reduce the risk of wildland fire:

- HAZ-1 Fire suppression materials or water source pumps shall be made available during construction in case of fire. Construction equipment staged overnight shall be parked within a secure area away from combustible materials.
- HAZ-2 Hazardous materials such as fuels and solvents shall be stored in covered containers and protected from rainfall, runoff, vandalism, and accidental release to the environment. Stored fuels and solvents shall be contained in an area of impervious surface with containment capacity equal to or greater than the volume of materials stored with secondary containment.
- HAZ-3 Prior to construction, spark arresters on construction vehicles shall be checked to ensure they are in working order.

3.9 HYDROLOGY AND WATER QUALITY	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site, including through 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"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alternation of the course of a stream or river or substantially increase the rate or amount of surface runoff in a matter which would result in flood on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Place housing or other structures, which would impede or re-direct flood flows within a 100-yr. 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 checked="" type="checkbox"/>	<input type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of a failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

Aquatic features in the region include Pilarcitos Creek, its tributary perennial drainages, Stone Dam Reservoir, and Lower Crystal Springs Reservoir. Pilarcitos Creek, a tributary to the Pacific Ocean, flows southward in the vicinity of the project site and turns westward near State Route 92 before reaching the Pacific Ocean. Annual discharge from Stone Dam upstream of the project site ranges from 0.31 to 7.63 cubic feet per second (cfs), with peak flows typically occurring from December through March (USGS, 2017).

The project site is located within the Pilarcitos Creek watershed, which covers an area of 28 square miles. The Pilarcitos Creek Watershed consistently shows high counts of contaminants, such as fecal coliform, total suspended solids, and nitrates, likely resulting from human activity (PWA, 2008). However, the Regional Water Quality Control Board (RWQCB) has established a schedule for reduction of contaminants through monitoring and adaptive maintenance (PWA, 2008). Hydrologic conditions within the watershed are variable, and stream flow is affected by flow diversions.

The project site is located on Federal Emergency Management Agency (FEMA) flood map 06081C0145E in a non-printed flood map boundary; no flood map has been printed for the region (FEMA, 2017). The San Mateo County General Plan indicates that no tsunamis have been known to strike the County. However, Upper Crystal Springs Reservoir, Lower Crystal Springs Reservoir, San Andreas Lake, and Pilarcitos Lake may have seiche potential (San Mateo County, 1986).

IMPACT DISCUSSION

QUESTION A-F

The removal and replacement of the pipeline would not violate water quality standards or waste discharge requirements. Construction and operation of the Proposed Project would not involve the use of

groundwater resources. Although the Proposed Project would include excavation of a 3-foot wide by 3-foot deep trench, construction would primarily occur within an existing unpaved road grade or at least 35 feet from the riparian area along Pilarcitos Creek. Additionally, silt fencing would be implemented through BIO-3 to further protect water quality. Thus, drainage patterns of the nearby Pilarcitos Creek would not be altered. The Proposed Project would have a **less-than-significant impact** on drainage, water quality, and erosion.

QUESTIONS G-I

The project site is located in a non-printed flood map boundary, meaning no flood map is printed for the region (FEMA, 2017). Due to the topography of the region, minimal flooding is expected to occur in the vicinity of Pilarcitos Creek during heavy rain events. Construction would occur during the dry season and the project site is not anticipated to be at risk of flooding. Additionally, the nearest residence is located approximately two miles from the project site. The Proposed Project would have a **less-than-significant impact** on flooding and associated hazards.

QUESTIONS J

The project site is not located within a tsunami inundation area for emergency planning (CDC, 2009). Although the project site is in the vicinity of Lower Crystal Springs Reservoir and Pilarcitos Lake, which have significant potential for seiche, due the topography of the region a seiche is not expected to occur (San Mateo County, 1986). Additionally, mudflows are not expected to occur as a result of the mature vegetation and steep mountainous terrain bordering the project site. The Proposed Project would have a **less-than-significant impact** associated with seiche, tsunamis, and mudflows.

3.10 LAND USE AND PLANNING	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 type="checkbox"/>	<input checked="" type="checkbox"/>
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"/>

ENVIRONMENTAL SETTING

The project site is located in San Mateo County and is designated as General Open Space under the San Mateo County General Plan Land Use Element and is surrounded by rural and open space uses (San

Mateo, 1986). The County General Plan describes the General Open Space land use designation as "...lands in very low density residential use, in use for managed production or resources, hazardous for development, or owned by private parties specifically for watershed or other resource protection..." (San Mateo County, 1986). The County Zoning Ordinance further designates the areas that comprise the project site as a Resource Management District. The nearest residential unit is approximately one mile south of the project site on Pilarcitos Creek Road prior to the restricted area.

IMPACT DISCUSSION

QUESTION A

The project site is currently zoned RM for watershed or resource protection and implementation of the Proposed Project would not change zoning designations. The Proposed Project would not result in the development of a physical barrier that would divide an established community. Additionally, the Proposed Project would not change the volume of water delivered to CCWD and would not result in indirect or cumulative growth impacts. The Proposed Project would have **no impact** on established communities.

QUESTION B

The Proposed Project is consistent with the General Plan and zoning designations and project approval would not conflict with any land use plan, policy, or regulation (San Mateo, 1986). The Proposed Project would have **no impact** with regards to land use plans.

QUESTION C

There are currently no habitat conservation plans and natural community conservation plans in the vicinity of the project site. The nearest applicable habitat conservation plan is the San Bruno Mountain Habitat Conservation Plan, located approximately 12 miles north of the project site. Therefore, the Proposed Project would not have the potential to conflict with any existing habitat conservation plans or natural community conservation plans. The Proposed Project would have **no impact** with regards to habitat conservation plans.

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

ENVIRONMENTAL SETTING

The State of California classifies mineral resources and has designated certain mineral bearing areas as having regional significance. Local agencies must adopt mineral management policies that recognize mineral information provided by the State, assist in the management of land use that affects areas of Statewide and regional significance, and emphasize the conservation and development of identified mineral deposits.

Various minerals are present in San Mateo County, including chromite, clay, expandable shale, mercury, and various sands and stones. Onshore oil and gas also exist in three main fields throughout the County. According to the San Mateo County General Plan Mineral Resources Map, the project site is not located within a mineral resource zone. No known mineral resources are located within the project site (San Mateo County, 1986).

IMPACT DISCUSSION

QUESTIONS A AND B

The project site is not located within a mineral resource zone (San Mateo County, 1986). Additionally, construction would be confined to an existing unpaved road. The Proposed Project would have **no impact** on known mineral resources.

3.12 NOISE	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the project:				
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 in or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing in or working in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

the project area to excessive noise levels?				
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ENVIRONMENTAL SETTING

Some land uses are considered more sensitive to noise than others due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. Residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, and parks and other outdoor recreation areas generally are more sensitive to noise than commercial and industrial land uses. A sensitive receptor is defined as any living entity or aggregate of entities whose comfort, health, or wellbeing could be impaired or endangered by the existence of noise.

The land surrounding the project site is rural and open space. The nearest sensitive receptors consist of a residence approximately one mile south of the project site, and residences located in the City of San Mateo across the Lower Crystal Springs Reservoir, more than two miles east of the project site.

IMPACT DISCUSSION

QUESTIONS A-D

CONSTRUCTION

Construction noise from the project site is anticipated to occur during the use of trenching equipment and a limited number of haul trucks. Noise from construction activities has the potential to be approximately 85 decibels within 50 feet of the activity. Stationary point sources of construction noise attenuate (lessen) at a rate of 6-9 dBA per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions, topography and type of ground surfaces, natural and manmade noise barriers, etc.). Given the topography and highly vegetated surroundings of the area, an 8.5 dBA attenuation value for construction noise is considered appropriate. Using an attenuation value of 8.5 dBA, construction of the Proposed Project would result in temporary noise levels of approximately 30 dBA at the nearest noise sensitive receptors, which is below the San Mateo County noise threshold (San Mateo County, 1986).

The construction equipment used to develop the Proposed Project are not impact devices (i.e. pile driver, vibration compactor, etc); therefore, no vibration impacts would occur. The Proposed Project would not expose persons to, or generate noise levels, which temporarily or permanently exceed standards established in the local general plan or noise ordinance. The Proposed Project would have a **less-than-significant impact** on the ambient noise environment during construction.

OPERATION

Maintenance of the new, permanent pipeline would require minimal activity, reducing operational activities currently associated with the existing temporary pipeline. There would be a **less-than-significant impact** to the noise environment during the operation of the Proposed Project.

QUESTIONS E AND F

The project site is not located within the immediate vicinity of a private airstrip. The nearest airport is the Half Moon Bay Airport, which occurs approximately 5.75 miles east of the project site. The Proposed Project would not place sensitive receptors within the noise zone of the airport. The Proposed Project would have **no impact** on sensitive noise receptors near airports.

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

ENVIRONMENTAL SETTING

The project site is designated as General Open Space under the San Mateo County General Plan Land Use Element and is surrounded by rural and open space uses (San Mateo, 1986). The General Open Space designation is defined by the General Plan as a very low housing density area designated for rural and open space use. The County Zoning Ordinance further designates the areas that comprise the project site as a Resource Management District. The nearest residence is located approximately one mile south of the project site, and the nearest residential community is located approximately two miles east of the project site.

IMPACT DISCUSSION

QUESTIONS A-C

The Proposed Project does not involve the development of residences, businesses, or public roads, and would thus not induce population growth directly or indirectly and does not involve the displacement of people or housing. Additionally, development of the Proposed Project would be consistent with all applicable General Plan policies, and the Proposed Project would not change the volume of water delivered to CCWD and would not result in indirect or cumulative growth impacts. The Proposed Project would have **no impact** on population and housing.

3.14 PUBLIC SERVICES	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response times or other performance objectives for any of the public services:				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

Public services provided to the project site and surrounding area include fire protection by the Department of Forestry and Fire Protection (CALFIRE), San Mateo Division (Division). The Division is a full service fire agency that provides services to un-incorporated areas of San Mateo County. The Division operates three volunteer fire stations and four paid stations, which respond to over 2000 emergency incidents a year. Fire Station 17 (a paid station; San Mateo Highlands) is the nearest station, located approximately 2.8 miles east of the project site (CALFIRE, 2012). The San Mateo County Sheriff’s Office provides police protection to the vicinity of the project site (San Mateo County, 2016b). Public school services in the vicinity of the project site are provided by the Cabrillo Unified School District (CUSD). The CUSD consists of four elementary schools, one intermediate school, one high school, and two continuation schools. The nearest school is Alvin S. Hatch Elementary School, approximately four miles west of the project site (CUSD, 2017).

IMPACT DISCUSSION

QUESTIONS A-E

The Proposed Project would not result population growth or changes to existing land uses because it involves replacement of an existing temporary pipeline. Thus, the Proposed Project would not generate additional demand for government facilities or services relating to fire protection, police protection, schools, parks, or other public facilities. Permitted land uses within the General Open Space category include low density residential use, production of resources, and watershed or other resource protection (San Mateo County, 1986). The Proposed Project is not in the vicinity of existing designated land use areas such as institutional land use areas, defined as land used for public services including fire stations and schools. Additionally, the Proposed Project would not change the volume of water delivered to CCWD and would not result in indirect or cumulative growth impacts that would increase public service reliance. The Proposed Project would have a **less-than-significant impact** on public services.

3.15 RECREATION	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the project:				
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"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

San Mateo County contains various types of parklands, including State, County, Regional, and neighborhood parks. In addition, the National Parks Service (NPS) maintains lands in the region, such as the nearest recreational area, the Golden Gate National Recreation Area (Golden Gate NRA), approximately 1.5 miles northwest of the project site. Additionally, the Pacific Ocean, approximately four miles west of the project site, provides a major source of recreational opportunities. Common recreational activities in the region include fishing, camping, swimming, hiking, walking, horseback riding, and bicycling. Access to the project site is gated and restricted on Pilarcitos Creek Road.

IMPACT DISCUSSION

QUESTIONS A AND B

The Proposed Project would not result in changes to existing land uses of the project site. No population increase or new demand would be generated for the use of existing neighborhood and regional parks or other recreational facilities such as the Golden Gate NRA. Public access to the ocean and/or other bodies of water currently available for public recreation in the region would not be impacted. The Proposed Project would not include recreational facilities, nor require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. The project site is not within or adjacent to an existing park or recreational facility (San Mateo, 1986). The Proposed Project would have **no impact** on recreational facilities.

3.16 TRANSPORTATION AND CIRCULATION	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?				
b) Conflict with an applicable congestion management program, including, but not limited to level-of-service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due 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 type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with adopted policies regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

The project site is located on Pilarcitos Creek Road, approximately 5.0 driving miles from the City of Half Moon Bay. Project site access would predominately occur from the City of Half Moon Bay to California State Route 92/San Mateo Road (CA-92) to Pilarcitos Creek Road. Pilarcitos Creek Road nearest to CA-92 is used by a seasonal Christmas tree farm (open November 19th to December 24th), which is located approximately 1.25 miles before the project site. The road is locked, gated, unmaintained, and not publicly accessible just beyond the Christmas tree farm. Nearest major roadways include CA-92, approximately 2.5 driving miles from the project site, and CA-35, slightly further east and approximately 4.2 driving miles from the project site. In the vicinity of the project site, CA-92 is a paved two-lane east to west highway and CA-35 is a paved two-lane north to south highway. CA-35 is not anticipated to be utilized during construction.

IMPACT DISCUSSION

QUESTIONS A AND B

CONSTRUCTION

Construction would occur predominantly within the existing road grade of Pilarcitos Creek Road. Construction of the Proposed Project would temporarily cause a negligible increase in traffic volume along CA-92. Vehicular trips from construction would consist of worker trips and deliveries of equipment and materials to and from the project site. The expected increase in traffic would occur weekdays between the hours of 7:00 A.M. and 6:00 P.M. The estimated increase in trips along CA-92 and the restricted Pilarcitos Creek Road would be less than 26 one-way trips per day, based on the average approximation of 10 workers and three material delivery trips. Workers are expected to reside locally in

the Half Moon Bay vicinity or within the nearby Bay Area region. Caltrans estimated the average annual daily trips on this section of CA-92 at the CA-35 south junction as 24,300 (back) and 25,000 (ahead) (Caltrans, 2014). The projected temporary increase in trips due to construction is approximately .11 percent. This is not a substantial increase, and would not cause a significant change to the roadway's level of service. Construction of the Proposed Project would have a **less-than-significant impact** on traffic.

OPERATION

The Proposed Project would reduce maintenance activities, and thus would reduce the current number of trips associated with pipeline operations. No significant impacts to applicable level of service standards or restrictions to emergency access would occur. The Proposed Project would not change the volume of water delivered to CCWD and would not result in indirect or cumulative growth impacts that would facilitate additional traffic. Operation of the Proposed Project would have a **less-than-significant impact** on traffic.

QUESTION C

The nearest airport to the Proposed Project is the Half Moon Bay Airport, located 5.75 miles west of the project site. The project site is not located within the flight path of the Half Moon Bay Airport or within the San Mateo Airport Overlay District (Coffman Associates, 2014). Construction traffic accessing the project site would not impact the Half Moon Bay Airport. The Proposed Project would have **no impact** on air traffic patterns.

QUESTION D

The Proposed Project would not modify the design of existing roadways and would not include operational features that would impact traffic or increase hazards. The Proposed Project would have **no impact** on design patterns or associated hazards.

QUESTION E

The Proposed Project would not introduce factors that would generate new or unanticipated long-term changes in traffic. The projected temporary increase in trips due to construction is approximately 0.11 percent. Construction impacts to traffic are negligible and temporary, and construction staging would occur on the restricted portion of Pilarcitos Creek Road. Implementation of the Proposed Project would not significantly impact emergency response or evacuation routes in the vicinity of the project site. The Proposed Project would have a **less-than-significant impact** on emergency access.

QUESTION F

Construction parking would be limited to within the restricted portion of Pilarcitos Creek Road. There would be sufficient parking for both construction and operation of the Proposed Project. The projected temporary increase in trips due to construction is approximately 0.11 percent. This is not a substantial increase, would not result in impacts to public transit, bicycle, or pedestrian facilities. The Proposed Project would have a **less-than-significant impact** on public transit and related policies.

3.17 UTILITIES AND SERVICE SYSTEMS	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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"/>
e) Result in a determination by the wastewater treatment provider that 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"/>
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 type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

Residences and businesses in the region rely primarily on CCWD for their domestic water supply, or wells and private septic systems depending on location. The Proposed Project will increase the reliability of the existing CCWD water system.

IMPACT DISCUSSION

QUESTIONS A-G

The Proposed Project would not involve the construction or use of wastewater treatment infrastructure, and would not affect existing wastewater treatment facilities or stormwater drainage facilities. The Proposed Project would not create or expand water entitlements, or modify the number of approved and limited water connections within the CCWD service area. No new housing or increase in business activity would occur. The Proposed Project would not significantly increase solid waste or conflict with government regulations concerning the generation, handling, or disposal of solid waste. Where feasible, native material generated during trenching would be retained for backfill and excavated material that cannot be utilized for backfill would be hauled off-site to an appropriate disposal facility. Solid waste would be hauled off-site and trash would be disposed of in an appropriate landfill. The Proposed Project

would not impact existing utilities and service systems and would be constructed in compliance with related federal, State, and local regulations. The Proposed Project would have **no impact** on wastewater facilities, landfills, stormwater drainage, and associated regulations.

3.18 MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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"/>
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACTS DISCUSSION

QUESTIONS A

As discussed in the preceding sections, the Proposed Project has the potential to degrade the quality of the environment by potentially adversely impacting biological resources, cultural resources, GHG emissions, and hazardous materials. However, with implementation of the mitigation measures discussed, potential impacts would be **less-than-significant**.

QUESTION B

The Proposed Project would not change the volume of water delivered to CCWD and would not result in indirect or cumulative growth impacts. Project-related impacts in combination with the impacts of other past, present, and foreseeable future projects could contribute to cumulatively significant effects on the environment. With implementation of the discussed mitigation measures, the Proposed Project would avoid or minimize potential impacts and would not result in cumulatively considerable environmental impacts. Cumulatively considerable impacts would be **less-than-significant**.

QUESTION C

As previously discussed, the Proposed Project would not result in environmental impacts that would cause adverse effects on human beings either directly or indirectly. There would be **no impact** to human beings.

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APPENDIX A

BIOLOGICAL RESOURCES REPORT



BIOLOGICAL RESOURCES REPORT
COASTSIDE COUNTY WATER DISTRICT
PILARCITOS PIPELINE

JULY 2017

PREPARED FOR:

Coastside County Water District
Attn: David Dickson, General Manager
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Attachment A	Special-Status Species Lists
Attachment B	Table of Regional Special-Status Species
Attachment C	Soils Report
Attachment D	Plant Species Observed

1.0 INTRODUCTION

Coastside County Water District (CCWD) receives water from Stone Dam via a pipeline that follows an existing road grade that roughly parallels Pilarcitos Creek (project site). The steel pipeline (circa 1948) failed several years ago and was replaced with a temporary plastic pipeline. The purpose of this assessment is to identify potential special-status species, wetlands and Waters of the U.S., and/or other biological resources that may be impacted by the replacement of the temporary pipeline with a new underground permanent pipeline (Proposed Project).

This biological resources report describes the May 2, 2017 biological survey methods and results and provides recommendations consistent with protective measures for biological resources specified by federal, state, and local regulatory agencies.

1.1 PROJECT LOCATION

The project site is located on Pilarcitos Creek Road in San Mateo County, approximately 4 miles northeast of the City of Half Moon Bay (**Figures 1 and 2**). The project site is located within the USGS 7.5 minute topographic quadrangle “Montara Mountain” (USGS, 2017). The project site is approximately 2,335 feet long by 30 feet wide along an existing dirt road across portions of two parcels; Assessor Parcel Number (APN) 093060050 (SFPUC property) in the northern portion and APN 056370080 (CCWD property) in the southern portion.

1.2 PROJECT DESCRIPTION

The Proposed Project consists of the removal of a temporary plastic pipeline currently positioned on top of the road and the installation of a permanent buried ductile iron pipeline along the same alignment. The permanent pipeline is proposed to be a 12-inch diameter pipe that is approximately 2,000-foot long. Installation of the new pipeline will occur in a trench two to nine-foot wide trench within the existing unpaved road grade. Trenching is proposed to be completed using a small excavator. The original 12-inch welded steel pipeline would be abandoned in place.

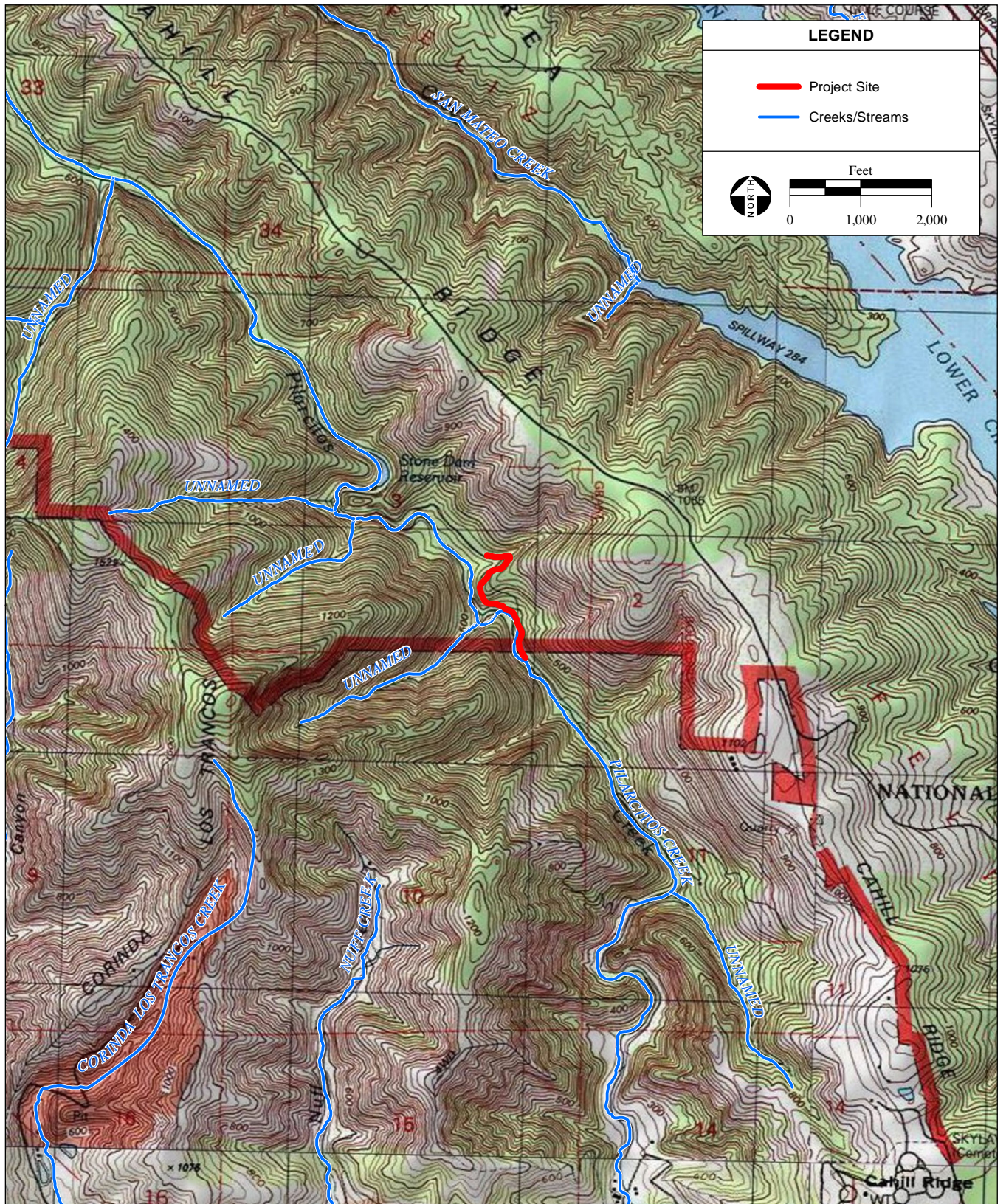
The new pipeline will tie into an existing San Francisco Public Utilities Commission (SFPUC) pipe at the north end and an existing CCWD 1994 pipeline at the south end (**Figure 3**). The tie-in point to the SFPUC system will eliminate pressure issues and facilitate the existing gravity-flow nature of the pipeline. From the SFPUC tie-in point, the remainder of the temporary pipeline is to be removed and replaced with the new underground pipeline. The temporary pipe upstream of the SFPUC tie-in point will also be removed (approximately 330 linear feet). The proposed alignment is within the existing road grade and 35 to 50 feet outside the riparian corridor.

2.0 METHODOLOGY

The following section discusses preliminary data review of special-status species, other relevant studies reviewed, and survey methodology.



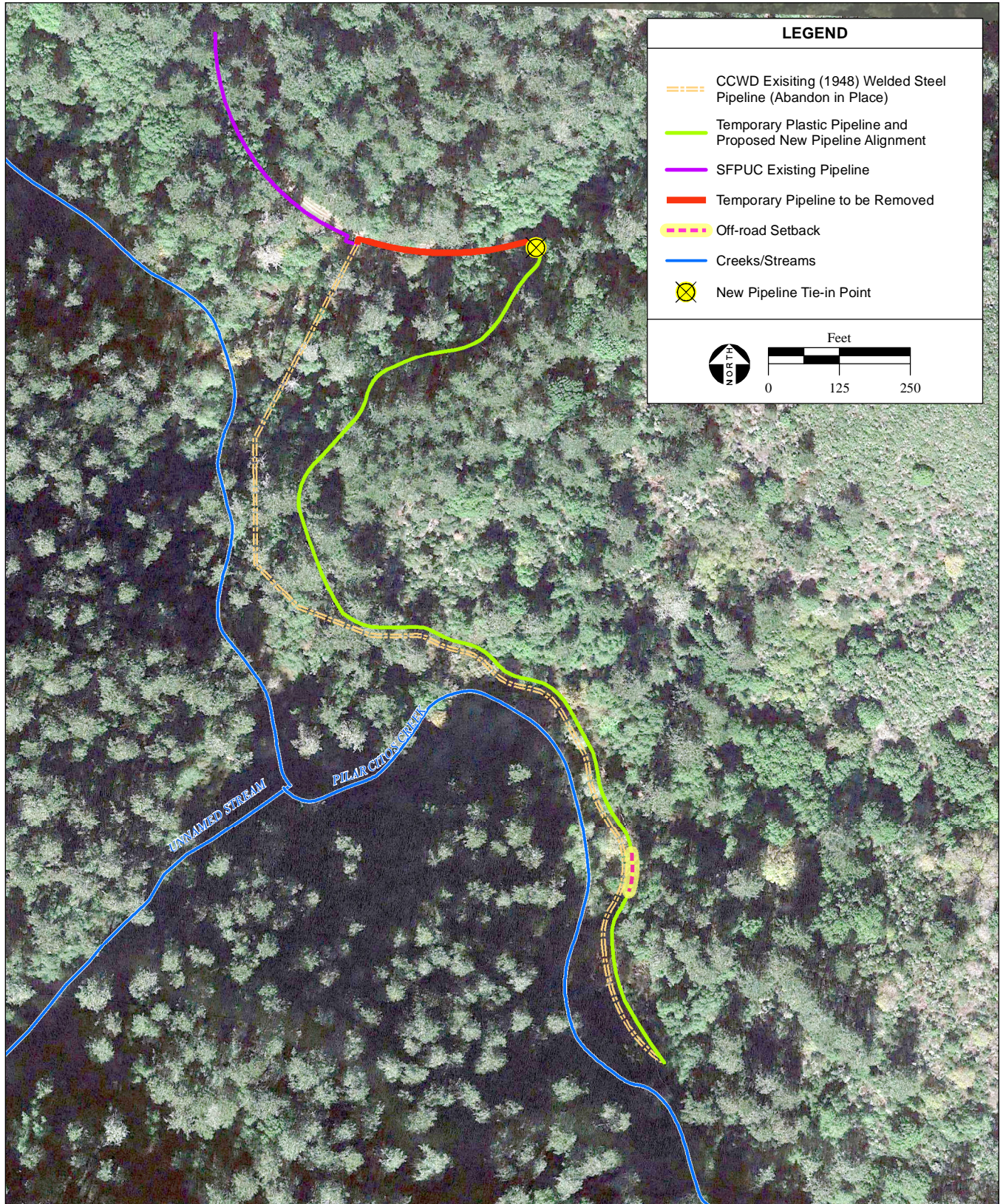
Figure 1
Regional Location



SOURCE: "Monterey Mountain, CA" USGS 7.5 Minute Topographic Quadrangle R5S T5W Section 3,10 Mt. Diablo Baseline & Meridian; AES, 5/19/2017

CWD Pilarcitos Creek Biological Resources Assessment / 217516 ■

Figure 2
Site and Vicinity



SOURCE: Coastside Water District, 2017, DigitalGlobe Aerial Photograph, 11/2/2016; AES, 5/30/2017

CWD Pilarcitos Creek Biological Resources Assessment / 217516 ■

Figure 3
Aerial Photograph

2.1 PRELIMINARY DATA GATHERING AND LITERATURE REVIEW

Special-status species are those that are listed as federally or state endangered or threatened by the USFWS, and CDFW, respectively, or are classified as list 1 or 2 species by CNPS. A list of special-status species with the potential to occur within the project site and surrounding areas was compiled based on a search of existing databases (**Attachment A**). Information reviewed included, but was not limited to:

- Maps of USFWS designated critical habitat occurring in the vicinity of the project site;
- USFWS list, current as of May 11, 2017, of federally endangered, threatened, proposed, and candidate species that occur in the vicinity of the project site (USFWS, 2017a);
- California Natural Diversity Database (CNDDB) list, dated May 12, 2017, of reported occurrences within the San Mateo and Montara Mountain 7.5-minute United States Geological Survey (USGS) quadrangles (quads) (CDFW, 2017);
- California Native Plant Society (CNPS) database list, dated May 12, 2017, of reported occurrences within the San Mateo and Montara Mountain quads (CNPS, 2017);
- Soil report (NRCS, 2017);
- 2015 botanical survey from JK Botany and Wetland Science;
- 2014 Biological Resources Assessment from Vinnedge Environmental Consulting;
- National Wetland Inventory (NWI) database search (USFWS, 2017b); and
- Aerial and topographic maps.

2.2 SPECIAL- STATUS SPECIES SURVEY

AES biologists performed a focused habitat assessment for special-status species with the potential to occur within the project site on May 2, 2017. A pedestrian survey was performed throughout the project site to determine the presence of special-status species or their associated habitats. Biologists surveyed approximately 15 feet on each side of the proposed pipeline alignment. The literature review revealed that seven special-status plants and ten special-status animal species have the potential to occur on the project site (**Table 1**). A complete list of potential special-status species that occur in the region is provided in **Attachment B**.

2.3 WETLANDS AND WATERS OF THE U.S. INVENTORY

The wetlands and Waters of the U.S. and state inventory consisted of a pedestrian survey on the project site using visual observation. Biologists assessed approximately 15 feet on either side of the proposed pipeline for wetland indicators such as inundation, cracking soils, wetland plant species, and hydric soils.

3.0 ENVIRONMENTAL SETTING

The project site is located in the central portion of northern San Mateo County on the Pacific Ocean side of the San Francisco Peninsula. San Mateo County has a semi-arid Mediterranean climate regime characterized by hot, dry, sunny summers and cool, rainy winters. The monthly average high temperature range for San Mateo County is approximately 58 to 82 degrees Fahrenheit (°F). The average annual precipitation for the county is approximately 20.45 inches, with a monthly maximum of approximately 4.09 inches during the month of February.

TABLE 1
POTENTIALLY OCCURRING SPECIAL-STATUS SPECIES

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
PLANTS					
<i>Amsinckia lunaris</i> Bent-flowered fiddleneck	--/--/1B.2	Known to occur in Alameda, Contra Costa, Colusa, Lake, Marin, Napa, San Benito, Santa Clara, Santa Cruz, San Mateo, and Yolo counties	Coastal bluff scrub, Cismontane woodland, and Valley and foothill grassland. Elevations; 3-500 meters	March-June	Yes. Suitable habitat present. CNDDDB shows nearest record approximately 2 miles NE of site.
<i>Collinsia multicolor</i> San Francisco collinsia	--/--/1B	Known to occur in Monterey, Santa Clara, Santa Cruz, San Francisco, and San Mateo counties.	Closed-cone coniferous forest and Coastal scrub/sometimes serpentinite. Elevations; 30-250 meters.	March-May	Yes. Suitable habitat present. CNDDDB shows nearest historic record approximately 3.5 miles N of site.
<i>Dirca occidentalis</i> Western leatherwood	--/--/1B	Known to occur in Alameda, Contra Costa, Marin, Santa Clara, San Mateo, and Sonoma counties.	Broadleaved upland forest, Closed-cone coniferous forest, Chaparral, Cismontane woodland, North Coast coniferous forest, Riparian forest, and Riparian woodland/mesic. Elevations; 50-395 meters.	January-March (April)	Yes. Suitable habitat present. CNDDDB shows nearest record approximately 3 miles N of site.
<i>Eriophyllum latilobum</i> San Mateo woolly sunflower	FE/CE/1B.1	Known to occur in San Mateo county.	A perennial herb found in cismontane woodland (often serpentinite, on roadcuts), coastal scrub, and lower montane coniferous forests. Elevations; 45-330 meters.	May-June	Yes. Suitable habitat present. CNDDDB shows nearest record approximately 2 miles N of site.
<i>Lilium maritimum</i> Coast lily	--/--/1B.1	Known to occur in Mendocino, Marin, San Francisco, San Mateo, and Sonoma counties.	A perennial bulbiferous herb found sometimes in roadsides but also broadleaved upland forest, closed-cone coniferous forest, coastal prairie, coastal scrub, marshes and swamps (freshwater), North Coast coniferous forest. Elevation ranges from 5-475 meters.	May-August	Yes. Suitable habitat may occur within the forest or scrub habitats along the roadways or Pilarcitos Creek.
<i>Polemonium carneum</i> Oregon polemonium	--/--/2B.2	Known to occur in Alameda, Del Norte, Humboldt, Marin, San Francisco, Siskiyou, San Mateo, and Sonoma counties.	A perennial herb found in coastal prairie, coastal scrub, and lower montane coniferous forest. Elevations; 0-1,830 meters.	April-September	Yes. Suitable habitat present. CNDDDB shows nearest record approximately 3 miles N of site.
<i>Potentilla hickmannii</i> Hickman's cinquefoil	FE/CE/1B.1	Known to occur in Monterey, San Mateo, and Sonoma counties.	A perennial herb found in coastal bluff scrub, closed-cone coniferous forest, meadows and seeps (vernally mesic), and marshes and swamps (freshwater). Elevations; 10-149 meters.	April-August	Yes. Suitable habitat present. CNDDDB shows nearest record approximately 7 miles W of site.
ANIMALS					
Amphibians					
<i>Dicamptodon ensatus</i> California giant salamander	--/CSC/--	Known to occur in Mendocino, Lake, Glenn, Sonoma, Marin, San Mateo, Santa Cruz and historically Monterey counties.	Occurs in wet coastal forests near streams and seepages.	N/A	Yes. Suitable habitat is present within the forest habitat along and within Pilarcitos Creek.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
<i>Rana aurora draytonii</i> California red-legged frog	FT/CSC/--	Known to occur along the Coast from Mendocino County to Baja California, and inland through the northern Sacramento Valley into the foothills of the Sierra Nevadas, south to eastern Tulare County, and eastern Kern County.	Occurs in permanent and temporary pools of streams, marshes, and ponds with dense grassy and/or shrubby vegetation. Elevations range from 0-1160 meters	November – March (breeding) June - August (non-breeding)	Yes. Site is located within designated critical habitat. Suitable habitat is present adjacent to and within Pilarcitos Creek.
Birds					
<i>Brachyramphus marmoratus</i> Marbled murrelet	FT,CH/CE/--	Found from the western Aleutian Islands through coastal southern and southeastern Alaska, British Columbia, Washington, Oregon, and northern central California.	Generally nests from May through early August. Outside of the breeding season, found in coastal areas, mainly in salt water within 2 km of shore, including bays and sounds. Nests in trees in terrestrial habitat including alpine, conifer forest, and Tundra. In general, murrelets nest in old-growth trees that include a relatively flat platform large enough to support an egg within the upper live crown, usually in redwood or Douglas-fir trees. In the bay area region, platforms were restricted to redwood and Douglas-fir trees (Halbert et. al, 2017). A suitable platform must provide concealment for the nest, be a defensible space for a chick, must allow ready access to parents. In the Santa Cruz Mountains, larger trees occur in canyon bottoms or lower slopes where soils are deeper and more water is available during the dry season (Moore and Singer, 2014). In northern California, distance to paved roadways was found to correlate with nest site use, with nests being more common far from roads (Golightly, Hamilton, and Hebert, 2009). In northern California, the number of down logs in a stand was correlated with murrelet nest success and nests were more likely to be successful in stands with a greater number of downed logs (Golightly, Hamilton, and Hebert, 2009).	Year round	Yes. Suitable nesting habitat is present on-site in the coniferous forest. The species has been detected in the Pilarcitos Creek Watershed but has not been detected directly on the site (ARA, 2017). Designated critical habitat occurs approximately 1.5 miles NW of the site.
Fish					
<i>Oncorhynchus mykiss</i> Steelhead-Central California Coast DPS	FT/--/--	Central California Coastal ESU, spawns in drainages from the Russian River basin, Sonoma and Mendocino Counties, to Soquel Creek, Santa Cruz County (including the San Francisco Bay basin, but not the Sacramento and San Joaquin Rivers or their tributaries).	Found in cool, clear, fast-flowing permanent streams and rivers with riffles and ample cover from riparian vegetation or overhanging banks. Spawning: streams with pool and riffle complexes. For successful breeding, require cold water and gravelly streambed.	Consult Agency	Yes. Pilarcitos Creek is designated critical habitat. Nearest CNDDDB record is approximately 2 miles E of the site.
<i>Oncorhynchus kisutch</i> Coho salmon-Central California Coast ESU	FE/CE/--	Federal listing is for populations between Punta Gorda and San Lorenzo River; State listing is for populations south of Punta Gorda.	Found in cool, clear, fast-flowing permanent streams and rivers with riffles and ample cover from riparian vegetation or overhanging banks. Spawning: streams with pool and riffle complexes. For successful breeding, require cold water and gravelly streambed.	Consult Agency	Yes. Pilarcitos Creek is designated critical habitat. No records exist for this species in the area.
Mammals					

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
<i>Antrozous pallidus</i> Pallid bat	--/CSC/--	Locally common species at low elevations. It occurs throughout California except for the high Sierra Nevada from Shasta to Kern counties, and the northwestern corner of the state from Del Norte and western Siskiyou counties to northern Mendocino county.	Habitats occupied include grasslands, shrub-lands, woodlands, and forests from sea level up through mixed conifer forests, generally below 2,000 meters. The species is most common in open, dry habitats with rocky areas for roosting. Roosts also include cliffs, abandoned buildings, bird boxes, under exfoliating bark, and under bridges.	Year-round	Yes. Suitable habitat present within the forest habitat. No CNDDDB record present in the vicinity.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	--/CCT; CSC/- -	Known to occur throughout California, excluding subalpine and alpine habitats. Its range extends through Mexico to British Columbia and the Rocky Mountain states. Also occurs in several regions of the central Appalachians.	Requires caves, mines, tunnels, buildings, or other cave analog structures such as hallowed out redwoods for roosting. Hibernation sites must be cold, but above freezing.	Year-round	Yes. Suitable habitat present within the forest habitat. No CNDDDB record present in the vicinity.
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	--/CSC/--	Known to occur historically in San Mateo County and the San Francisco Bay watershed.	Riparian areas along streams and rivers. Requires areas with a mix of brush and trees.	Year-Round	Yes. Suitable habitat present on-site along Pilarcitos Creek. A nest was observed during 2014 surveys. The nearest CNDDDB record is approximately 2.5 miles S of the site.
Reptiles					
<i>Emys marmorata</i> Western pond turtle	--/CSC/--	Distribution ranges from Washington to northern Baja California.	Inhabit rivers, streams, lakes, ponds, reservoirs, stock ponds, and permanent and ephemeral wetland habitats.	Year-round	Yes. No breeding habitat present on site but individuals moving upland may pass through the project site. Nearest CNDDDB record is approximately 1 mile from the site.
<i>Thamnophis sirtalis tetrataenia</i> San Francisco garter snake	FE/--/--	Known to occur slightly north of the San Francisco-San Mateo County line near Merced Lake south along the base of the Santa Cruz Mountains to Waddell Creek.	Requires open grassy uplands and/or a grassland/shrubland matrix for breeding and shallow freshwater marshlands with adequate emergent vegetation.	March - July	Yes. No suitable habitat present within the project site. However, migrating or foraging individuals may occur. CNDDDB record is approximately 0.5 miles W of the site at Upper Crystal Springs Reservoir.

SOURCE: USFWS, 2017; CDFW, 2017 CNPS, 2017b

NOTE: Months in parenthesis are uncommon.

STATUS CODES

FEDERAL: USFWS and NMFS

FE Listed as Endangered by the Federal Government
FT Listed as Threatened by the Federal Government
FC Candidate for Federal Listing

STATE: CDFW

CE Listed as Endangered by the State of California
CT Listed as Threatened by the State of California
CCT Candidate for Listing as Threatened
CSC California Species of Special Concern

OTHER: CNPS

CRPR 1B Plants rare or endangered in California and elsewhere
CRPR 2 Plants rare or endangered in California, but more common elsewhere

Threat Ranks

0.1-Seriously threatened in California (high degree/immediacy of threat)
0.2-Fairly threatened in California (moderate degree/immediacy of threat)

The project site is composed of steep hillslopes and is situated at elevations that range from approximately 300 to 600 feet above mean sea level. Pilarcitos Creek, a tributary to the Pacific Ocean, flows southward in the vicinity of the project site then turning westward near State Route 92 before reaching the Pacific Ocean near the City of Half Moon Bay. The project site is situated in a rural residential setting in the mountains east of Half Moon Bay. The surrounding land is owned by CCWD and/or San Francisco Public Utilities Commission (SFPUC). The land is predominately undeveloped mixed coastal forest.

3.1 HYDROLOGY AND SOILS

The project site lies on the east side of the Pilarcitos Creek watershed. Water primarily drains west off the hillslope towards the creek bed, eventually flowing to the Pacific Ocean near the City of Half Moon Bay. Annual discharge from Stone Dam upstream of the project site ranges from 0.31 to 7.63 cubic feet per second (cfs), with peak flows typically occurring from December through March (USGS, 2017).

Soils along the entirety of the proposed pipeline are composed of Hugo and Josephine loams. These are well-drained soils usually present on steep slopes and are derived from sandstone and shale parent material. No serpentine soils were found to be present in or around the project site. A soil report is included in **Attachment C**.

3.2 HABITAT TYPES

The Proposed Project occurs within a coastal forest habitat type. Riparian habitat exists in the immediate area surrounding Pilarcitos Creek, however, all activities associated with the Proposed Project occur outside the riparian corridor.

Coastal Forest

The project site and existing road grade occurs in a mixed coastal forest. The primary canopy species observed included coast redwood (*Sequoia sempervirens*), douglas fir (*Pseudotsuga menziesii*), California bay (*Umbellularia californica*), big leafed maple (*Acer macrophyllum*), and sparse oak trees (*Quercus spp*). The understory was primarily comprised of giant chain fern (*Woodwardia fimbriata*), stinging nettle (*Urtica dioica*), poison oak (*Toxicodendron*), elderberry (*Sambucus*), willow (*Salix*), and other herbaceous shrubs. A list of plant species observed on and around the project site is provided in **Attachment D**.

4.0 RESULTS

4.1 SPECIAL-STATUS SPECIES

A total of 7 special-status plant species and 10 special-status animal species in **Table 1** have the potential to occur within the project site. No special-status plant or animal species were observed during the May 2, 2017 survey. All but 1 special-status plant species, the western leatherwood, were within their identifiable bloom period. The western leatherwood is a deciduous shrub with yellow flowers that emerge prior to leafing. This species is identifiable outside the bloom period and was not observed. With the implementation of **Biological Mitigation Measures 1 through 5**, there will be **No Effect** to potentially occurring special-status species.

4.2 CRITICAL HABITAT

The project site falls within federally designated critical habitat for California red-legged frog (*Rana draytonii*; CRLF), California Central Coast Distinct Population Segment (DPS) steelhead (*Oncorhynchus mykiss*), and the Central California Coast Evolutionary Significant Unit (ESU) Coho salmon (*Oncorhynchus kisutch*). Pilarcitos Creek is also designated by the National Marine Fisheries Service (NMFS) as Essential Fish Habitat (EFH) for Pacific salmon under the Magnuson-Stevens Act. Pilarcitos Creek is avoided by the Proposed Project, however the proximity of the project site to CRLF, steelhead, and Coho salmon critical habitat warrants mitigation for indirect erosional impacts. With the implementation of **Biological Mitigation Measure 4**, there will be **No Effect** on critical habitat and associated special-status species.

4.3 NESTING MIGRATORY BIRDS

Migratory birds and their nests are protected from “take” by the Migratory Bird Treaty Act (16 U.S.C. 703-711), which makes it unlawful to “*pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess or any part, nest, or egg of any such bird*” (50 CFR 10). Migratory birds and other special-status or protected birds have the potential to nest within or adjacent to the project site. Potentially suitable nesting habitat for the special-status marbled murrelet occurs in the coniferous forest habitat. The species has been detected in the Pilarcitos Creek Watershed but has not been detected directly on the project site (ARA, 2017). Murrelets generally nest from May through early August. Nesting migratory birds could be impacted if vegetation removal or loud noise-producing activities associated with the Proposed Project were to occur during the nesting season (February 15 through September 15). With implementation of **Biological Mitigation Measures 2 and 3**, there will be **No Effect** on nesting migratory birds or other special-status or protected bird species.

4.4 WETLANDS AND WATERS OF THE U.S. INVENTORY

With the exception of Pilarcitos Creek, no other potential wetlands or Waters of the U.S. were found within or adjacent to the project site. The project site is outside of the ordinary high water mark (OHWM) of Pilarcitos Creek and would have **No Effect** on wetlands or riparian vegetation.

5.0 RECOMMENDED MITIGATION

No special-status plant or animal species were observed within the project site during surveys, thus, no further plant surveys are recommended at this time. No “heritage” trees with a diameter at breast height greater than 20 inches, as defined by San Mateo County’s Heritage Tree Ordinance; Number 2427, were identified within the project site. To reduce the potential for impacts to special-status species, the following mitigation measures are recommended:

Biological Mitigation Measure 1: Brush clearing outside the existing road grade should be limited to hand tools.

Biological Mitigation Measure 2: Should work occur during the general nesting season for migratory birds, (February 15 to September 15), a preconstruction nesting bird survey shall be conducted no more than 14 days prior to the start of ground disturbing activities. Areas within 500

feet of construction shall be surveyed for active nests. Should an active nest be identified, an avoidance buffer will be established based on the needs of the species identified. Consultation with the USFWS and/or CDFW will occur if necessary. The preconstruction survey shall also assess presence/absence of other special-status species with the potential to occur on the project site, listed in **Table 1**. Identified burrows or indicators of active special-status species shall be flagged for avoidance by a qualified biologist. Only hand-digging shall be allowed near identified burrows or indicators of active special-status species.

Biological Mitigation Measure 3: The period of least disturbance relative to the marbled murrelet occurs from approximately October through February (ARA, 2017). Should work occur during the nesting season for the special-status marbled murrelet (May 1 through August 1), protocol-level surveys shall be conducted no more than 14 days prior to the start of ground disturbing activities. Areas within 500 feet of construction shall be surveyed for active nests by a qualified biologist pursuant to USFWS and/or CDFW requirements. If no active marbled murrelet nests are identified, no further mitigation is required. Should active murrelet nests be identified, consultation with the USFWS and/or CDFW shall occur to determine appropriate avoidance measures.

Biological Mitigation Measure 4: Exclusionary fencing (silt fencing) shall be installed on both sides of the pipeline to ensure no special-status species can access the project site. Should any special-status species be observed within the project site, they will be avoided and allowed to exit the area prior to fence installation. Installation of the silt fencing on the down-slope of the pipeline will also prevent silt and debris from entering Pilarcitos Creek, thus minimizing indirect impacts to aquatic species.

Biological Mitigation Measure 5: A qualified biological monitor shall be onsite during construction activities to ensure no special-status animal species enter into the project site. Should the biological monitor observe a special-status animal species within the project site, work will cease and the animal will be allowed to exit the area. If the animal does not exit the area, the appropriate agency will be contacted and the animal will be removed by a qualified professional.

6.0 CONCLUSIONS

The project site consists primarily of an existing unpaved road surrounded by coastal forest habitat. A total of 7 special-status plant species and 10 special-status animal species in **Table 1** have the potential to occur within the project site. No special-status plant or animal species were observed during surveys. The Proposed Project parallels Pilarcitos Creek, which is designated as critical habitat for CRLF, steelhead, and Coho salmon, and has been classified as EFH by NMFS. Survey results did not identify wetlands within the project site, and the Proposed Project is outside the OHWM.

The Proposed Project does not require permitting under the CDFW Section 1600 (Lake and Streambed Alteration Agreement), or certification under the Clean Water Act (CWA) Sections 401 or 404. The Proposed Project does not contain a federal nexus to initiate Endangered Species Act (ESA) Section 7 consultation. A California Environmental Quality Act (CEQA) Initial Study/Mitigated Negative Declaration (IS/MND) will be prepared for the Proposed Project. The IS/MND will be used to further

analyze the Proposed Project and potentially expand on the recommended mitigation measures discussed in **Section 5.0**. The Proposed Project is not within jurisdiction of the California Coastal Commission.

Implementation of the mitigation measures will reduce potential impacts of the Proposed Project on biological resources to **No Effect**.

7.0 REFERENCES

- Avocet Research Associates (ARA). 2017. Protocol-level nesting surveys for the federally threatened Marbled Murrelet (*Brachyrampus marmoratus*), San Francisco Public Utility Lands, Upper Pilarcitos Creek Watershed, San Mateo County, California. Final report to AECOM Corporation and San Francisco Public Utilities Commission.
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Vinnedge Environmental Consulting. 2014. Biological Resources Assessment – Coastside County Water District Property Rural Roads Improvement Project. Accessed in May 2017.

ATTACHMENT A

LISTS OF FEDERAL AND SPECIAL-STATUS SPECIES

ATTACHMENT A-1

USFWS OFFICIAL SPECIES LIST



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:

May 11, 2017

Consultation Code: 08ESMF00-2017-SLI-2038

Event Code: 08ESMF00-2017-E-05217

Project Name: CWD Pilarcitos Creek Pipeline

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2017-SLI-2038

Event Code: 08ESMF00-2017-E-05217

Project Name: CWD Pilarcitos Creek Pipeline

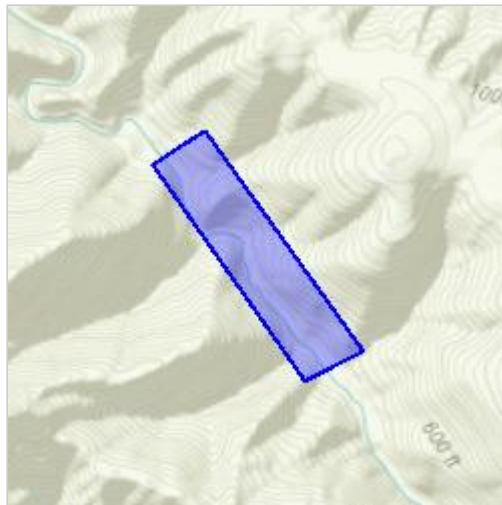
Project Type: WATER SUPPLY / DELIVERY

Project Description: Coastside Water District (CCWD) receives water from Stone Dam via a pipeline roughly following Pilarcitos Creek. Several years ago, the welded steel pipeline (circa 1948) failed and was replaced with a temporary plastic pipeline. At this time, CCWD proposes to install a permanent buried ductile iron pipeline along the same alignment as the temporary pipeline.

Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/37.520312233311344N122.39053199378529W>



Counties: San Mateo, CA

Endangered Species Act Species

There is a total of 18 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

Mammals

NAME	STATUS
Salt Marsh Harvest Mouse (<i>Reithrodontomys raviventris</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered
Southern Sea Otter (<i>Enhydra lutris nereis</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8560	Threatened

Birds

NAME	STATUS
<p>California Clapper Rail (<i>Rallus longirostris obsoletus</i>)</p> <p>No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240</p>	Endangered
<p>California Least Tern (<i>Sterna antillarum browni</i>)</p> <p>No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104</p>	Endangered
<p>Marbled Murrelet (<i>Brachyramphus marmoratus</i>)</p> <p>Population: U.S.A. (CA, OR, WA)</p> <p>There is a final critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467</p>	Threatened
<p>Short-tailed Albatross (<i>Phoebastria (=Diomedea) albatrus</i>)</p> <p>No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/433</p>	Endangered
<p>Western Snowy Plover (<i>Charadrius alexandrinus nivosus</i>)</p> <p>Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast)</p> <p>There is a final critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035</p>	Threatened

Reptiles

NAME	STATUS
<p>San Francisco Garter Snake (<i>Thamnophis sirtalis tetrataenia</i>)</p> <p>No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5956</p>	Endangered

Amphibians

NAME	STATUS
<p>California Red-legged Frog (<i>Rana draytonii</i>)</p> <p>There is a final critical habitat designated for this species. Your location overlaps the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891</p>	Threatened

Fishes

NAME	STATUS
<p>Delta Smelt (<i>Hypomesus transpacificus</i>) There is a final critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321</p>	Threatened
<p>Steelhead (<i>Oncorhynchus (=Salmo) mykiss</i>) Population: Northern California DPS There is a final critical habitat designated for this species. Your location overlaps the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1007</p>	Threatened
<p>Tidewater Goby (<i>Eucyclogobius newberryi</i>) There is a final critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57</p>	Endangered

Insects

NAME	STATUS
<p>Mission Blue Butterfly (<i>Icaricia icarioides missionensis</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6928</p>	Endangered
<p>Myrtle's Silverspot Butterfly (<i>Speyeria zerene myrtleae</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6929</p>	Endangered
<p>San Bruno Elfin Butterfly (<i>Callophrys mossii bayensis</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3394</p>	Endangered

Flowering Plants

NAME	STATUS
<p>Hickman's Potentilla (<i>Potentilla hickmanii</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6343</p>	Endangered
<p>San Mateo Woolly Sunflower (<i>Eriophyllum latilobum</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7791</p>	Endangered
<p>White-rayed Pentachaeta (<i>Pentachaeta bellidiflora</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7782</p>	Endangered

Critical habitats

There are 2 critical habitats wholly or partially within your project area.

NAME	STATUS
Steelhead (<i>Oncorhynchus (=Salmo) mykiss</i>)	Final designated
California Red-legged Frog (<i>Rana draytonii</i>)	Final designated

ATTACHMENT A-2

CALIFORNIA NATURAL DIVERSITY DATABASE SPECIES LIST



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Query Criteria: Quad (San Mateo (3712253)) OR Montara Mountain (3712254)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Acanthomintha duttonii</i> San Mateo thorn-mint	PDLAM01040	Endangered	Endangered	G1	S1	1B.1
<i>Agrostis blasdalei</i> Blasdale's bent grass	PMPOA04060	None	None	G2	S2	1B.2
<i>Allium peninsulare var. franciscanum</i> Franciscan onion	PMLIL021R1	None	None	G5T1	S1	1B.2
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	PDBOR01070	None	None	G2G3	S2S3	1B.2
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G5	S3	SSC
<i>Arctostaphylos montaraensis</i> Montara manzanita	PDERI042W0	None	None	G1	S1	1B.2
<i>Arctostaphylos regismontana</i> Kings Mountain manzanita	PDERI041C0	None	None	G2	S2	1B.2
<i>Astragalus pycnostachyus var. pycnostachyus</i> coastal marsh milk-vetch	PDFAB0F7B2	None	None	G2T2	S2	1B.2
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	None	G2G3	S1	
<i>Brachyramphus marmoratus</i> marbled murrelet	ABNNN06010	Threatened	Endangered	G3G4	S1	
<i>Calicina minor</i> Edgewood blind harvestman	ILARA13020	None	None	G1	S1	
<i>Callophrys mossii bayensis</i> San Bruno elfin butterfly	IILEPE2202	Endangered	None	G4T1	S1	
<i>Centromadia parryi ssp. parryi</i> pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2
<i>Charadrius alexandrinus nivosus</i> western snowy plover	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
<i>Chloropyron maritimum ssp. palustre</i> Point Reyes salty bird's-beak	PDSCR0J0C3	None	None	G4?T2	S2	1B.2
<i>Chorizanthe cuspidata var. cuspidata</i> San Francisco Bay spineflower	PDPGN04081	None	None	G2T1	S1	1B.2
<i>Cirsium andrewsii</i> Franciscan thistle	PDAST2E050	None	None	G3	S3	1B.2
<i>Cirsium fontinale var. fontinale</i> Crystal Springs fountain thistle	PDAST2E161	Endangered	Endangered	G2T1	S1	1B.1



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Collinsia multicolor</i> San Francisco collinsia	PDSCR0H0B0	None	None	G2	S2	1B.2
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
<i>Danaus plexippus pop. 1</i> monarch - California overwintering population	IILEPP2012	None	None	G4T2T3	S2S3	
<i>Dicamptodon ensatus</i> California giant salamander	AAAAH01020	None	None	G3	S2S3	SSC
<i>Dipodomys venustus venustus</i> Santa Cruz kangaroo rat	AMAFD03042	None	None	G4T1	S1	
<i>Dirca occidentalis</i> western leatherwood	PDTHY03010	None	None	G2	S2	1B.2
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Eriophyllum latilobum</i> San Mateo woolly sunflower	PDAST3N060	Endangered	Endangered	G1	S1	1B.1
<i>Euphydryas editha bayensis</i> Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S1	
<i>Falco columbarius</i> merlin	ABNKD06030	None	None	G5	S3S4	WL
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
<i>Fritillaria biflora var. ineziana</i> Hillsborough chocolate lily	PMLIL0V031	None	None	G3G4T1	S1	1B.1
<i>Fritillaria liliacea</i> fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
<i>Grindelia hirsutula var. maritima</i> San Francisco gumplant	PDAST470D3	None	None	G5T1Q	S1	3.2
<i>Hesperevax sparsiflora var. brevifolia</i> short-leaved evax	PDASTE5011	None	None	G4T3	S2	1B.2
<i>Hesperolinon congestum</i> Marin western flax	PDLIN01060	Threatened	Threatened	G1	S1	1B.1
<i>Horkelia cuneata var. sericea</i> Kellogg's horkelia	PDROS0W043	None	None	G4T1?	S1?	1B.1
<i>Horkelia marinensis</i> Point Reyes horkelia	PDROS0W0B0	None	None	G2	S2	1B.2
<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
<i>Ischnura gemina</i> San Francisco forktail damselfly	IIOD072010	None	None	G2	S2	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Lasiurus cinereus</i> hoary bat	AMACC05030	None	None	G5	S4	
<i>Lasthenia californica ssp. macrantha</i> perennial goldfields	PDAST5L0C5	None	None	G3T2	S2	1B.2
<i>Laterallus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
<i>Leptosiphon croceus</i> coast yellow leptosiphon	PDPLM09170	None	Candidate Endangered	G1	S1	1B.1
<i>Leptosiphon rosaceus</i> rose leptosiphon	PDPLM09180	None	None	G1	S1	1B.1
<i>Lessingia arachnoidea</i> Crystal Springs lessingia	PDAST5S0C0	None	None	G2	S2	1B.2
<i>Lichnanthe ursina</i> bumblebee scarab beetle	IICOL67020	None	None	G2	S2	
<i>Limnanthes douglasii ssp. ornduffii</i> Ornduff's meadowfoam	PDLIM02039	None	None	G4T1	S1	1B.1
<i>Malacothamnus arcuatus</i> arcuate bush-mallow	PDMAL0Q0E0	None	None	G2Q	S2	1B.2
<i>Melospiza melodia pusillula</i> Alameda song sparrow	ABPBXA301S	None	None	G5T2?	S2S3	SSC
<i>Monolopia gracilens</i> woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
<i>Myotis thysanodes</i> fringed myotis	AMACC01090	None	None	G4	S3	
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
Northern Coastal Salt Marsh Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
Northern Maritime Chaparral Northern Maritime Chaparral	CTT37C10CA	None	None	G1	S1.2	
<i>Nyctinomops macrotis</i> big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
<i>Oncorhynchus mykiss irideus</i> steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T2T3Q	S2S3	
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	PDAST6X030	Endangered	Endangered	G1	S1	1B.1
<i>Phalacrocorax auritus</i> double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
<i>Plagiobothrys chorisianus var. chorisianus</i> Choris' popcornflower	PDBOR0V061	None	None	G3T2Q	S2	1B.2
<i>Plebejus icarioides missionensis</i> Mission blue butterfly	IILEPG801A	Endangered	None	G5T1	S1	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Polemonium carneum</i> Oregon polemonium	PDPLM0E050	None	None	G3G4	S2	2B.2
<i>Potentilla hickmanii</i> Hickman's cinquefoil	PDROS1B0U0	Endangered	Endangered	G1	S1	1B.1
<i>Rallus longirostris obsoletus</i> California clapper rail	ABNME05016	Endangered	Endangered	G5T1	S1	FP
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
<i>Serpentine Bunchgrass</i> Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
<i>Silene verecunda ssp. verecunda</i> San Francisco campion	PDCAR0U213	None	None	G5T2	S2	1B.2
<i>Speyeria zerene myrtleae</i> Myrtle's silverspot butterfly	IILEPJ608C	Endangered	None	G5T1	S1	
<i>Spirinchus thaleichthys</i> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	SSC
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Thamnophis sirtalis tetrataenia</i> San Francisco gartersnake	ARADB3613B	Endangered	Endangered	G5T2Q	S2	FP
<i>Trifolium hydrophilum</i> saline clover	PDFAB400R5	None	None	G2	S2	1B.2
<i>Triphysaria floribunda</i> San Francisco owl's-clover	PDSCR2T010	None	None	G2?	S2?	1B.2
<i>Triquetrella californica</i> coastal triquetrella	NBMUS7S010	None	None	G2	S2	1B.2
<i>Valley Needlegrass Grassland</i> Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	

Record Count: 77

ATTACHMENT A-3

CALIFORNIA NATIVE PLANT SOCIETY SPECIES LISTS

Plant List

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Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Listing Status	Federal Listing Status
Acanthomintha duttonii	San Mateo thorn-mint	Lamiaceae	annual herb	Apr-Jun	1B.1	CE	FE
Allium peninsulare var. franciscanum	Franciscan onion	Alliaceae	perennial bulbiferous herb	(Apr)May-Jun	1B.2		
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	1B.2		
Arctostaphylos montaraensis	Montara manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar	1B.2		
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	Fabaceae	perennial herb	(Apr)Jun-Oct	1B.2		
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	Mar-May	4.2		
Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2		
Chloropyron maritimum ssp. palustre	Point Reyes bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Oct	1B.2		
Chorizanthe cuspidata var. cuspidata	San Francisco Bay spineflower	Polygonaceae	annual herb	Apr-Jul(Aug)	1B.2		
Cirsium fontinale var. fontinale	Crystal Springs fountain thistle	Asteraceae	perennial herb	(Apr)May-Oct	1B.1	CE	FE
Collinsia multicolor	San Francisco collinsia	Plantaginaceae	annual herb	(Feb)Mar-May	1B.2		
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	Jan-Mar(Apr)	1B.2		
Elymus californicus	California bottle-brush grass	Poaceae	perennial herb	May-Aug(Nov)	4.3		

Eriophyllum latilobum	San Mateo woolly sunflower	Asteraceae	perennial herb	May-Jun	1B.1	CE	FE
Erysimum franciscanum	San Francisco wallflower	Brassicaceae	perennial herb	Mar-Jun	4.2		
Fritillaria biflora var. ineziana	Hillsborough chocolate lily	Liliaceae	perennial bulbiferous herb	Mar-Apr	1B.1		
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2		
Hesperevax sparsiflora var. brevifolia	short-leaved evax	Asteraceae	annual herb	Mar-Jun	1B.2		
Hesperolinon congestum	Marin western flax	Linaceae	annual herb	Apr-Jul	1B.1	CT	FT
Lessingia arachnoidea	Crystal Springs lessingia	Asteraceae	annual herb	Jul-Oct	1B.2		
Lilium maritimum	coast lily	Liliaceae	perennial bulbiferous herb	May-Aug	1B.1		
Lupinus arboreus var. eximius	San Mateo tree lupine	Fabaceae	perennial evergreen shrub	Apr-Jul	3.2		
Malacothamnus arcuatus	arcuate bush-mallow	Malvaceae	perennial evergreen shrub	Apr-Sep	1B.2		
Malacothamnus davidsonii	Davidson's bush-mallow	Malvaceae	perennial deciduous shrub	Jun-Jan	1B.2		
Monolopia gracilens	woodland woollythreads	Asteraceae	annual herb	(Feb)Mar-Jul	1B.2		
Pentachaeta bellidiflora	white-rayed pentachaeta	Asteraceae	annual herb	Mar-May	1B.1	CE	FE
Polemonium carneum	Oregon polemonium	Polemoniaceae	perennial herb	Apr-Sep	2B.2		
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	4.2		
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2		
Triphysaria floribunda	San Francisco owl's-clover	Orobanchaceae	annual herb	Apr-Jun	1B.2		

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Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Listing Status	Federal Listing Status
Agrostis blasdalei	Blasdale's bent grass	Poaceae	perennial rhizomatous herb	May-Jul	1B.2		
Allium peninsulare var. franciscanum	Franciscan onion	Alliaceae	perennial bulbiferous herb	(Apr)May-Jun	1B.2		
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	1B.2		
Arabis blepharophylla	coast rockcress	Brassicaceae	perennial herb	Feb-May	4.3		
Arctostaphylos montaraensis	Montara manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar	1B.2		
Arctostaphylos regismontana	Kings Mountain manzanita	Ericaceae	perennial evergreen shrub	Dec-Apr	1B.2		
Astragalus nuttallii var. nuttallii	ocean bluff milk-vetch	Fabaceae	perennial herb	Jan-Nov	4.2		
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	Fabaceae	perennial herb	(Apr)Jun-Oct	1B.2		
Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2		
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	annual herb	May-Nov	1B.2		
Chorizanthe cuspidata var. cuspidata	San Francisco Bay spineflower	Polygonaceae	annual herb	Apr-Jul(Aug)	1B.2		
Cirsium andrewsii	Franciscan thistle	Asteraceae	perennial herb	Mar-Jul	1B.2		
Collinsia multicolor	San Francisco collinsia	Plantaginaceae	annual herb	(Feb)Mar-May	1B.2		
Cypripedium fasciculatum	clustered lady's-slipper	Orchidaceae	perennial	Mar-Aug	4.2		

<u>Species Name</u>	Common Name	Family	Life Form	Flowering Period	Number of Plants	Other Data
<u>Dirca occidentalis</u>	western leatherwood	Thymelaeaceae	rhizomatous herb perennial deciduous shrub	Jan-Mar(Apr)	1B.2	
<u>Elymus californicus</u>	California bottle-brush grass	Poaceae	perennial herb	May-Aug(Nov)	4.3	
<u>Eriophyllum latilobum</u>	San Mateo woolly sunflower	Asteraceae	perennial herb	May-Jun	1B.1	CE FE
<u>Erysimum franciscanum</u>	San Francisco wallflower	Brassicaceae	perennial herb	Mar-Jun	4.2	
<u>Fritillaria biflora var. ineziana</u>	Hillsborough chocolate lily	Liliaceae	perennial bulbiferous herb	Mar-Apr	1B.1	
<u>Fritillaria lanceolata var. tristulis</u>	Marin checker lily	Liliaceae	perennial bulbiferous herb	Feb-May	1B.1	
<u>Fritillaria liliacea</u>	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	
<u>Grindelia hirsutula var. maritima</u>	San Francisco gumplant	Asteraceae	perennial herb	Jun-Sep	3.2	
<u>Hesperevax sparsiflora var. brevifolia</u>	short-leaved evax	Asteraceae	annual herb	Mar-Jun	1B.2	
<u>Horkelia cuneata var. sericea</u>	Kellogg's horkelia	Rosaceae	perennial herb	Apr-Sep	1B.1	
<u>Horkelia marinensis</u>	Point Reyes horkelia	Rosaceae	perennial herb	May-Sep	1B.2	
<u>Iris longipetala</u>	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May	4.2	
<u>Lasthenia californica ssp. macrantha</u>	perennial goldfields	Asteraceae	perennial herb	Jan-Nov	1B.2	
<u>Leptosiphon croceus</u>	coast yellow leptosiphon	Polemoniaceae	annual herb	Apr-Jun	1B.1	CC
<u>Leptosiphon rosaceus</u>	rose leptosiphon	Polemoniaceae	annual herb	Apr-Jul	1B.1	
<u>Lessingia arachnoidea</u>	Crystal Springs lessingia	Asteraceae	annual herb	Jul-Oct	1B.2	
<u>Lessingia hololeuca</u>	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	3	
<u>Limnanthes douglasii ssp. ornduffii</u>	Ornduff's meadowfoam	Limnanthaceae	annual herb	Nov-May	1B.1	
<u>Lupinus arboreus var. eximius</u>	San Mateo tree lupine	Fabaceae	perennial evergreen shrub	Apr-Jul	3.2	
<u>Malacothamnus aboriginum</u>	Indian Valley bush-mallow	Malvaceae	perennial deciduous shrub	Apr-Oct	1B.2	
<u>Malacothamnus arcuatus</u>	arcuate bush-mallow	Malvaceae	perennial evergreen shrub	Apr-Sep	1B.2	
<u>Malacothamnus davidsonii</u>	Davidson's bush-mallow	Malvaceae	perennial deciduous shrub	Jun-Jan	1B.2	

Malacothamnus hallii	Hall's bush-mallow	Malvaceae	perennial evergreen shrub	(Apr)May-Sep(Oct)	1B.2		
Monolopia gracilens	woodland woollythreads	Asteraceae	annual herb	(Feb)Mar-Jul	1B.2		
Pentachaeta bellidiflora	white-rayed pentachaeta	Asteraceae	annual herb	Mar-May	1B.1	CE	FE
Plagiobothrys chorisianus var. chorisianus	Choris' popcornflower	Boraginaceae	annual herb	Mar-Jun	1B.2		
Polemonium carneum	Oregon polemonium	Polemoniaceae	perennial herb	Apr-Sep	2B.2		
Potentilla hickmanii	Hickman's cinquefoil	Rosaceae	perennial herb	Apr-Aug	1B.1	CE	FE
Silene verecunda ssp. verecunda	San Francisco champion	Caryophyllaceae	perennial herb	(Feb)Mar-Jun(Aug)	1B.2		
Triphysaria floribunda	San Francisco owl's-clover	Orobanchaceae	annual herb	Apr-Jun	1B.2		
Triquetrella californica	coastal triquetrella	Pottiaceae	moss		1B.2		

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ATTACHMENT B

TABLE OF REGIONAL SPECIAL-STATUS SPECIES

REGIONALLY OCCURRING SPECIAL-STATUS SPECIES

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/ CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
PLANTS					
<i>Acanthomintha duttonii</i> San Mateo thorn-mint	FE/CE/1B	Found only in San Mateo County. Known from only two extant natural occurrences and one introduced population.	Found in serpentine soils. Found in chaparral and Valley and foothill grassland at elevations from 50 to 300 meters.	April – June	No. No suitable habitat present. Nearest CNDDDB record is 2 miles E of site.
<i>Agrostis blasdalei</i> Blasdale's bent grass	--/--/1B	Known to occur in Mendocino, Marin, Santa Cruz, San Mateo, and Sonoma Counties. Known from fewer than fifteen occurrences.	Found in coastal bluff scrub, coastal dunes, and coastal prairie at elevations from 5 to 150 meters.	May - July	No. Suitable scrub habitat does not occur on-site.
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	--/--/1B.2	Known to occur in Mendocino, Santa Clara, San Mateo, and Sonoma counties.	Cismontane woodland, Valley and foothill grassland/clay, volcanic, often serpentinite. Elevations: 100-300 meters.	May-July	No. No suitable habitat present and nearest CNDDDB record is approximately 3 miles S of the site.
<i>Amsinckia lunaris</i> Bent-flowered fiddleneck	--/--/1B.2	Known to occur in Alameda, Contra Costa, Colusa, Lake, Marin, Napa, San Benito, Santa Clara, Santa Cruz, San Mateo, and Yolo counties	Coastal bluff scrub, Cismontane woodland, and Valley and foothill grassland. Elevations; 3-500 meters	March-June	Yes. Suitable habitat present. CNDDDB shows nearest record approximately 2 miles NE of site.
<i>Arctostaphylos montaraensis</i> Montara manzanita	--/--/1B.2	Known to occur in San Mateo county.	A perennial evergreen shrub found in chaparral (maritime) and coastal scrub. Elevation ranges from 80-500 meters.	January-March	No. No suitable habitat present and nearest CNDDDB record is approximately 4 miles NW of the site.
<i>Arctostaphylos regismontana</i> Kings Mountain manzanita	--/--/1B	Known to occur in Santa Clara, Santa Cruz and, San Mateo Counties	Found on granitic or sandstone soils in broad-leaved upland forest, chaparral, and north coast coniferous forest at elevations from 305 to 730 meters.	January – April	No. No suitable habitat present and nearest CNDDDB record is approximately 5 miles S of the site.
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> Coastal marsh milk-vetch	--/--/1B	Known to occur in Humboldt, Mendocino, Marin, and San Mateo Counties	Found in mesic coastal dunes, coastal scrub, and in streamsides and coastal salt marshes and swamps at elevations from 0 to 30 meters.	April - October	No. No suitable habitat present. Nearest CNDDDB record is approximately 3 miles SE of site.
<i>Centromadia parryi</i> ssp. <i>parryi</i> Pappose tarplant	--/--/1B.2	Known to occur in Butte, Colusa, Glenn, Lake, Napa, San Mateo, Solano, and Sonoma counties.	Chaparral, Coastal prairie, Meadows and seeps, Marshes and swamps (coastal salt), and Valley and foothill grassland (vernally mesic)/often alkaline. Elevations: 2-420 meters.	May-November	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> San Francisco Bay spineflower	--/--/1B	Known to occur in Alameda (though may be extirpated), Marin, San Francisco, San Mateo, and Sonoma (uncertain) counties.	Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub/sandy. Elevations; 3-215 meters.	April-July (August)	No. No suitable habitat present and nearest CNDDDB record is approximately 8 miles NW of the site.
<i>Cirsium andrewsii</i> Franciscan thistle	--/--/1B	Known to occur in Contra Costa, Marin, San Francisco, San Mateo, and Sonoma (though may be extirpated/uncertain) counties.	Broadleaved upland forest, Coastal scrub, Coastal prairie, Coastal scrub/mesic, sometimes serpentinite. Elevations; 0-150 meters.	March-July	No. No mesic or serpentinite soils present and no CNDDDB records in the vicinity.
<i>Cirsium fontinale</i> Crystal Springs fountain thistle	FE/CE/1B.1	Known to occur in San Mateo	A perennial herb found in serpentinite seeps in chaparral (openings), cismontane woodland, meadows and seeps, and valley and foothill grassland. Elevation ranges from 45-175 meters.	(Apr)May-October	No. No suitable habitat present. Nearest CNDDDB records is 2 miles E of the site.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/ CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
<i>Collinsia multicolor</i> San Francisco collinsia	--/--/1B	Known to occur in Monterey, Santa Clara, Santa Cruz, San Francisco, and San Mateo counties.	Closed-cone coniferous forest and Coastal scrub/sometimes serpentinite. Elevations; 30-250 meters.	March-May	Yes. Suitable habitat present. CNDDDB shows nearest historic record approximately 3.5 miles N of site.
<i>Cordylanthus maritimus</i> ssp. <i>palustris</i> Point Reyes bird's-beak	--/--/1B	Known to occur in Alameda (though may be extirpated), Humboldt, Marin, Santa Clara (though may be extirpated), San Mateo (though may be extirpated), and Sonoma counties. Also occurs in Oregon.	Marshes and swamps (coastal salt). Elevations; 0-10 meters.	June-October	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Dirca occidentalis</i> Western leatherwood	--/--/1B	Known to occur in Alameda, Contra Costa, Marin, Santa Clara, San Mateo, and Sonoma counties.	Broadleafed upland forest, Closed-cone coniferous forest, Chaparral, Cismontane woodland, North Coast coniferous forest, Riparian forest, and Riparian woodland/mesic. Elevations; 50-395 meters.	January-March (April)	Yes. Suitable habitat present. CNDDDB shows nearest record approximately 3 miles N of site.
<i>Eriophyllum latilobum</i> San Mateo woolly sunflower	FE/CE/1B.1	Known to occur in San Mateo county.	A perennial herb found in cismontane woodland (often serpentinite, on roadcuts), coastal scrub, and lower montane coniferous forests. Elevation ranges from 45-330 meters.	May-June	Yes. Suitable habitat present. CNDDDB shows nearest record approximately 2 miles N of site.
<i>Fritillaria biflora</i> Hillsborough chocolate lily	--/--/1B.1	Known to occur in San Mateo county	A perennial bulbiferous herb found in serpentinite in cismontane woodland and valley and foothill grassland.	March-April	No. No suitable habitat present and nearest CNDDDB record is approximately 2 miles NE of the site.
<i>Fritillaria lanceolata</i> var. <i>tristulis</i> Marin checker lily	--/--/1B	Known only to Marin and San Mateo County.	Coastal bluff scrub, Coastal prairie, and Coastal scrub. Elevations; 15-150 meters.	February-May	No. Suitable scrub habitat does not occur within on-site.
<i>Fritillaria liliacea</i> Fragrant fritillary	--/--/1B.2	Known to occur in Alameda, Contra Costa, Monterey, Marin, San Benito, Santa Clara, San Francisco, San Mateo, Solano, and Sonoma counties.	Often serpentinite soils. Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland. Elevations from: 3-410 meters.	February-April	No. Limited habitat present, nearest CNDDDB record is 3.5 miles NW of site.
<i>Hesperevax sparsiflora</i> Short-leaved evax	--/--/1B.2	Known to occur in Oregon and Del Norte, Humboldt, Mendocino, Marin, Santa Cruz, San Francisco*, San Mateo, and Sonoma counties.	An annual herb found in coastal bluff scrub (sandy), coastal dunes, and coastal prairie. Elevation ranges from 0-215 meters.	March-June	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Hesperolinon congestum</i> Marin western flax	FT/CT/1B.1	Known to occur in Marin, San Francisco, and San Mateo counties.	Chaparral and Valley and foothill grassland/serpentinite. Elevations: 5-370 meters.	April-July	No. No suitable habitat present. Nearest CNDDDB record is 3.5 miles NE of site.
<i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia	--/--/1B.1	Known to occur in Alameda*, Monterey, Marin*, Santa Barbara, Santa Cruz, San Francisco,*, San Luis Obispo, and San Mateo counties.	A perennial herb found in sandy or gravelly openings in closed-cone coniferous forest, chaparral (maritime), coastal dunes, and coastal scrub. Elevation ranges from 10-200 meters.	April-September	No. Limited habitat and nearest CNDDDB record is 3 miles SW of site.
<i>Horkelia marinensis</i> Point Reyes horkelia	--/--/1B.2	Known to occur in Mendocino, Monterey, Marin, Santa Cruz, San Mateo, and Sonoma counties.	A perennial herb found in sandy soils in coastal dunes, coastal prairie, and coastal scrub. Elevation ranges from 5-755 meters.	May-September	No. No suitable habitat present and no CNDDDB records in the vicinity.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/ CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
<i>Lasthenia californica ssp macrantha</i> Perennial goldfields	--/--/1B.2	Known to occur in Del Norte, Humboldt, Mendocino, Marin, Santa Cruz, San Luis Obispo, San Mateo, and Sonoma counties.	A perennial herb found in coastal bluff scrub, coastal dunes, and coastal scrub. Elevation ranges from 5-520 meters.	January-November	No. Suitable scrub habitat does not occur on-site.
<i>Leptosiphon croceus</i> Coast yellow leptosiphon	--/CSC/1B.1	Known to occur in Marin* and San Mateo counties.	An annual herb found in coastal bluff scrub and coastal prairie. Elevation ranges from 10-150 meters.	April-June	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Leptosiphon rosaceus</i> Rose leptosiphon	--/--/1B.1	Known to occur in Marin, San Francisco*, San Mateo, and Sonoma* counties.	An annual herb found in coastal bluff scrub. Elevation ranges from 0-100 meters.	April-July	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Lessingia arachnoidea</i> Crystal Springs lessingia	--/--/1B.2	Known to occur in San Mateo and Sonoma counties.	An annual herb serpentine, often roadsides, found in cismontane woodland, coastal scrub, and valley and foothill grassland. Elevation range: 60-200 meters.	July-October	No. Suitable soils are not present. CNDDDB shows nearest record approximately 2 miles E of site.
<i>Lilium maritimum</i> Coast lily	--/--/1B.1	Known to occur in Mendocino, Marin, San Francisco, San Mateo, and Sonoma counties.	A perennial bulbiferous herb found sometimes in roadsides but also broadleafed upland forest, closed-cone coniferous forest, coastal prairie, coastal scrub, marshes and swamps (freshwater), North Coast coniferous forest. Elevation ranges from 5-475 meters.	May-August	Yes. Suitable habitat may occur within the forest or scrub habitats along the roadways or Pilarcitos Creek.
<i>Limnanthes douglasii</i> Ornduff's meadowfoam	--/--/1B.1	Known to occur in San Mateo county.	An annual herb found in agricultural fields in meadows and seeps. Elevation ranges from 10-20 meters.	November-May	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Malacothamnus aboriginum</i> Indian Valley bush-mallow	--/--/1B.2	Known to occur in Fresno, Kings, Monterey, San Benito, Santa Clara, and San Mateo counties.	A perennial deciduous shrub found in rocky, granitic, often in burned areas in chaparral and cismontane woodland. Elevation ranges from 150-1,700 meters.	April-October	No. Limited habitat present. No CNDDDB records in the vicinity.
<i>Malacothamnus arcuatus</i> Arcuate bush-mallow	--/--/1B.2	Known to occur in Santa Clara, Santa Cruz, and San Mateo counties.	A perennial evergreen shrub found in chaparral and cismontane woodland. Elevation ranges from 15-355 meters.	April-September	No. Limited habitat present. Nearest CNDDDB record is approximately 2 miles N of site.
<i>Malacothamnus davidsonii</i> Davidson's bush-mallow	--/--/1B.2	Known to occur in Kern, Los Angeles, Monterey, Santa Barbara, Santa Clara, San Luis Obispo, San Mateo, and Ventura counties.	A perennial deciduous shrub found in chaparral, cismontane woodland, coastal scrub, and riparian woodland. Elevation ranges from 185-855 meters.	June-January	No. Limited habitat present. Nearest CNDDDB record is approximately 4 miles N of site.
<i>Malacothamnus hallii</i> Hall's bush-mallow	--/--/1B.2	Known to occur in Contra Costa, Merced, Santa Clara, San Mateo, and Stanislaus counties.	A perennial evergreen shrub found in chaparral and coastal scrub. Elevation ranges from 10-760 meters.	(Apr)May-September(Oct)	No. Suitable chaparral or scrub habitat does not occur on-site.
<i>Monolopia gracilens</i> Woodland woollythreads	--/--/1B.2	Known to occur in Alameda, Contra Costa, Monterey, San Benito, Santa Clara, Santa Cruz, San Luis Obispo, and San Mateo counties.	An annual herb found in serpentine in broadleafed upland forest (openings), chaparral (openings), cismontane woodland, North Coast coniferous forest (openings), and valley and foothill grassland. Elevation ranges from 100-1,200 meters.	(Feb)March-July	No. Suitable soils are not present on-site.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/ CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
<i>Pentachaeta bellidiflora</i> White-rayed pentachaeta	FE/CE/1B.1	Known to occur in Marin*, Santa Cruz*, and San Mateo counties.	An annual herb found in cismontane woodland and valley and foothill grassland (often serpentinite). Elevation ranges from 35-620 meters.	March-May	No. No suitable habitat present. Nearest CNDDDB record is approximately 1.5 miles E of the site.
<i>Plagiobothrys chorisianus</i> var <i>chorisianus</i> Choris' popcornflower	--/--/1B.2	Known to occur in Alameda*(?), Monterey, Santa Clara, Santa Cruz, San Francisco, and San Mateo counties.	An annual herb found in mesic chaparral, coastal prairie, and coastal scrub. Elevation ranges from 3-160 meters.	March-June	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Polemonium carneum</i> Oregon polemonium	--/--/2B.2	Known to occur in Alameda, Del Norte, Humboldt, Marin, San Francisco, Siskiyou, San Mateo, and Sonoma counties.	A perennial herb found in coastal prairie, coastal scrub, and lower montane coniferous forest. Elevation ranges 0-1,830 meters.	April-September	Yes. Suitable habitat present. CNDDDB shows nearest record approximately 3 miles N of site.
<i>Potentilla hickmannii</i> Hickman's cinquefoil	FE/CE/1B.1	Known to occur in Monterey, San Mateo, and Sonoma counties.	A perennial herb found in coastal bluff scrub, closed-cone coniferous forest, meadows and seeps (vernally mesic), and marshes and swamps (freshwater). Elevation ranges from 10-149 meters.	April-August	Yes. Suitable habitat present. CNDDDB shows nearest record approximately 7 miles W of site.
<i>Silene verecunda</i> ssp <i>verecunda</i> San Francisco campion	--/--/1B.2	Known to occur in Santa Cruz, San Francisco, and San Mateo counties.	A perennial herb found in sandy coastal bluff scrub, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland. Elevation ranges from 30-645 meters.	(Feb)March- June(Aug)	No. No suitable habitat present and nearest CNDDDB record is approximately 4 miles NW of site.
<i>Trifolium hydrophilum</i> Saline clover	--/--/1B.2	Known to occur in Alameda, Contra Costa, Colusa, Lake, Monterey, Napa, Sacramento, San Benito, Santa Clara, Santa Cruz, San Joaquin, San Luis Obispo, San Mateo, Solano, Sonoma, and Yolo counties. Unconfirmed in Colusa county.	Found in marshes and swamps, valley and foothill grassland (mesic, alkaline), and vernal pools. Elevations range from 0-300 meters.	April-June	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Triphysaria floribunda</i> San Francisco owl's- clover	--/--/1B.2	Known to occur in Marin, San Francisco, and San Mateo counties.	An annual herb found usually in serpentinite in coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 10-160 meters.	April-June	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Triquetrella californica</i> Coastal triquetrella	--/--/1B.2	Known to occur in Contra Costa, Del Norte, Mendocino, Marin, San Diego, San Francisco, San Mateo, and Sonoma counties.	A moss found in soil in coastal bluff scrub and coastal scrub. Elevation ranges from 10-100 meters.	N/A	No. No suitable habitat present and no CNDDDB records in the vicinity.
ANIMALS					
Amphibians					
<i>Dicamptodon ensatus</i> California giant salamander	--/CSC/--	Known to occur in Mendocino, Lake, Glenn, Sonoma, Marin, San Mateo, Santa Cruz and historically Monterey counties.	Occurs in wet coastal forests near streams and seepages.	N/A	Yes. Suitable habitat is present within the forest habitat along and within Pilarcitos Creek.
<i>Rana aurora draytonii</i> California red-legged frog	FT/CSC/--	Known to occur along the Coast from Mendocino County to Baja California, and inland through the northern Sacramento Valley into the foothills of the Sierra Nevada mountains, south to eastern Tulare County, and possibly eastern Kern County.	Occurs in permanent and temporary pools of streams, marshes, and ponds with dense grassy and/or shrubby vegetation. Elevations range from 0-1160 meters	November – March (breeding) June - August (non-breeding)	Yes. Species was detected on site on July 16, 2014. Site is located within designated critical habitat. Suitable habitat is present adjacent to and within Pilarcitos Creek.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/ CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
Birds					
<i>Athene cunicularia</i> Burrowing owl	--/CSC/--	Formerly common within the described habitats throughout the state except the northwest coastal forests and high mountains.	Yearlong resident of open, dry grassland and desert habitats, as well as in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats.	All Year	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Brachyramphus marmoratus</i> Marbled murrelet	FT,CH/--/--	Found from the western Aleutian Islands through coastal southern and southeastern Alaska, British Columbia, Washington, Oregon, and northern central California NatureServe, 2011).	<p>Generally nests from May through early August. Outside of the breeding season, found in coastal areas, mainly in salt water within 2 km of shore, including bays and sounds. Nests in trees in terrestrial habitat including alpine, conifer forest, and Tundra. In general, murrelets nest in old-growth trees that include a relatively flat platform large enough to support an egg within the upper live crown, usually in redwood or Douglas-fir trees.</p> <p>In the bay area region, platforms were restricted to redwood and Douglas-fir trees (Halbert et. al, 2017). A suitable platform must provide concealment for the nest, be a defensible space for a chick, must allow ready access to parents. In the Santa Cruz Mountains, larger trees occur in canyon bottoms or lower slopes where soils are deeper and more water is available during the dry season (Moore and Singer, 2014).</p> <p>In northern California, distance to paved roadways was found to correlate with nest site use, with nests being more common far from roads (Golightly, Hamilton, and Hebert, 2009). In northern California, the number of down logs in a stand was correlated with murrelet nest success and nests were more likely to be successful in stands with a greater number of downed logs (Golightly, Hamilton, and Hebert, 2009).</p>	Year round	Yes. Suitable nesting habitat is present on-site in the coniferous forest. The species has been detected in the Pilarcitos Creek Watershed but has not been detected directly on the site (ARA, 2017). Designated critical habitat occurs approximately 1.5 miles NW of the site.
<i>Charadrius alexandrinus nivosus</i> Western snowy plover	FT/CSC/--	The Pacific coast breeding population of the western snowy plover (<i>Charadrius alexandrinus nivosus</i>) currently extends from Damon Point, Washington, to Bahia Magdalena, Baja California, Mexico. The snowy plover winters mainly in coastal areas from southern Washington to Central America. (72 FR 184).	Snowy plovers (Pacific coast population) breed primarily above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. In winter, snowy plovers are found on many of the beaches used for nesting as well as on beaches where they do not nest, in manmade salt ponds, and on estuarine sand and mud flats. (72 FR 184)	All Year	No. No suitable habitat present and no CNDDDB records in the vicinity.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/ CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
<i>Falco columbarius</i> Merlin	--/WL/--	Known to occur in Butte, Fresno, Imperial, Kern, Los Angeles, Merced, Sacramento, San Benito, San Joaquin, San Luis Obispo, San Mateo, and Stanislaus counties.	Found in a wide variety of habitats including marshes, deserts, seacoasts, near coastal lakes and lagoons, open woodlands, fields, etc. May roost in conifers in winter.	April-May	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Falco peregrinus anatum</i> American peregrine falcon	--/FP/--	Active nesting sites known along the coast north of Santa Barbara and other mountains in northern California.	Breeds mostly in woodland, forest, and coastal habitats near water on high cliffs or banks. Will nest on man-made structures and in the hollows of old trees or open tops of cypress, sycamore or cottonwood trees 50-90 feet above the ground.	Year Round (some migrate)	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Geothlypis trichas sinuosa</i> Salt-marsh common yellowthroat	--/CSC/--	Breeding range bounded by Tomales Bay on the north, Carquinez Strait on the east, and Santa Cruz county to south, with occurrences in the Bay Area during migration and winter.	Salt, brackish, and freshwater marshes. Nests just above ground or over water, in thick herbaceous vegetation, often at base of shrub or sapling, sometimes higher in weeds or shrubs up to about 1 m.	March-July	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Laterallus jamaicensis coturniculus</i> California black rail	--/CT, FP/--	In coastal California during breeding season, presently found at Bodega Bay, Tomales Bay, Bolinas Lagoon, San Francisco Bay estuary, and Morro Bay. Overwhelming majority of birds in San Francisco Bay (San Pablo Bay) at relatively few sites. Occurs irregularly south to Baja California. Inland in small numbers in Salton Trough and on lower Colorado River from Bill Williams River (historically) to Laguna Dam	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation. Uses sites with shallower water than other North American rails. Most breeding areas vegetated by fine-stemmed emergent plants, rushes, grasses, or sedges. Sites used in coastal California characterized by taller vegetation, greater coverage and height of alkali heath (<i>Frankenia grandifolia</i>).	All Year	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Melospiza melodia pusillula</i> Alameda song sparrow	--/CSC/--	Known to occur in areas bordering southern and eastern fringes of San Francisco bay.	Commonly found in saltmarsh, brackish marsh, and fringe areas, where marsh vegetation is limited to edges of dikes, landfills, or other margins of high ground bordering salt or brackish water areas.	All Year	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Phalacrocorax auritus</i> double-crested cormorant	--/WL/--	A yearlong resident along the entire coast of California and on inland lakes, in fresh, salt and estuarine waters.	Colonial nester on coastal cliffs, offshore islands and along lake margins in the interior of the state. Prefers water less than 9 meters deep with rocky or gravel bottom. Roosts beside water on offshore rocks, islands, steep cliffs, dead branches of trees, wharfs, jetties, or transmission lines. Perching sites must be barren of vegetation.	All Year	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Phoebastrix albatrus</i> Short-tailed albatross	FE	Nests on islands off southern Japan and very rare visitor along western coast California.	Requires remote islands for breeding habitat; nests in open, treeless areas with low, or no, vegetation. Spend much of their time feeding in shelf-break areas of the Bering Sea, Aleutian chain and in other Alaskan, Japanese and Russian waters, as they require nutrient-rich areas of ocean upwelling for their foraging habitat.	December-July	No. No suitable habitat present and no nesting CNDDDB records in the vicinity.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/ CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
<i>Rallus longirostris obsoletus</i> California clapper rail	FE/CE, FP/--	Locally common yearlong in coastal wetlands and brackish areas around San Francisco Bay.	In saline emergent wetlands, nests mostly in lower zones, where cordgrass is abundant and tidal sloughs are nearby. Builds a platform concealed by a canopy of woven cordgrass stems or pickleweed and gumweed. Also uses dead drift vegetation as platform. In fresh or brackish water, builds nest in dense cattail or bulrush. Forages in higher marsh vegetation, along vegetation and mudflat interface, and along tidal creeks.	All year	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Sterna antillarum browni</i> California least tern	FE/CE, FP/--	Found along the Pacific Coast of California, from San Francisco southward to Baja California.	Nest in colonies on relatively open beaches kept free of vegetation by natural scouring from tidal action.	All year	No. No suitable habitat present and no CNDDDB records in the vicinity.
Fish					
<i>Eucyclogobius newberryi</i> Tidewater goby	FE/CSC/--	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River.	Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water & high oxygen levels.	Consult Agency	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Hypomesus transpacificus</i> Delta smelt	FT/CT/--	Occurs almost exclusively in the Sacramento-San Joaquin estuary, from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties. May also occur in the San Francisco Bay.	Estuarine waters. Majority of life span is spent within the freshwater outskirts of the mixing zone (saltwater-freshwater interface) within the Delta.	Consult Agency	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Oncorhynchus mykiss</i> Steelhead - Northern California Coast DPS summer-run	--/CSC/--	Northern California coastal summer steelhead are patchily distributed in Redwood Creek, and the Mad, Van Duzen, Middle Fork Eel, and Mattole Rivers. It is possible they also remain in the North Fork Eel, Upper Mainstem Eel, and South Fork Eel Rivers.	Require adequate flows to reach the cool waters of over-summering habitats. Steep well-shaded, narrow tributaries and deep pools with ledges, caverns, and bubble curtains are optimal.	Consult Agency	No. Pilarcitos Creek is outside the range of this DPS and does not provide suitable habitat to support summer-run steelhead.
<i>Oncorhynchus mykiss</i> Steelhead-Central California Coast DPS	FT/--/--	Central California Coastal ESU, spawns in drainages from the Russian River basin, Sonoma and Mendocino Counties, to Soquel Creek, Santa Cruz County (including the San Francisco Bay basin, but not the Sacramento and San Joaquin Rivers or their tributaries).	Found in cool, clear, fast-flowing permanent streams and rivers with riffles and ample cover from riparian vegetation or overhanging banks. Spawning: streams with pool and riffle complexes. For successful breeding, requires cold water and gravelly streambed.	Consult Agency	Yes. Pilarcitos Creek is designated critical habitat. Nearest CNDDDB record is approximately 2 miles E of the site.
<i>Oncorhynchus kisutch</i> Coho salmon-Central California Coast ESU	FE, CH/SE/-	Federal listing is for populations between Punta Gorda and San Lorenzo River; State listing is for populations south of Punta Gorda.	Found in cool, clear, fast-flowing permanent streams and rivers with riffles and ample cover from riparian vegetation or overhanging banks. Spawning: streams with pool and riffle complexes. For successful breeding, requires cold water and gravelly streambed.	Consult Agency	Yes. Pilarcitos Creek is designated critical habitat. No records exist for this species in the area.
<i>Spirinchus thaleichthys</i> Longfin smelt, Bay-Delta DPS	FC/CT/--	Range in California includes: Slightly upstream from Rio Vista (on the Sacramento River in the Delta) including the Cache Slough region and Medford Island (on the San Joaquin River in the Delta) through Suisun Bay and Suisun Marsh, San Pablo Bay, San Francisco Bay (main), South San	Occurs in benthic habitat within medium and large low-grade river systems. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	Consult Agency	No. No suitable habitat present and no CNDDDB records in the vicinity.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/ CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
		Francisco Bay, The Gulf of the Farallones, just outside of the Golden Gate, Humboldt Bay, and Eel river estuary and local coastal areas			
Invertebrates					
<i>Incisalia mossii bayensis</i> San Bruno elfin butterfly	FE/--/--	Found in coastal mountains near San Francisco Bay, in the fog-belt of steep north facing slopes that receive little direct sunlight. All known locations are restricted to San Mateo County, where several populations are known from San Bruno Mountain, Milagra Ridge, the San Francisco Peninsula Watershed and Montara Mountain.	The San Bruno Elfin Butterfly inhabits rocky outcrops and cliffs in coastal scrub on the San Francisco peninsula. Its host plant, stonecrop (<i>Sedum spathulifolium</i>) occurs between 274-328 meters although it also has been known to eat Montara Mountain manzanita (<i>Arctostaphylos montaraensis</i>) and huckleberry (<i>Vaccinium ovatum</i>). Adult food plants have not been fully determined.	Adults emerge in early spring, in February and March. Dormant in loose top soil from June until February of the following year.	No. No suitable habitat present and nearest CNDDDB record is approximately 5 miles NW of the site.
<i>Plebejus icarioides missionensis</i> Mission blue butterfly	FE/--/--	Known only from a few small populations located at Twin Peaks in San Francisco County, Fort Baker in Marin County, and San Bruno Mountain in San Mateo County.	Coastal chaparral and coastal prairie communities, typically within the fog-belt of the coastal range. Larval food plant is lupine (<i>Lupinus albifrons</i> , <i>L. formosus</i> , and <i>L. variicolor</i>). Adults feed on lupine, hairy golden aster (<i>Heterotheca villosa</i>), blue dicks (<i>Dichelostemma capitatum</i>), and buckwheat (<i>Eriogonum latifolium</i>). Elevations; 210-360 meters.	March-July (mating flight) Wet Season (larvae)	No. No suitable habitat present and nearest CNDDDB record is approximately 5 miles N of the site.
<i>Speyeria zerene myrtleae</i> Myrtle's silverspot butterfly	FE/--/--	Restricted to Point Reyes peninsula; extirpated from coastal San Mateo County.	Foggy, coastal dunes/hills. Larval foodplant thought to be <i>Viola adunca</i> .	Consult Agency	No. No suitable habitat present and extirpated from coastal San Mateo County CNDDDB.
Mammals					
<i>Antrozous pallidus</i> Pallid bat	--/CSC/--	Locally common species at low elevations. It occurs throughout California except for the high Sierra Nevada from Shasta to Kern counties, and the northwestern corner of the state from Del Norte and western Siskiyou counties to northern Mendocino county.	Habitats occupied include grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests, generally below 2,000 meters. The species is most common in open, dry habitats with rocky areas for roosting. Roosts also include cliffs, abandoned buildings, bird boxes, under exfoliating bark, and under bridges.	Year-round	Yes. Suitable habitat present within the forest habitat. No CNDDDB record present in the vicinity.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	--/CCT; CSC/--	Known to occur throughout California, excluding subalpine and alpine habitats. Its range extends through Mexico to British Columbia and the Rocky Mountain states. Also occurs in several regions of the central Appalachians.	Requires caves, mines, tunnels, buildings, or other cave analog structures such as hallowed out redwoods for roosting. Hibernation sites must be cold, but above freezing.	Year-round	Yes. Suitable habitat present within the forest habitat. No CNDDDB record present in the vicinity.
<i>Enhydra lutris nereis</i> southern sea otter	FT/--/--	Found in nearshore marine environments from Half Moon Bay, San Mateo County to Point Conception along the coast of central and southern California.	Occupy hard- and soft-sediment marine habitats from the littoral zone to depths of less than 100 meters, including protected bays and exposed outer coasts. Most individuals occur between shore and the 20-meter depth contour.	All Year	No. No suitable habitat present and no CNDDDB records in the vicinity.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/ CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
<i>Neotoma fuscipes annectens</i> San Francisco dusky- footed woodrat	--/CSC/--	Known to occur historically in San Mateo County and the San Francisco Bay watershed.	Riparian areas along streams and rivers. Requires areas with a mix of brush and trees.	Year Round	Yes. Suitable habitat present on-site along Pilarcitos Creek. A nest was observed during 2014 surveys. The nearest CNDDDB record is approximately 2.5 miles S of the site.
<i>Nyctinomops macrotis</i> big free-tailed bat	--/CSC/--	Rare in California. Records of the species are from urban areas of San Diego Co., and vagrants found in fall and winter. A probable vagrant was collected in Alameda Co., but this record is suspect.	Big free-tailed bats in other areas prefer rugged, rocky terrain. Found to 2500 m (8000 ft) in New Mexico, southern Arizona, and Texas. Roosts in buildings, caves, and occasionally in holes in trees. Also roosts in crevices in high cliffs or rock outcrop. Probably does not breed in California.	May - September	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Reithrodontomys raviventris</i> Salt marsh harvest mouse	FE/CE, FP/--	Only found in the saline emergent wetlands of San Francisco Bay and its tributaries.	Critically dependent on dense cover and their preferred habitat is pickleweed (<i>Salicornia virginica</i>). Seldom found in cordgrass or alkali bulrush. In marshes with an upper zone of peripheral halophytes (salt-tolerant plants), mice use this vegetation to escape the higher tides, and may even spend a considerable portion of their lives there. Mice also move into the adjoining grasslands during the highest winter tides.	All Year	No. No suitable habitat present and no CNDDDB records in the vicinity.
<i>Taxidea taxus</i> American badger	--/CSC/--	Found throughout most of California in suitable habitat.	Suitable habitat occurs in the drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Badgers are generally associated with treeless regions, prairies, parklands, and cold desert areas.	All Year	No. No suitable habitat present and no CNDDDB records in the vicinity.
Reptiles					
<i>Emys marmorata</i> Western pond turtle	--/CSC/--	Distribution ranges from Washington to northern Baja California.	Inhabit rivers, streams, lakes, ponds, reservoirs, stock ponds, and permanent and ephemeral wetland habitats.	Year-round	Yes. No breeding habitat present on site but individuals moving upland may pass through the study area. Nearest CNDDDB record is approximately 1 miles from the site.
<i>Thamnophis sirtalis tetrataenia</i> San Francisco garter snake	FE/--/--	Known to occur slightly north of the San Francisco-San Mateo County line near Merced Lake south along the base of the Santa Cruz Mountains to Waddell Creek.	Requires open grassy uplands and/or a grassland/shrubland matrix for breeding and shallow freshwater marshlands with adequate emergent vegetation.	March - July	Yes. No suitable habitat present within the project site. However, migrating or foraging individuals may occur. CNDDDB record is approximately 0.5 miles W of the site at Upper Crystal Springs Reservoir.

STATUS CODES

STATUS CODES

FEDERAL: USFWS and NMFS

FE Listed as Endangered by the Federal Government
FT Listed as Threatened by the Federal Government
FC Candidate for Federal Listing

STATE: CDFW

CE Listed as Endangered by the State of California
CT Listed as Threatened by the State of California
CCT Candidate for Listing as Threatened
CSC California Species of Special Concern

OTHER: CNPS

CRPR 1B Plants rare or endangered in California and elsewhere
CRPR 2 Plants rare or endangered in California, but more common elsewhere

Threat Ranks

0.1-Seriously threatened in California (high degree/immediacy of threat)
0.2-Fairly threatened in California (moderate degree/immediacy of threat)

ATTACHMENT C

SOILS REPORT

Custom Soil Resource Report for San Mateo Area, California



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

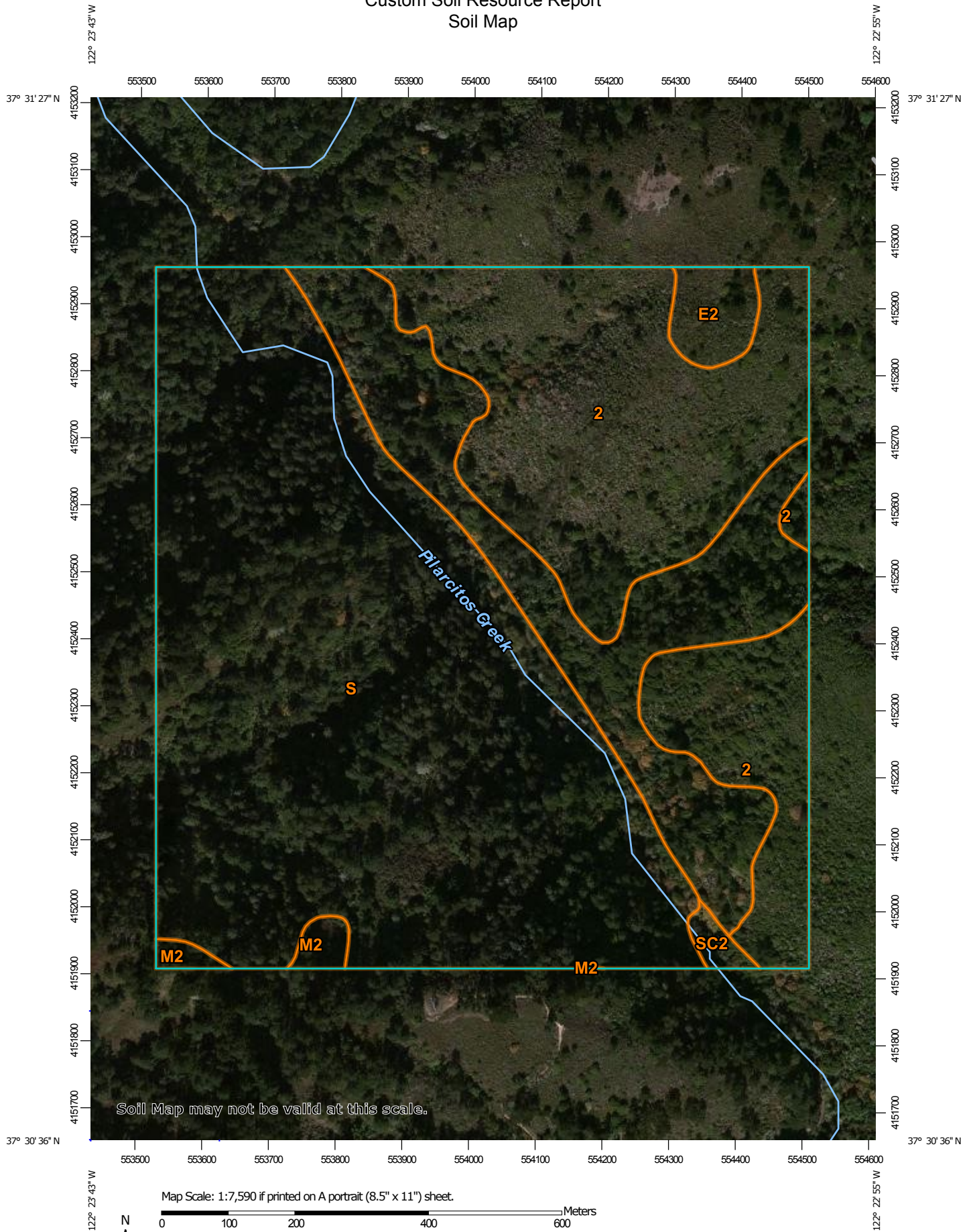
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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.


Map Scale: 1:7,590 if printed on A portrait (8.5" x 11") sheet.

0 100 200 400 600 Meters
0 350 700 1400 2100 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils







 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Mateo Area, California
 Survey Area Data: Version 10, Sep 12, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 26, 2010—Sep 17, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

San Mateo Area, California (CA637)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
GcE2	Gazos (dark phase)-Calera loams, steep, eroded	4.3	1.7%
GcF2	Gazos (dark phase)-Calera loams, very steep, eroded	70.1	27.6%
HuF	Hugo and Josephine loams, very steep	39.1	15.4%
MmF2	Miramar coarse sandy loam, very steep, eroded	2.2	0.9%
ShF	Sheridan coarse sandy loam, very steep	137.3	54.0%
SkC2	Soquel loam, sloping, eroded	1.3	0.5%
Totals for Area of Interest		254.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

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was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Mateo Area, California

GcE2—Gazos (dark phase)-Calera loams, steep, eroded

Map Unit Setting

National map unit symbol: h9xl
Elevation: 50 to 2,380 feet
Mean annual precipitation: 15 to 30 inches
Mean annual air temperature: 54 to 63 degrees F
Frost-free period: 200 to 325 days
Farmland classification: Not prime farmland

Map Unit Composition

Gazos, (dark phase), and similar soils: 40 percent
Calera and similar soils: 40 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gazos, (dark Phase)

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Shale

Typical profile

H1 - 0 to 12 inches: loam
H2 - 12 to 24 inches: silt loam
H3 - 24 to 28 inches: unweathered bedrock

Properties and qualities

Slope: 31 to 45 percent
Depth to restrictive feature: 24 to 28 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Calera

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope

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Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from limestone

Typical profile

H1 - 0 to 10 inches: loam
H2 - 10 to 30 inches: clay loam
H3 - 30 to 34 inches: unweathered bedrock

Properties and qualities

Slope: 31 to 45 percent
Depth to restrictive feature: 30 to 34 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Sweeney

Percent of map unit: 10 percent
Hydric soil rating: No

Lobitos

Percent of map unit: 10 percent
Hydric soil rating: No

GcF2—Gazos (dark phase)-Calera loams, very steep, eroded

Map Unit Setting

National map unit symbol: h9xm
Elevation: 50 to 2,380 feet
Mean annual precipitation: 15 to 30 inches
Mean annual air temperature: 54 to 63 degrees F
Frost-free period: 200 to 325 days
Farmland classification: Not prime farmland

Map Unit Composition

Gazos, (dark phase), and similar soils: 40 percent

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Calera and similar soils: 40 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gazos, (dark Phase)

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Shale

Typical profile

H1 - 0 to 12 inches: loam

H2 - 12 to 24 inches: silt loam

H3 - 24 to 28 inches: unweathered bedrock

Properties and qualities

Slope: 45 to 75 percent

Depth to restrictive feature: 24 to 28 inches to lithic bedrock

Natural drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C

Hydric soil rating: No

Description of Calera

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Residuum weathered from limestone

Typical profile

H1 - 0 to 10 inches: loam

H2 - 10 to 30 inches: clay loam

H3 - 30 to 34 inches: unweathered bedrock

Properties and qualities

Slope: 45 to 75 percent

Depth to restrictive feature: 30 to 34 inches to lithic bedrock

Natural drainage class: Well drained

Runoff class: High

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Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Sweeney

Percent of map unit: 10 percent

Hydric soil rating: No

Lobitos

Percent of map unit: 10 percent

Hydric soil rating: No

HuF—Hugo and Josephine loams, very steep

Map Unit Setting

National map unit symbol: h9y7

Elevation: 500 to 2,380 feet

Mean annual precipitation: 30 to 70 inches

Mean annual air temperature: 45 to 57 degrees F

Frost-free period: 100 to 300 days

Farmland classification: Not prime farmland

Map Unit Composition

Hugo and similar soils: 40 percent

Josephine and similar soils: 40 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hugo

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Sandstone; shale

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Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 45 inches: gravelly loam
H3 - 45 to 49 inches: weathered bedrock

Properties and qualities

Slope: 45 to 75 percent
Depth to restrictive feature: 45 to 49 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Josephine

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Sandstone; shale

Typical profile

H1 - 0 to 12 inches: loam
H2 - 12 to 47 inches: clay loam
H3 - 47 to 51 inches: weathered bedrock

Properties and qualities

Slope: 45 to 75 percent
Depth to restrictive feature: 47 to 51 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Los gatos

Percent of map unit: 10 percent
Hydric soil rating: No

Laughlin

Percent of map unit: 10 percent
Hydric soil rating: No

MmF2—Miramar coarse sandy loam, very steep, eroded

Map Unit Setting

National map unit symbol: h9zs
Elevation: 200 to 2,000 feet
Mean annual precipitation: 0 to 45 inches
Mean annual air temperature: 54 to 55 degrees F
Frost-free period: 275 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition

Miramar and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Miramar

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Quartz diorite

Typical profile

H1 - 0 to 22 inches: coarse sandy loam
H2 - 22 to 37 inches: sandy clay loam
H3 - 37 to 41 inches: weathered bedrock

Properties and qualities

Slope: 41 to 75 percent
Depth to restrictive feature: 37 to 41 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

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Frequency of ponding: None

Available water storage in profile: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Hydric soil rating: No

Minor Components

Sheridan

Percent of map unit: 10 percent

Hydric soil rating: No

Gullied land

Percent of map unit: 5 percent

Hydric soil rating: No

ShF—Sheridan coarse sandy loam, very steep

Map Unit Setting

National map unit symbol: hb0f

Elevation: 1,000 to 2,380 feet

Mean annual precipitation: 16 to 50 inches

Mean annual air temperature: 57 to 63 degrees F

Frost-free period: 170 to 250 days

Farmland classification: Not prime farmland

Map Unit Composition

Sheridan and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sheridan

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Quartz diorite

Typical profile

H1 - 0 to 5 inches: gravelly coarse sandy loam

H2 - 5 to 38 inches: gravelly coarse sandy loam

H3 - 38 to 42 inches: weathered bedrock

Properties and qualities

Slope: 40 to 75 percent

Depth to restrictive feature: 38 to 42 inches to paralithic bedrock

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Natural drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Hydric soil rating: No

Minor Components

Miramar

Percent of map unit: 10 percent

Hydric soil rating: No

Montara

Percent of map unit: 5 percent

Hydric soil rating: No

SkC2—Soquel loam, sloping, eroded

Map Unit Setting

National map unit symbol: hb0j

Elevation: 20 to 1,000 feet

Mean annual precipitation: 30 inches

Mean annual air temperature: 57 degrees F

Frost-free period: 220 to 275 days

Farmland classification: Not prime farmland

Map Unit Composition

Soquel and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Soquel

Setting

Landform: Flood plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium

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Typical profile

H1 - 0 to 22 inches: loam

H2 - 22 to 56 inches: silt loam

H3 - 56 to 70 inches: loam

Properties and qualities

Slope: 7 to 15 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Moderately well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Hydric soil rating: No

Minor Components

Corralitos

Percent of map unit: 10 percent

Hydric soil rating: No

Farallone

Percent of map unit: 5 percent

Hydric soil rating: No

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ATTACHMENT D

PLANT SPECIES OBSERVED

List of Plant Species Observed in the Project Site

<u>Common Name</u>	<u>Scientific Name</u>
Arroyo willow	Salix lasiolepis
Big leaf maple	Acer macrophyllum
Box elder	Acer negundo
Douglas fir	Pseudotsuga menziesii
Elderberry	Sambucus Mexicana
English plantain	Plantago lanceolata
Giant chain fern	Woodwardia fimbriata
Giant horsetail	Equisetum telmateia
Himalayan blackberry	Rubus armeniacus
Miner's lettuce	Claytonia perfoliata
Bugle Hedge Nettle	Stachys ajugoides
Pacific poison oak	Toxicodendron diversilobum
Poison hemlock	Conium maculatum
Seep monkey flower	Mimulus guttatus
Smooth-leaf dogwood	Cornus glabrata
Stinging nettle	Urtica dioica
Western thimbleberry	Rubus parviflorus
Wild grape	Vitis californica
English ivy	Hedera helix
Nightshade	Solanaceae
Curly dock	Rumex crispus

APPENDIX B

DELINEATION OF WATERS OF THE UNITED STATES



DELINEATION OF WATERS OF THE UNITED STATES
COASTSIDE COUNTY WATER DISTRICT
PILARCITOS PIPELINE

JULY 2017

PREPARED FOR:

Coastside County Water District
Attn: David Dickson, General Manager
766 Main Street
Half Moon Bay, CA 94019
(650) 726-4405



PREPARED BY:

Analytical Environmental Services
1801 7th Street, Suite 100
Sacramento, CA 95811
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www.analyticalcorp.com



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1.0 INTRODUCTION

Coastside County Water District (CCWD) receives water from Stone Dam via a pipeline that follows an existing road grade that roughly parallels Pilarcitos Creek (project site). The steel pipeline (circa 1948) failed several years ago and was replaced with a temporary plastic pipeline. The Proposed Project consists of the removal of a temporary plastic pipeline currently positioned on top of the road and the installation of a permanent buried ductile iron pipeline along the same alignment. The permanent pipeline is proposed to be a 12-inch diameter pipe that is approximately 2,000-foot long.

A delineation of potential wetlands and other Waters of the U.S. was conducted for the approximately 1.61±-acre project site on May 2, 2017. This delineation describes an absence of potentially jurisdictional Waters of the U.S. on the project site that may be subject to regulation by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (CWA).

1.1 PROJECT LOCATION

The project site is located on Pilarcitos Creek Road in San Mateo County, approximately 4 miles northeast of the City of Half Moon Bay (**Figures 1 and 2**). The project site is located within the USGS 7.5 minute topographic quadrangle “Montara Mountain” (USGS, 2017). The project site is approximately 2,335 feet long by 30 feet wide along an existing dirt road across portions of two parcels; Assessor Parcel Number (APN) 093060050 (SFPUC property) in the northern portion and APN 056370080 (CCWD property) in the southern portion.

1.2 PROJECT DESCRIPTION

The Proposed Project consists of the removal of a temporary plastic pipeline currently positioned on top of the road and the installation of a permanent buried ductile iron pipeline along the same alignment. The permanent pipeline is proposed to be a 12-inch diameter pipe that is approximately 2,000-foot long. Installation of the new pipeline will occur in a trench approximately 3 feet wide and 3 feet deep, primarily within an existing dirt road grade. Trenching is proposed to be completed using a small excavator. The original 12-inch welded steel pipeline would be abandoned in place.

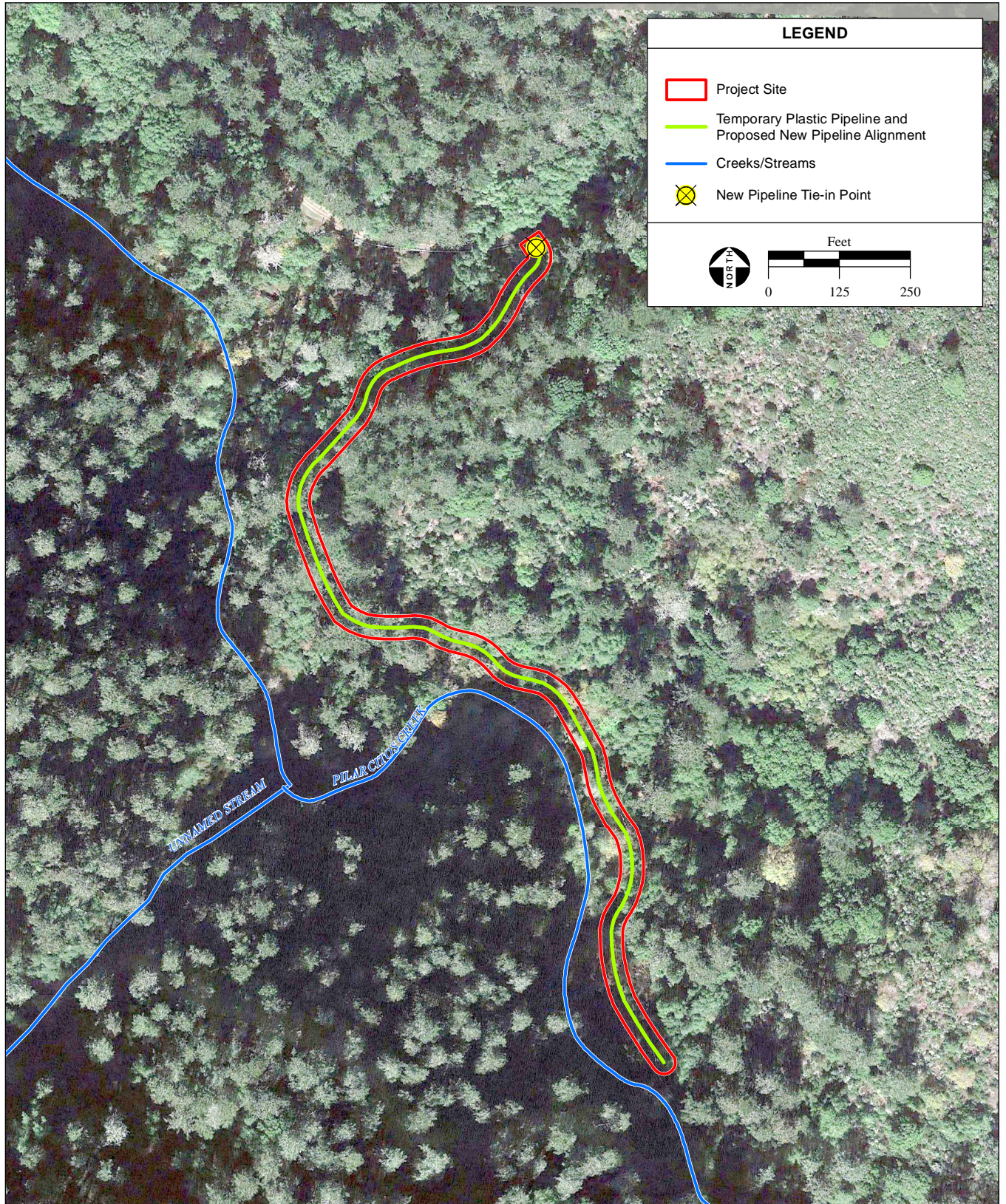
The new pipeline will tie into an existing San Francisco Public Utilities Commission (SFPUC) pipe at the north end and an existing CCWD 1994 pipeline at the south end (**Figure 3**). The tie-in point to the SFPUC system will eliminate pressure issues and facilitate the existing gravity-flow nature of the pipeline. From the SFPUC tie-in point, the remainder of the temporary pipeline is to be removed and replaced with the new underground pipeline. The temporary pipe upstream of the SFPUC tie-in point will also be removed (approximately 330 linear feet). The proposed alignment is within the existing road grade and 35 to 50 feet outside the riparian corridor.

2.0 REGULATORY SETTING

The USACE has primary federal responsibility for administering regulations that concern Waters of the U.S., including wetlands, under CWA Section 404. Section 404 regulates the discharge of dredged and fill material into Waters of the U.S. The USACE requires that a permit be obtained if a project proposes placing structures within, over, or under navigable waters and/or discharging dredged or fill material into



Figure 1
Regional Location



SOURCE: Coastside Water District, 2017, DigitalGlobe Aerial Photograph, 11/2/2016; AES, 5/30/2017

CWD Pilarcitos Creek Waters of the U.S. / 217516 ■

Figure 3
Aerial Photograph of Study Area

waters below the ordinary high water mark (OHWM). The USACE has established a series of nationwide permits (NWPs) that authorize certain activities in Waters of the U.S. Wetlands and other water features that lack a hydrologic connection to navigable Waters of the U.S. and that lack a nexus to interstate and foreign commerce are not regulated by the CWA and do not fall under the jurisdiction of the USACE; such features are called “isolated.” Section 10 of the Rivers and Harbors Act of 1899 prohibits the obstruction or alteration of navigable Waters of the U.S. without a permit from the USACE (33 U.S. Code 403).

In addition, a Section 401 Water Quality Certification process was established to comply with CWA Sections 301, 302, 303, 306 and 307 and is typically regulated by the applicable Regional Water Quality Control Board (RWQCB) under delegated authority from the U.S. Environmental Protection Agency (EPA). If the land is acquired into federal trust, the EPA will become the lead agency for the 401 process. Any applicant proposing to conduct a project that may result in a discharge to U.S. surface waters and/or “waters of the state,” including wetlands (all types), year-round and seasonal streams, lakes, and all other surface waters, would require a federal permit or water quality certification. At a minimum, any beneficial uses lost must be replaced through a mitigation project of at least equal function, value, and area.

Waters of the U.S. are defined as follows (CWA Section 404; 33 Code of Federal Regulations [CFR] Part 328):

All waters used in interstate or foreign commerce; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; or wetlands adjacent to these waters..

The limit of USACE jurisdiction for non-tidal waters (including non-tidal perennial and intermittent watercourses and tributaries to such watercourses) in the absence of adjacent wetlands is defined by the OHWM. The OHWM is defined as follows (CWA Section 404; 33 CFR Part 328):

The line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Wetlands are defined as follows (CWA Section 404; 33 CFR Part 328):

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.

The USACE and EPA issued the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* on May 30, 2007, to provide guidance based on the U.S. Supreme Court’s

decision regarding *Rapanos v. United States* and *Carabell v. United States* (Rapanos decision) [*Rapanos vs. U.S.*, No. 04-1034 (June 19, 2006) and *Carabell vs. U.S.*, No. 04-1384 (September 27, 2004); USACE and EPA, 2007]. The decision provides standards that distinguish between traditional navigable waters (TNWs), relatively permanent waters (RPWs) with perennial or seasonal flows, and non-relatively permanent waters (non-RPWs). Wetlands and non-TNWs adjacent to TNWs are subject to CWA jurisdiction if: (a) the water body is relatively permanent; (b) a water body abuts or is tributary to an RPW; or (c) a water body, in combination with all wetlands adjacent to that water body, has a significant nexus with TNWs. The significant nexus standard is based on evidence applicable to ecology, hydrology, and the influence of the water on the “chemical, physical, and biological integrity of downstream traditional navigable waters” (USACE, 2008a). Isolated wetlands are not subject to CWA jurisdiction based on the U.S. Supreme Court’s decision regarding the Solid Waste Agency of Northern Cook County (SWANCC decision) [*Solid Waste Agency of Northern Cook County vs. U.S. Army Corps of Engineers*, No. 99-1178, January 9, 2001; U.S. Department of Energy, 2003].

In addition, ditches (including roadside ditches) that are excavated wholly within and drain only uplands and that do not carry a relatively permanent flow of water are generally not considered Waters of the U.S. because they are not tributaries to or have a significant nexus to downstream TNWs (45, 48, and 51 Federal Register Subsections 62732, 62747, 21466, 21474, 41206, and 41217). The December 2008 memorandum summarizing key points of the Rapanos Guidance also states that agencies generally will not assert jurisdiction over ditches (including roadside ditches) that are excavated wholly within and drain only uplands and that do not carry a relatively permanent flow of water (USACE and EPA, 2007).

USACE Regulatory Guidance Letter 07-01 (RGL 07-1), *Practices for Documenting Jurisdiction Under Section 9 & 10 of the Rivers and Harbors Act of 1899 and Section 404 of the CWA* (USACE, 2007), states that upland swales and erosional features (e.g., gullies, small washes characterized by low-volume, infrequent, and short-duration flow) are generally not Waters of the U.S. because they are not tributaries to or have a significant nexus to downstream TNWs.

3.0 METHODOLOGY

The information presented in this report was prepared in accordance with the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987); the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Region Supplement) (USACE, 2008a); *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (USACE, 2016); and the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979). A color aerial photograph (DigitalGlobe, 2014) was used in the field to assist with the delineation. The *Munsell Soil Color Charts* (Kollmorgen Instruments Co., 1990) were used in the field to identify hydric soils. Plant identification and nomenclature followed *The Jepson Manual: Higher Plants of California* (Hickman, 1993) and the *Arid West 2014 Regional Plant List* (Lichvar et al, 2014). Site photographs of the study area are included as **Attachment A**.

3.1 DELINEATION

On May 2, 2017, AES biologists Nicholas Bonzey and Mark Ashenfelter conducted a delineation of the project site. The entire project site was surveyed to determine the locations of potential Waters of the

U.S. Approximately 20 feet on either side of the proposed pipeline alignment was assessed. Because no Waters of the U.S. were located in the project site, no paired sample points for wetland determination were collected. Pilarcitos Creek can be identified using OHWM criteria outlined in the *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE, 2008b), but was found to be outside of the project site.

3.2 ROUTINE DETERMINATIONS

Potential wetlands within the project site were evaluated based on the following three parameter criteria:

- The majority of dominant plant species are wetland-associated species;
- Hydric soils are present; and
- Hydrologic conditions exist that result in periods of flooding, ponding, or saturation during the growing season.

Other Waters of the U.S. were evaluated based on OHWM characteristics.

3.3 VEGETATION

Hydrophytic vegetation is defined as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce soils that are permanently or periodically saturated for sufficient duration to exert a controlling influence on the plant species present (Environmental Laboratory, 1987). Prevalent vegetation is characterized by the dominant plant species comprising the plant community. The dominance test is the basic hydrophytic vegetation indicator and was utilized at each data point location. The “50/20 rule” was used to select the dominant plant species from each stratum of the vegetation community. This rule states that for each stratum in the community, dominant plant species are the most abundant species (when ranked in descending order of coverage and cumulatively totaled) that immediately exceed 50 percent of the total coverage for the stratum, plus any additional plant species that individually comprise 20 percent or more of the total stratum (USACE, 2008a).

Because the only potential wetland or Water of the U.S. (Pilarcitos Creek) was located outside of the project site, vegetation information was not collected. Traditionally, blue-line streams can be delineated based on the presence of an OHWM and definitive bed and bank characteristics, absent traditional wetland vegetation signatures.

3.4 SOILS

Hydric soils are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil (Natural Resources Conservation Service [NRCS], 2010). Frequently observed indicators of hydric soils include (but are not limited to) histosols, histic epipedon, hydrogen sulfide, stratified layers, depleted below dark surface, depleted matrix, redox dark surface, depleted dark surface, and redox depressions (USACE, 2008a). Because the only Water of the U.S. observed was Pilarcitos Creek, which is outside of the project site, soils information was not collected. Traditionally, blue-line streams can be delineated based on the presence of an OHWM, absent traditional hydric soil signatures.

3.5 HYDROLOGY

Wetlands are generally depressions in the landscape that are seasonally or perennially inundated or saturated at or near (within 12 inches of) the soil surface. Primary indicators of wetland hydrology include (but are not limited to) visual observation of surface water, high water table, saturation, water marks (non-riverine), sediment deposits (non-riverine), drift deposits (non-riverine), surface soil cracks, inundation visible on aerial imagery, water-stained leaves, salt crust, biotic crust, aquatic invertebrates, hydrogen sulfide odor, and oxidized rhizospheres along living roots. Secondary indicators of wetland hydrology include water marks (riverine), sediment deposits (riverine), drainage patterns, dry-season water table, and crayfish burrows (USACE, 2008a). Observation of at least one primary indicator or two secondary indicators is required to confirm the presence of wetland hydrology for each feature. No such features were observed within the study site.

4.0 ENVIRONMENTAL SETTING

The project site is located in the central portion of northern San Mateo County on the Pacific Ocean side of the San Francisco Peninsula. San Mateo County has a semi-arid Mediterranean climate regime characterized by hot, dry, sunny summers and cool, rainy winters. The monthly average high temperature range for San Mateo County is approximately 58 to 82 degrees Fahrenheit (°F). The average annual precipitation for the county is approximately 20.45 inches, with a monthly maximum of approximately 4.09 inches during the month of February.

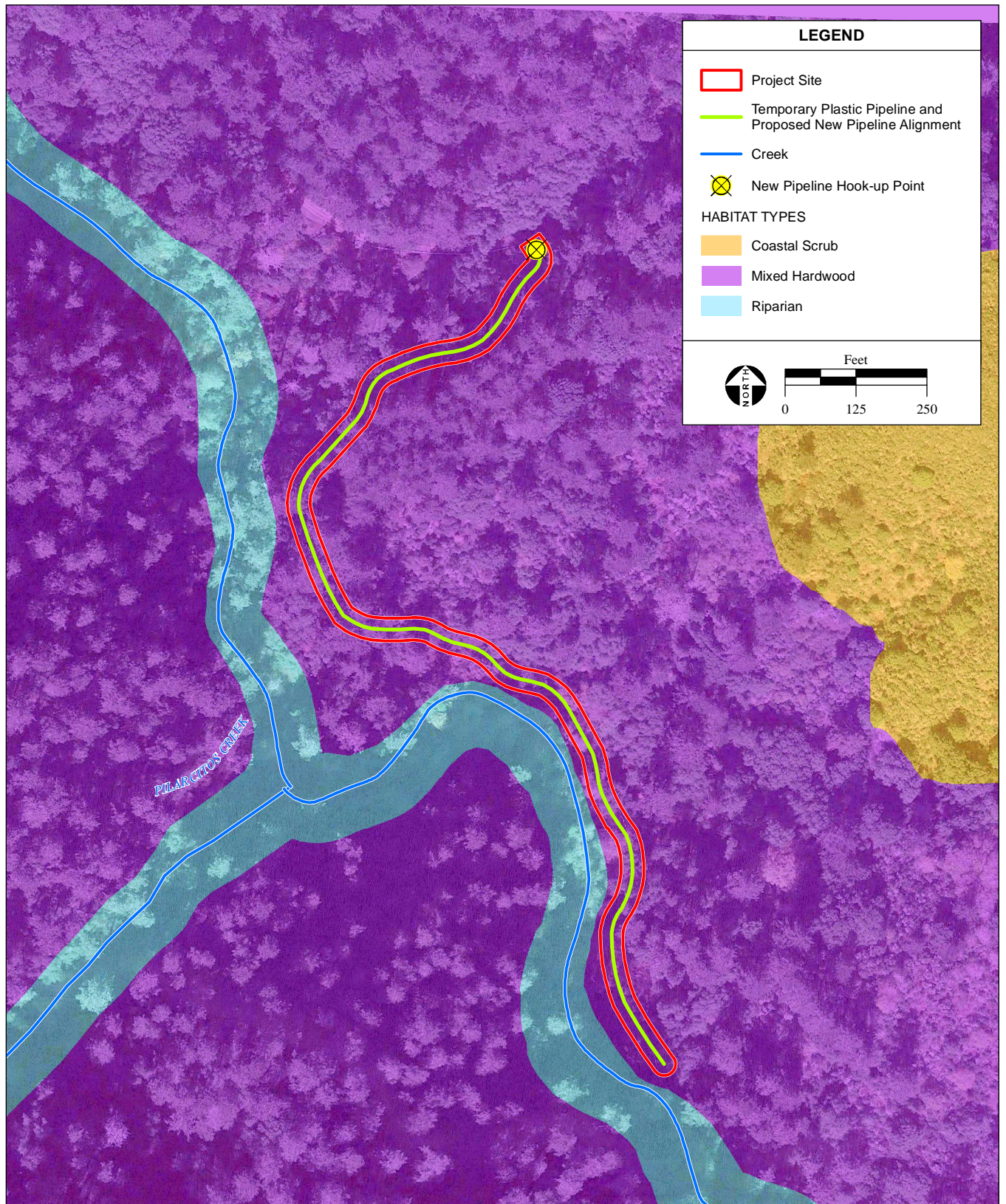
The project site is composed of steep hillslopes and is situated at elevations that range from approximately 300 to 600 feet above mean sea level. Pilarcitos Creek, a tributary to the Pacific Ocean, flows southward in the vicinity of the project site then turning westward near State Route 92 before reaching the Pacific Ocean near the City of Half Moon Bay. The project site is situated in a rural and open space setting in the mountains east of Half Moon Bay. The surrounding land is owned by CCWD and/or San Francisco Public Utilities Commission (SFPUC). The land is predominately undeveloped mixed coastal forest.

4.1 HABITAT TYPES

The project site is within a coastal forest habitat type. Riparian habitat exists in the immediate area surrounding Pilarcitos Creek, however, all activities associated with the Proposed Project occur outside the riparian corridor. A map that illustrates the terrestrial and aquatic habitat types within and adjacent to the project site is presented as **Figure 4**.

Coastal Forest

The project site and existing road grade occur in a mixed coastal forest. The primary canopy species observed included coast redwood (*Sequoia sempervirens*), douglas fir (*Pseudotsuga menziesii*), California bay (*Umbellularia californica*), big leafed maple (*Acer macrophyllum*), and sparse oak trees (*Quercus* ssp). The understory was primarily comprised of giant chain fern (*Woodwardia fimbriata*), stinging nettle (*Urtica dioica*), poison oak (*Toxicodendron*), elderberry (*Sambucus*), willow (*Salix*), and other herbaceous shrubs.



SOURCE: Coastside Water District, 2017, DigitalGlobe Aerial Photograph, 11/2/2016; AES, 7/24/2017

CCWD Pilarcitos Creek Waters of the U.S. / 217516 ■

Figure 4
Habitat Types

4.2 SOIL TYPE

According to the NRCS online Soil Survey of San Mateo County, California, soils along the entirety of the project site are composed of the Hugo and Josephine loams complex and the Sheridan coarse sandy loam soil series. These are well-drained soils usually present on steep slopes and are derived from sandstone and shale parent material. No hydric soils were found to be present in the project site. A map that illustrates the extent of the soil types within the project site is provided in **Figure 5**. A soil report is included in **Attachment B**.

4.3 NATIONAL WETLANDS INVENTORY

The USFWS National Wetlands Inventory (NWI) was used to identify any previously mapped aquatic features within the project site (USFWS, 1987). The NWI map depicts three intermittent channels crossing the project site. During the May 2, 2017 site assessment none of these features met the criteria of being a wetland or Water of the U.S. None of these intermittent features contained identifiable bed or bank, presence of an OHWM, hydric soils, or hydrophytic vegetation. The NWI map of the project site is shown in **Figure 6**.

4.4 LOCAL HYDROLOGY

The project site lies on the east side of the Pilarcitos Creek watershed. Water primarily drains west off the hillslope towards the creek bed, eventually flowing to the Pacific Ocean near the City of Half Moon Bay. Annual discharge from Stone Dam, upstream of the project site, ranges from 0.31 to 7.63 cubic feet per second (cfs), with peak flows typically occurring from December through March (USGS, 2017).

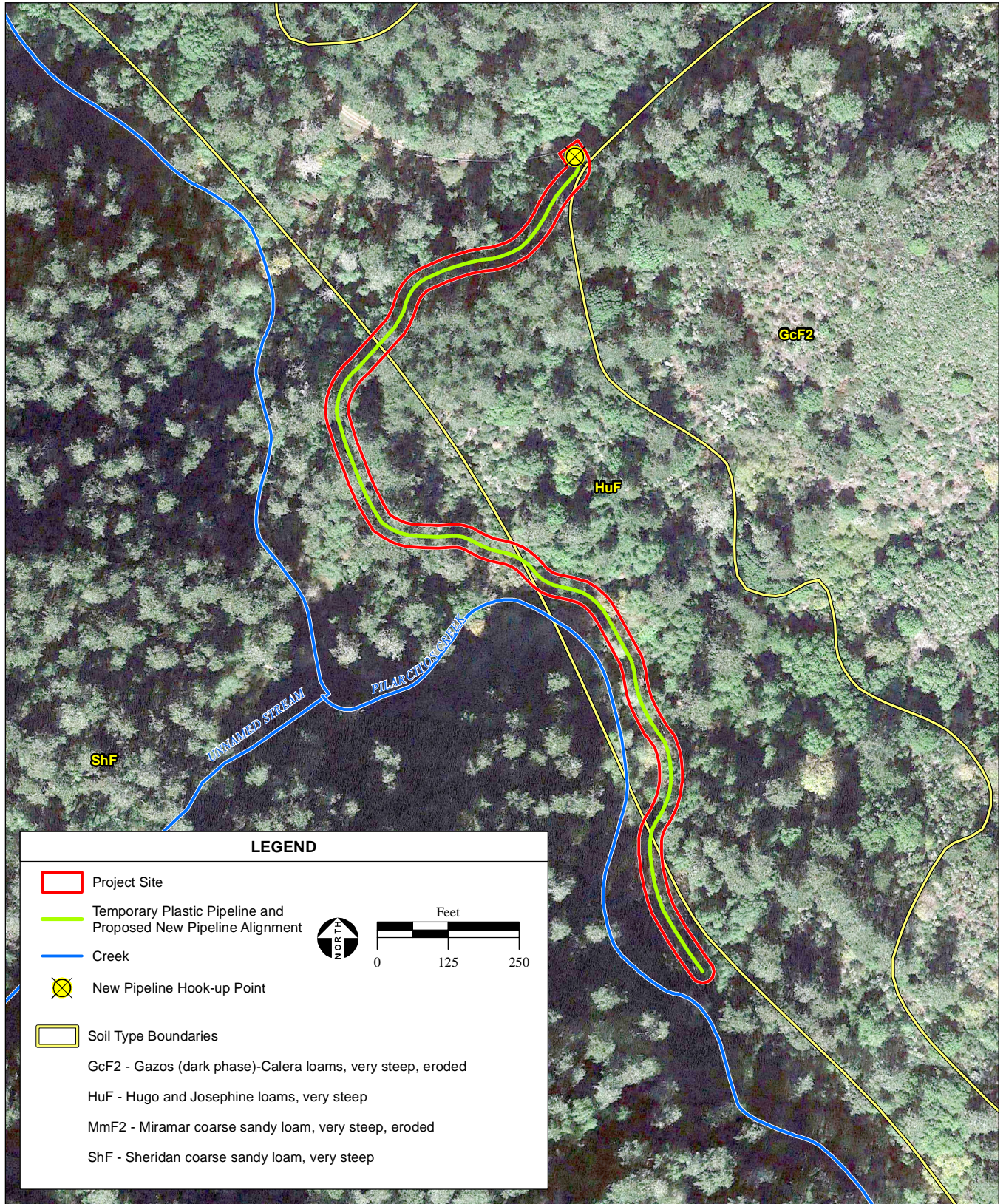
5.0 RESULTS

5.1 EXISTING CONDITIONS

As observed during the May 2, 2017 site visit, the project site is largely undeveloped with the exception of the old Pilarcitos Creek road grade passing through the project site. The project site/Pilarcitos Creek Road is locked and fenced both north and south of the site. Vegetation was identifiable to the degree necessary to determine the presence or absence of hydrophytic vegetation. The percent of vegetative cover varied from 100 percent on the sides of the road grade to 0 percent within the road grade. Normal hydrologic conditions were present within the project site for the time of year when the survey was conducted.

5.2 WATERS OF THE U.S. OCCURRING WITHIN THE PROJECT SITE

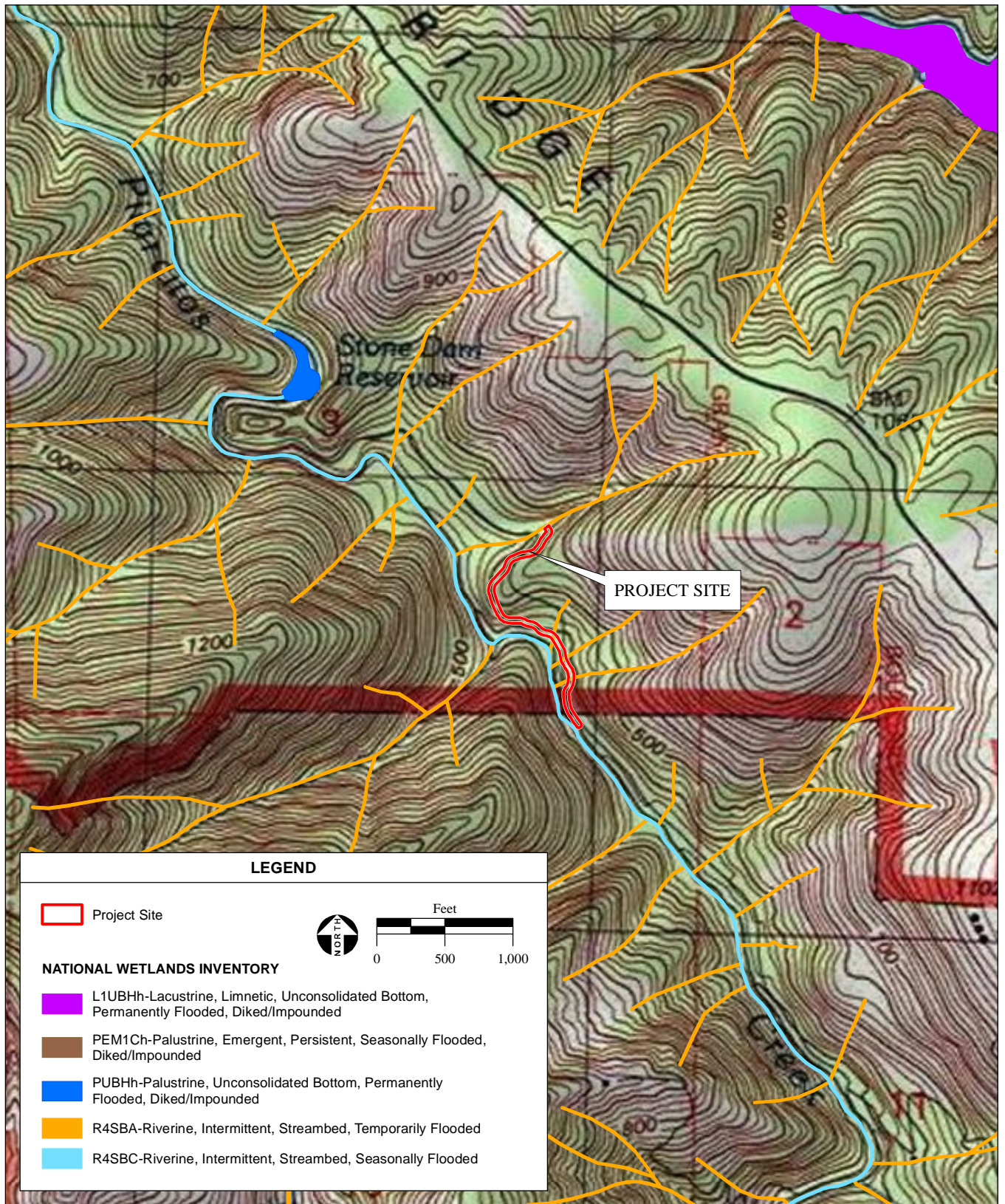
No wetlands or Waters of the U.S. were found to occur within the project site. The OHWM of Pilarcitos Creek and all associated riparian vegetation occur outside of the project site. While the NWI data identified 3 potentially intermittent streams as crossing the project site, none of the features displayed identifiable bed or bank, hydrophytic vegetation, or hydric soils.



SOURCE:USDA NRCS Soil Survey of San Mateo County, 2013-2016; Coastside Water District, 2017; DigitalGlobe Aerial Photograph, 11/2/2016; AES, 5/22/2017

CWD Pilarcitos Creek Waters of the U.S. / 217516 ■

Figure 5
Soil Types



SOURCE:USFWS National Wetlands Inventory Survey, "Monterea Mountain, CA" 7.5 Minute Quadrangle, 2005-2009; "Monterea Mountain, CA" USGS 7.5 Minute Topographic Quadrangle R5S T5W Section 3,10 Mt. Diablo Baseline & Meridia; AES, 5/22/2017

CWD Pilarcitos Creek Waters of the U.S. / 217516 ■

Figure 6
National Wetlands Inventory

6.0 CONCLUSION

AES conducted a delineation of potential Waters of the U.S. within the 1.61±-acre project site on May 2, 2017. No wetlands or other Waters of the U.S. were found to be present within the project site. Field observations and analysis determined that none of the three intermittent features identified by the NWI mapper contained the necessary indicators to be considered a wetland or Water of the U.S.

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ATTACHMENT A

SITE PHOTOGRAPHS



PHOTO 1: Representative pipeline corridor in southern part of study area.



PHOTO 2: Representative pipeline corridor in northern part of study area.



PHOTO 3: Pilarcitos Creek adjacent to study area.



PHOTO 4: Proposed pipeline tie-in point.

ATTACHMENT B

NRCS SOIL SURVEY

Custom Soil Resource Report for San Mateo Area, California



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

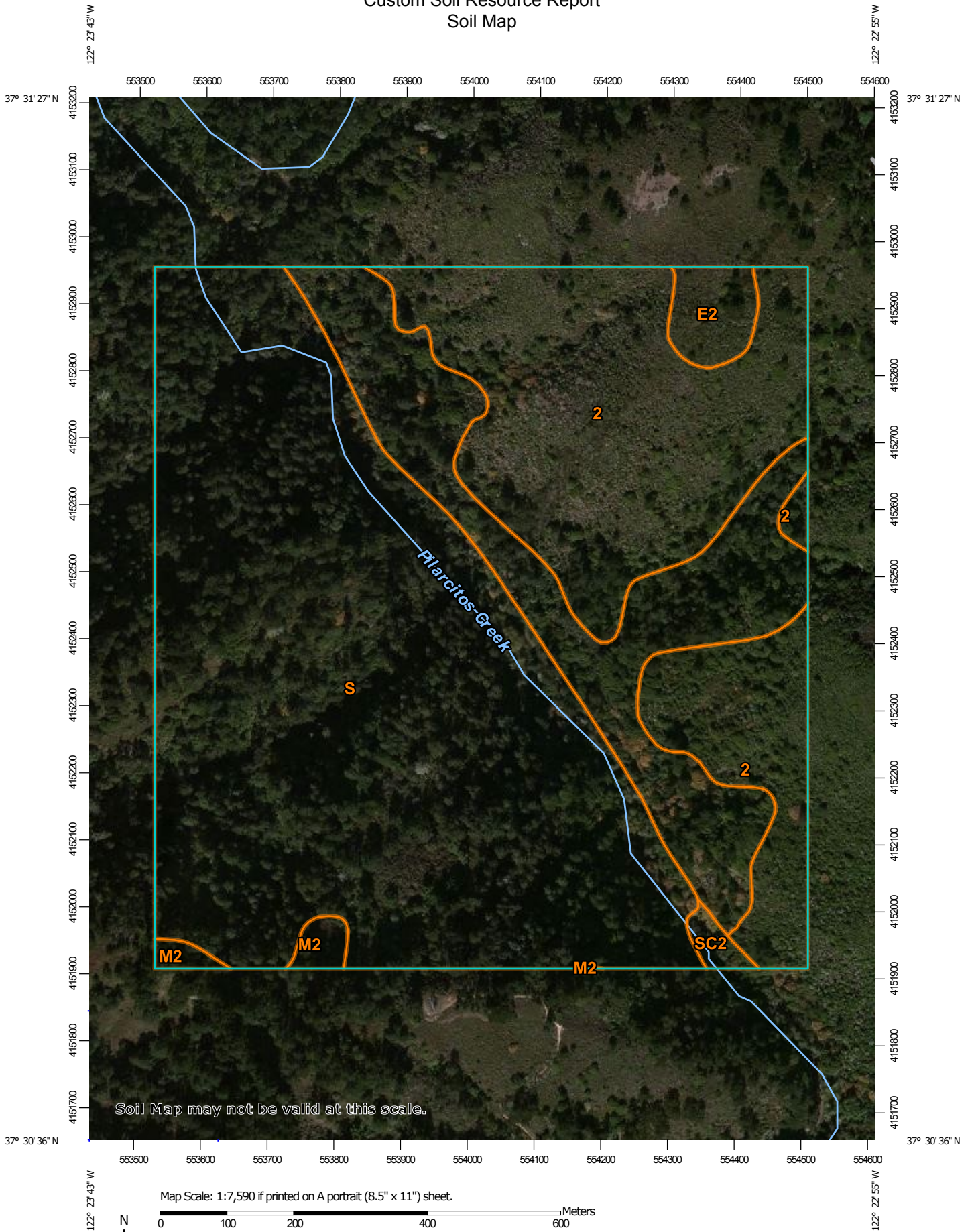
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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.


Map Scale: 1:7,590 if printed on A portrait (8.5" x 11") sheet.

0 100 200 400 600 Meters
0 350 700 1400 2100 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Mateo Area, California
 Survey Area Data: Version 10, Sep 12, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 26, 2010—Sep 17, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

San Mateo Area, California (CA637)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
GcE2	Gazos (dark phase)-Calera loams, steep, eroded	4.3	1.7%
GcF2	Gazos (dark phase)-Calera loams, very steep, eroded	70.1	27.6%
HuF	Hugo and Josephine loams, very steep	39.1	15.4%
MmF2	Miramar coarse sandy loam, very steep, eroded	2.2	0.9%
ShF	Sheridan coarse sandy loam, very steep	137.3	54.0%
SkC2	Soquel loam, sloping, eroded	1.3	0.5%
Totals for Area of Interest		254.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

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was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Mateo Area, California

GcE2—Gazos (dark phase)-Calera loams, steep, eroded

Map Unit Setting

National map unit symbol: h9xl
Elevation: 50 to 2,380 feet
Mean annual precipitation: 15 to 30 inches
Mean annual air temperature: 54 to 63 degrees F
Frost-free period: 200 to 325 days
Farmland classification: Not prime farmland

Map Unit Composition

Gazos, (dark phase), and similar soils: 40 percent
Calera and similar soils: 40 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gazos, (dark Phase)

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Shale

Typical profile

H1 - 0 to 12 inches: loam
H2 - 12 to 24 inches: silt loam
H3 - 24 to 28 inches: unweathered bedrock

Properties and qualities

Slope: 31 to 45 percent
Depth to restrictive feature: 24 to 28 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Calera

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope

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Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from limestone

Typical profile

H1 - 0 to 10 inches: loam
H2 - 10 to 30 inches: clay loam
H3 - 30 to 34 inches: unweathered bedrock

Properties and qualities

Slope: 31 to 45 percent
Depth to restrictive feature: 30 to 34 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Sweeney

Percent of map unit: 10 percent
Hydric soil rating: No

Lobitos

Percent of map unit: 10 percent
Hydric soil rating: No

GcF2—Gazos (dark phase)-Calera loams, very steep, eroded

Map Unit Setting

National map unit symbol: h9xm
Elevation: 50 to 2,380 feet
Mean annual precipitation: 15 to 30 inches
Mean annual air temperature: 54 to 63 degrees F
Frost-free period: 200 to 325 days
Farmland classification: Not prime farmland

Map Unit Composition

Gazos, (dark phase), and similar soils: 40 percent

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Calera and similar soils: 40 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gazos, (dark Phase)

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Shale

Typical profile

H1 - 0 to 12 inches: loam

H2 - 12 to 24 inches: silt loam

H3 - 24 to 28 inches: unweathered bedrock

Properties and qualities

Slope: 45 to 75 percent

Depth to restrictive feature: 24 to 28 inches to lithic bedrock

Natural drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C

Hydric soil rating: No

Description of Calera

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Residuum weathered from limestone

Typical profile

H1 - 0 to 10 inches: loam

H2 - 10 to 30 inches: clay loam

H3 - 30 to 34 inches: unweathered bedrock

Properties and qualities

Slope: 45 to 75 percent

Depth to restrictive feature: 30 to 34 inches to lithic bedrock

Natural drainage class: Well drained

Runoff class: High

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Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Sweeney

Percent of map unit: 10 percent

Hydric soil rating: No

Lobitos

Percent of map unit: 10 percent

Hydric soil rating: No

HuF—Hugo and Josephine loams, very steep

Map Unit Setting

National map unit symbol: h9y7

Elevation: 500 to 2,380 feet

Mean annual precipitation: 30 to 70 inches

Mean annual air temperature: 45 to 57 degrees F

Frost-free period: 100 to 300 days

Farmland classification: Not prime farmland

Map Unit Composition

Hugo and similar soils: 40 percent

Josephine and similar soils: 40 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hugo

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Sandstone; shale

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Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 45 inches: gravelly loam
H3 - 45 to 49 inches: weathered bedrock

Properties and qualities

Slope: 45 to 75 percent
Depth to restrictive feature: 45 to 49 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Josephine

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Sandstone; shale

Typical profile

H1 - 0 to 12 inches: loam
H2 - 12 to 47 inches: clay loam
H3 - 47 to 51 inches: weathered bedrock

Properties and qualities

Slope: 45 to 75 percent
Depth to restrictive feature: 47 to 51 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Los gatos

Percent of map unit: 10 percent
Hydric soil rating: No

Laughlin

Percent of map unit: 10 percent
Hydric soil rating: No

MmF2—Miramar coarse sandy loam, very steep, eroded

Map Unit Setting

National map unit symbol: h9zs
Elevation: 200 to 2,000 feet
Mean annual precipitation: 0 to 45 inches
Mean annual air temperature: 54 to 55 degrees F
Frost-free period: 275 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition

Miramar and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Miramar

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Quartz diorite

Typical profile

H1 - 0 to 22 inches: coarse sandy loam
H2 - 22 to 37 inches: sandy clay loam
H3 - 37 to 41 inches: weathered bedrock

Properties and qualities

Slope: 41 to 75 percent
Depth to restrictive feature: 37 to 41 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

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Frequency of ponding: None

Available water storage in profile: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Hydric soil rating: No

Minor Components

Sheridan

Percent of map unit: 10 percent

Hydric soil rating: No

Gullied land

Percent of map unit: 5 percent

Hydric soil rating: No

ShF—Sheridan coarse sandy loam, very steep

Map Unit Setting

National map unit symbol: hb0f

Elevation: 1,000 to 2,380 feet

Mean annual precipitation: 16 to 50 inches

Mean annual air temperature: 57 to 63 degrees F

Frost-free period: 170 to 250 days

Farmland classification: Not prime farmland

Map Unit Composition

Sheridan and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sheridan

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Quartz diorite

Typical profile

H1 - 0 to 5 inches: gravelly coarse sandy loam

H2 - 5 to 38 inches: gravelly coarse sandy loam

H3 - 38 to 42 inches: weathered bedrock

Properties and qualities

Slope: 40 to 75 percent

Depth to restrictive feature: 38 to 42 inches to paralithic bedrock

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Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Miramar

Percent of map unit: 10 percent
Hydric soil rating: No

Montara

Percent of map unit: 5 percent
Hydric soil rating: No

SkC2—Soquel loam, sloping, eroded

Map Unit Setting

National map unit symbol: hb0j
Elevation: 20 to 1,000 feet
Mean annual precipitation: 30 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 220 to 275 days
Farmland classification: Not prime farmland

Map Unit Composition

Soquel and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Soquel

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

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Typical profile

H1 - 0 to 22 inches: loam

H2 - 22 to 56 inches: silt loam

H3 - 56 to 70 inches: loam

Properties and qualities

Slope: 7 to 15 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Moderately well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Hydric soil rating: No

Minor Components

Corralitos

Percent of map unit: 10 percent

Hydric soil rating: No

Farallone

Percent of map unit: 5 percent

Hydric soil rating: No

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APPENDIX C

CULTURAL RESOURCES STUDY

CULTURAL RESOURCES STUDY

COASTSIDE COUNTY WATER DISTRICT PILARCITOS PIPELINE REPLACEMENT PROJECT SAN MATEO COUNTY, CALIFORNIA

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Sensitive archaeological material may have been removed from this document. The legal authority to restrict cultural resource information can be found in California Government Code sections 6254.10 and 6254(r); California Code of Regulations Section 15120(d); and Section 304 of the National Historic Preservation Act of 1966. Requests to view sensitive archaeological material must be made in writing to Coastside County Water District, 766 Main Street, Half Moon Bay, CA 94019.