Appendix A

Pedro Point Headlands Coastal Trail Study

Biological Report

October 2019

Biotic Resources Group

Biotic Assessments ◆ Resource Management ◆ Permitting

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Pedro Point Headlands Coastal Trail Study

Biological Report

October 2019

Prepared for
TrailPeople
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1.0 INTRODUCTION

Biotic Resources Group, with Dana Bland & Associates, documented and evaluated the biotic resources of a coastal trail project located at the Pedro Point Headlands in the City of Pacifica, San Mateo County. A Biological Report has been prepared to document current site conditions and to evaluate the proposed trail project.

Specific tasks conducted for this study include:

- Characterize and map the major plant communities within the proposed project area.
- Identify sensitive biotic resources, including habitats, plant or wildlife species of concern.
- Evaluate the potential constraints of the proposed project activities on sensitive biotic resources.

1.1 PROPOSED PROJECT

The project is located west of State Highway 1 (Pacific Coast Highway) in the southern portion of the City of Pacifica and unincorporated San Mateo County. The project is an approximately one-mile section of the California Coastal Trail. The proposed Class 1 trail would link Pacifica State Beach (to the north) to Devil's Slide County Park (to the south), as depicted on Figure 1. The identified trail corridor would utilize an existing dirt path (an old roadway) as well as newly constructed trail sections.

The Pedro Point Headlands Coastal Trail is intended to be located west of Highway 1 along the eastern portion of San Pedro Point, crossing property currently owned by three entities: The Coastal Conservancy, the City of Pacifica, and Caltrans. The proposed trail will connect two existing Class I multi-use trails at the northern and southern ends of the project area. The identified trail corridor begins in the north in the City of Pacifica connecting to an existing Class I trail that terminates at San Pedro Avenue south of San Pedro Creek. The trail corridor continues south along San Pedro Avenue/Highway 1 in the Caltrans right of way. It then extends between an Ace Hardware store and Highway 1 before climbing steeply onto City of Pacifica-owned land and entering Coastal Conservancy property. Along much of the central section of the corridor, the trail will most likely follow an existing graded roadway originally constructed to accommodate a water line. It terminates at the Devils Slide Trail at the southern end. The trail corridor has steep topography (slopes estimated at 15-75%) and soils with high erosion potential. A potential staging/parking area at Caltrans and City-owned parcels at the north end of the trail corridor along San Pedro Avenue is also being considered.

The trail corridor study area for the biological evaluation is depicted on Figure 2.

1.2 INTENDED USE OF THIS REPORT

The findings presented in this biological report are intended for the sole use of TrailPeople and related agencies in evaluating the proposed project. The findings presented in this report are for information purposes only; they are not intended to represent the interpretation of any State, Federal or City law or ordinance pertaining to permitting actions within sensitive habitat or endangered species. The interpretation of such laws and/or ordinances is the responsibility of the applicable governing body.

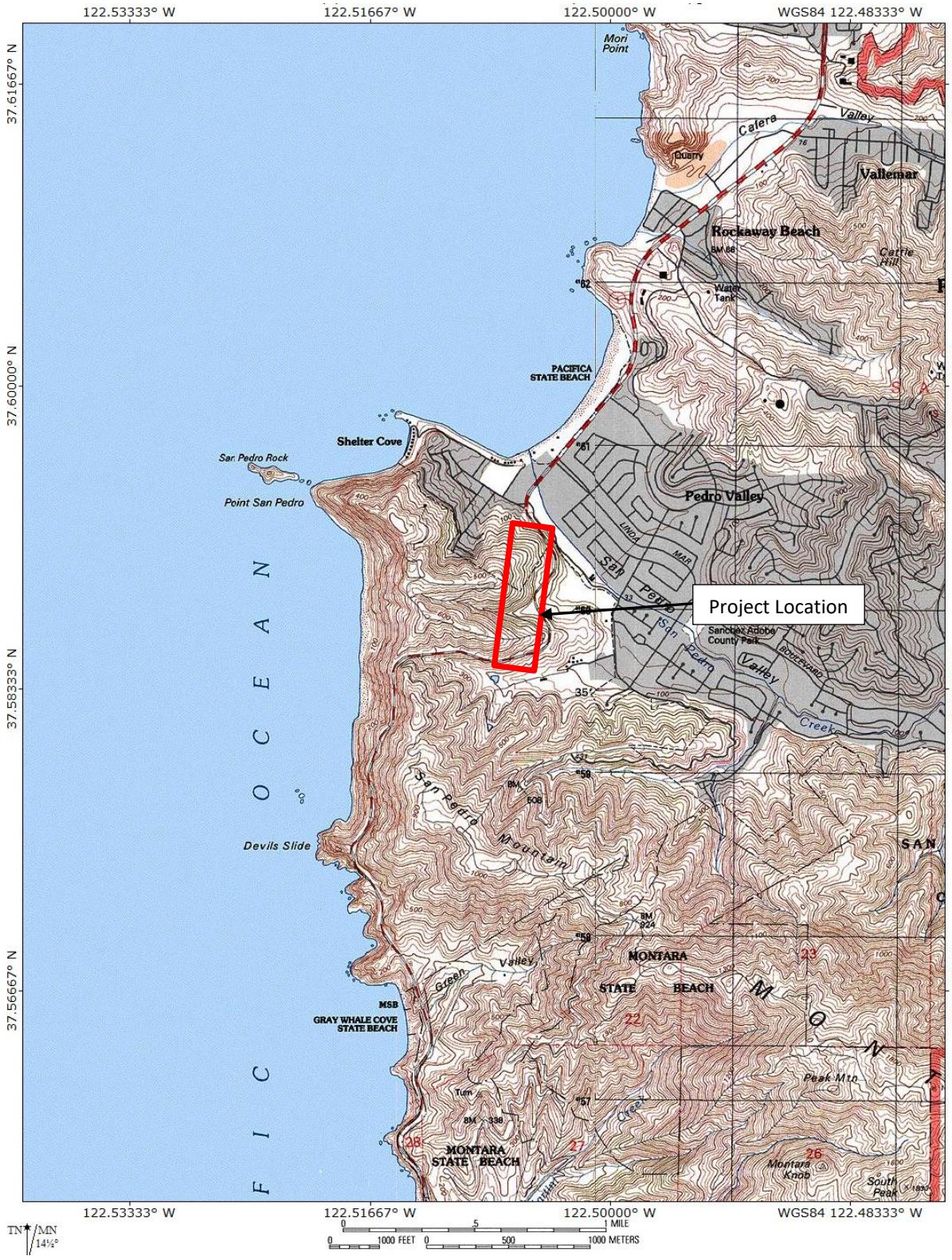

Figure 1. Location of Project on USGS Topographic Map (Montara Mountain)

Figure 2. Location of Trail Study Area and Property Ownerships (Source: Trail People)

2.0 EXISTING BIOTIC RESOURCES

2.1 METHODOLOGY

The biotic resources of the Pedro Point Headlands Coastal Trail study area were assessed through literature review and field observations. Site observations were made on October 14, 2019. Kathleen Lyons (plant ecologist) and Dana Bland (wildlife biologist) conducted the review.

Vegetation mapping of the study area was conducted from review of a topographic map, project plans and field observations, and a review of previous biotic reports. The major plant communities within the project area, based on the classification system developed by *California Terrestrial Natural Communities (*California Department of Fish and Game, October 2018), *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995) and as amended to reflect site conditions, and a review of previous biological reports prepared for the greater Pedro Point Headlands, were identified during the field survey. Modifications to the classification system's nomenclature were made, as necessary, to accurately describe the site's resources. The plant communities were mapped onto an aerial photo base map (Google image). All plant species observed were recorded and identified to a level sufficient to determine their rarity. Plant nomenclature follows The *Jepson Manual* (2012); the *Rare and Endangered Plants of San Mateo and Santa Clara County* (Corelli and Chandik, 1995) was also reviewed.

To assess the potential occurrence of special status biotic resources, two electronic databases were accessed to determine recorded occurrences of sensitive plant communities and sensitive species. Information was obtained from the California Native Plant Society's (CNPS) Electronic Inventory (2019), and California Department of Fish & Wildlife (CDFW) RareFind 5 database (CDFW, 2019) for the Montara Mountain USGS quadrangle and surrounding quadrangles. Previous reports reviewed include *Draft Preliminary Biological Habitat Assessment for the Pacific Headlands Trail Project* (EMC Planning Group, 2011), *Pedro Point Headlands Restoration Project, Biological Resources Assessment,* (Rincon Environmental, 2015), and *Biological Assessment of Pedro Point Headlands (*Vasey, M. 1994).

2.2 ENVIRONMENTAL SETTING

2.2.1 Geographic Setting

The project is located at the southern end of the City of Pacifica within San Mateo County (see Figure 1). The project is located westward of State Highway 1 on properties owned by Coastal Conservancy, City of Pacifica, and California Department of Transportation (CalTrans). The project area is undeveloped except for existing graded trails and informal trails. A parking lot and developed trail is located at the southern end of the project at Devil's Slide County Park. Commercial development is located near the northern end of the study area. The site is located within the City and County-designated Coastal Zone(s).

The study area supports three plant community types: coyote brush scrub, eucalyptus forest, and Monterey pine forest, as listed on Table 1. The study area supports two ephemeral drainages. Figure 3 depicts the distribution of these vegetation types.

Figure 3. Distribution of Vegetation Types in Study Area

Table 1. Vegetation Types, Pedro Point Headlands Coastal Trail Study Area

CaCode[1]	Vegetation Type (CA Alliance)	Plant Association	State Ranking[2]	City of Pacifica Status	San Mateo County Status
32.060.05	Coyote Brush Scrub	Coyote Brush/California Sage – Blue Wild Rye	S5	None	None
79.100.02	Eucalyptus Forest	Blue Gum Eucalyptus/ Monterey Pine/Monterey Cypress/Red Elderberry – Poison Oak/Coffee Berry/California Blackberry	None	None	None
87.240.04	Monterey Pine Forest	Monterey Pine/ Monterey Cypress – Poison Oak/ California Blackberry	None[3]	None[4]	None

[1] – California vegetation code and alliance as per CDFG/CNDDB (2018); [2]- Vegetation types are ranked between S1 and S5. CDFW identifies vegetation types that are considered to be highly imperiled/sensitive, typically those ranked S1-S3.[3] – Planted trees outside of naturally-occurring stands; [4] – City of Pacifica has tree regulations

2.2.2 Vegetation and Wildlife Habitats

Coyote Brush Scrub. The southern portion of the study area supports coyote brush scrub. This shrubby habitat is co-dominated by coyote brush (*Baccharis pilularis)* and California sage (*Artemisia californica)*. Also present are lesser amounts of California blackberry (*Rubus ursinus)* and poison oak (*Toxicodendron diversilobum)*. Herbaceous cover includes blue wild rye (*Elymus glaucus)*, wild carrot (*Daucus carota)*, common yarrow (*Achillea millefolium)*, dogtail grass (*Cynosurus echinatus)*, rattlesnake grass (*Briza maxima)*, Mediterranean clover (*Trifolium angustifolium)*, tarweed (*Madia sativa)* and occasional needlegrass (*Stipa sp.)*. There are scattered occurrences of Monterey pine (*Pinus radiata)* and Monterey cypress (*Hesperocyparis macrocarpa)* amid the scrub. These two tree species are native to California; however, they are not naturally occurring at this location. The native stands for both species are located in Santa Cruz and Monterey Counties; the trees in the study area were previously planted and/or are natural recruitments from nearby planted trees/tree groves. Figure 4 depicts the character of the coyote brush scrub along both sides of the existing graded trail located in the southern portion of the study area. The photo also shows the scattered pine and cypress trees in this portion of the study area.

Figure 4. Character of coyote brush scrub alongside the existing graded trail

Eucalyptus Forest. The central portion of the study area supports a forest dominated by blue gum eucalyptus (*Eucalyptus globulus)*. This non-native tree species forms a dense canopy with mixed age trees. The forest also supports lesser amounts of Monterey pine and Monterey cypress. The understory is fairly diverse, supporting a dense cover of native trees, shrubs, and groundcovers. Red elderberry (*Sambucus racemosa)* is prevalent, as are tall specimens of toyon (*Heteromeles arbutifolia)*; scattered madrone (*Arbutus menziesii)* were also observed. The shrub/vine layer includes coffee berry (*Frangula californica)*, thimbleberry (*Rubus parviflorus)*, poison oak, twinberry (*Lonicera involucrate var. ledebourii)*, California blackberry, hairy honeysuckle (*Lonicera hispidula)*, and flowering currant (*Ribes sanguineum)*. Herbaceous cover includes several natives, such as California bee plant (*Scrophularia californica)*, hedgenettle (*Stachys sp.)*, bracken fern (*Pteridium aquilinum)*, sword fern (*Polystichum munitum)*, California aster (*Symphyotrichum chilense)*, mugwort (*Artemisia douglasiana)*, vetch (*Vicia sp.)*, spreading rush (*Juncus patens)*, Bioletti's cudweed (*Pseudognaphalium bioletti)*, sneezeweed (*Helenium puperulum)*, and yerba buena (*Clinopodium douglasii)*. Non-native species are also present, such as veldt grass (*Ehrharta sp.)*, canary grass (*Phalaris sp.)*, ripgut brome (*Bromus diandrus)*, English ivy (*Hederal helix)*, Cape Ivy (*Delairea odorata)*, hedge parsley (*Torilis arvensis)*, and French broom (*Genista monspessulana)*.

A small ephemeral drainage traverses the eucalyptus forest in the central portion of the study area. The drainage was overgrown with forest vegetation; however, a culvert carries flow under the existing trail/old roadway. The vegetation growing in the channel bed suggests this drainage only receives flow during and/or immediately after a significant rain event (ephemeral). Previous reports from the greater Pedro Point Headlands documented the drainage as ephemeral, with a defined bed and bank detected near the Arroyo Trail (outside of this study area) (Rincon, 2015). The seasonal water within this drainage flows eastward under the existing trail (culvert), through the eucalyptus forest toward State Highway 1, toward San Pedro Creek (east of State Highway 1).

Figure 5 depicts the character of the eucalyptus forest, which is located in the central portion of the study area. Figure 6 depicts the culvert serving the ephemeral drainage under the existing trail (former road).

Figure 5. Character of eucalyptus forest alongside the existing trail (former roadway), October 2019

Figure 6. Character of ephemeral drainage in eucalyptus forest; culvert present

Monterey Pine Forest. The northern portion of the study area supports a forest dominated by Monterey pine. This forest is comprised of planted and/or naturalized pines that are growing outside their normal range, thus are considered non-native to this location. Other tree species in this forested area include Monterey cypress and some blue gum eucalyptus. The understory is less diverse than the nearby eucalyptus forest, possible due to the steep topography. Poison oak and California blackberry are the dominant understory species. Also observed were hairy honeysuckle, hedge parsley, and sanicle (*Sanicula sp.)*.

A small ephemeral drainage traverses the pine forest in the northern portion of the study area. Seasonal water within this drainage enters a culvert under State Highway 1 and then empties into San Pedro Creek (east of State Highway 1) and flows into the Pacific Ocean at Pacifica State Beach.

Figure 7 depicts the character of the Monterey pine forest, which occurs in the northern section of the study area. Figure 8 shows the character of the forest where the pines are intermixed with some Monterey cypress and eucalyptus.

Figure 7. Character of Monterey pine forest alongside the existing trail (former roadway), October 2019

Figure 8. Character of Monterey pine forest with some cover provided by Monterey cypress and eucalyptus

General Wildlife Value of Habitats. Most of the project study area habitat is Monterey pine and Eucalyptus forest, as described above, with only a minor amount of coastal scrub. All the habitats in the study area are currently of moderate value to native wildlife, because of abundant non-native plants (trees), or sparse distribution of native coastal shrubs and disturbed habitat adjacent to west from previous uses. The forest habitats inherently do not support a wide diversity of native wildlife species. However, common native wildlife species that typically inhabit the forest habitats include alligator lizard (*Gerrhonotus multicarinatus*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), great horned owl (*Bubo virginianus*), Anna's hummingbird (*Calypte anna*), western scrub-jay (*Aphelocoma californica*), common raven (*Corvus corax*), pine siskin (*Carduelis pinus*), brush mouse (*Peromyscus boylii*), and western gray squirrel (*Sciurus griseus*). Typical common native wildlife species that in habit coastal scrub habitat include western fence lizard (*Sceloporus occidentalis*), American crow (*Corvus brachyrhynchos*), California thrasher (*Taxostoma redivivum*), California quail (*Callipepla californica*), spotted towhee (*Pipilo maculatus*), California towhee (*Pipilo crissalis*), white-crowned sparrow (*Zonotrichia leucophrys*), and Botta's pocket gopher (*Thomomys bottae*).

2.3 SENSITIVE BIOTIC RESOURCES

2.3.1 State and Federal Regulated Areas

The study area supports two ephemeral drainages that empty into San Pedro Creek.

California Department of Fish and Wildlife (CDFW) is a trustee agency that has jurisdiction under Section 1600 et seq. of the CDFW Code. Under Sections 1600-1603 of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake which supports fish or wildlife. CDFW also regulates alterations to ponds and impoundments. CDFW jurisdictional limits typically extend to the top of bank or to the edge of riparian habitat if such habitat extends beyond top of bank (outer drip line), whichever is greater. A portion of the proposed project (crossings of ephemeral drainages) may be located within CDFW's jurisdiction.

Water quality in California is governed by the Porter-Cologne Water Quality Control Act and certification authority under Section 401 of the Clean Water Act, as administered by the Regional Water Quality Control Board (RWQCB). The Section 401 water quality certification program allows the State to ensure that activities requiring a Federal permit or license comply with State water quality standards. Water quality certification must be based on a finding that the proposed discharge will comply with water quality standards which are in the regional board's basin plans. The Porter-Cologne Act requires any person discharging waste or proposing to discharge waste in any region that could affect the quality of the waters of the state to file a report of waste discharge. The RWQCB issues a permit or waiver that includes implementing water quality control plans that take into account the beneficial uses to be protected. Waters of the State subject to RWQCB regulation extend to the top of bank, as well as isolated water/wetland features and saline waters. Should there be no Section 404 nexus (i.e., isolated feature not subject to USACE jurisdiction), a report of waste discharge (ROWD) is filed with the RWQCB. The RWQCB interprets waste to include fill placed into water bodies. A portion of the proposed project (crossings of ephemeral drainages) may be within RWQCB jurisdiction.

The US Army Corps of Engineers (USACE) regulates activities within waters of the United States pursuant to congressional acts: Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (1977, as amended). Section 10 of the Rivers and Harbors Act requires a permit for any work in, over, or under navigable waters of the United States. Navigable waters are defined as those waters subject to the ebb and flow of the tide to the Mean High Water mark (tidal areas) or below the Ordinary High Water mark (freshwater areas). A portion of the proposed project area (ephemeral drainages) could support Waters of the U.S. (creek channels), as the two ephemeral drainages contribute flow to downstream navigable waters (i.e., San Pedro Creek). However, the EPA and USACE are in the process of repealing some 2015 regulations. If enacted the changes would exclude ephemeral waterways from Clean Water Act jurisdiction. Yet, in the absence of this repeal, placement of fill below Ordinary High-Water Mark (OHWM) of these two drainages could be within USACE's jurisdiction and permitting may be required.

2.3.2 State Designated Sensitive Habitats

Sensitive habitats are defined by State agencies as those habitats that support special status species, provide important habitat values for wildlife, represent areas of unusual or regionally restricted habitat types, and/or provide high biological diversity. CDFW classifies and ranks the State's natural communities to assist in the determining the level of rarity and imperilment. Vegetation types are ranked between S1 and S5. For vegetation types with ranks of S1-S3, all associations within the type are considered to be highly imperiled. If a vegetation alliance is ranked as S4 or S5, these alliances are generally considered common enough to not be of concern; however, it does not mean that certain associations contained within them

are not rare (CDFW, 2018). None of the plant community types in the study area are considered sensitive (CDFW, 2018).

2.3.3 City and County Regulations and Policies

The study area is located within both the City of Pacifica and unincorporated San Mateo County, within the coastal zone.

Section 7 of the San Mateo County Local Coastal Plan (2013) has goals and policies to protect sensitive resources. The LCP prohibit any land use or development which would have significant adverse impact on sensitive habitat areas. Development in areas adjacent to sensitive habitats shall be sited and designed to prevent impacts that could significantly degrade the sensitive habitats. All uses shall be compatible with the maintenance of biologic productivity of the habitats. Permitted uses in sensitive habitats (riparian corridors, wetlands, marine habitats, sand dunes, sea cliffs and habitats supporting rare, endangered, and unique species) are those that are resource dependent. The County recognizes the Monterey pine (*Pinus radiata*) as sensitive; however, their regulations pertain to the natural pine habitat near the San Mateo-Santa Cruz County line. The County also considers the Champion Monterey cypress tree a Class I Heritage Tree. This tree is not located in the study area. The LCP also encourages the voluntary cooperation of private landowners to remove from their lands the undesirable pampas grass, French, Scotch and other invasive brooms. Similarly, the LCP encourages landowners to remove blue gum seedlings to prevent their spread.

The County also has a Significant Tree Ordinance. This ordinance requires a permit for the removal or pruning/killing any tree with a trunk circumference of 38 inches (or 12 inches diameter at breast height) on private property. Within the RH/DR Zone Districts, the definition of significant tree includes all trees in excess of 19" in circumference (6 inches diameter). The ordinance has exemptions for timber harvests, areas under a resource management plan, and trees that pose a hazard to life and personal property. Please refer to the arborist report on the trees in the study area that would meet the significant tree definition.

The project is located within the coastal zone within the City of Pacifica. The 1980 General Plan, Conservation Element, Policy 4 identifies protection and conservation of the coastal environment, sand dunes, habitats, unique and endangered species and other natural resources and features that contribute to the coastal character. The City of Pacifica has regulations to preserve and protect heritage trees on private or city-owned property. Heritage trees are defined as any trees within the City of Pacifica, exclusive of eucalyptus, which have a trunk with a circumference of fifty (50") inches [approximately sixteen (16") inches in diameter] or more, measured at twenty-four (24") inches above the natural grade. Please refer to the arborist report on the trees in the study area that would meet the City heritage tree definition.

2.3.4 Special Status Plant Species

Plant species of concern include those listed by either the Federal or State resource agencies as well as those identified as rare by CNPS (List 1B). The search of the CNPS and CNDDB inventories identified the special status plant species with potential to occur in the project area. Previous biological report also identified special status plant species as occurring in the greater Pedro Point Headlands. This information is presented in Table 2.

Previous biological reports for the project vicinity documented special status plant species from the Pedro Point Headlands. These species were recorded outside of this project's study area and include occurrences of Michael's rein orchid (*Piperia michaelii)* (CNPS Plant Rank 4.2), coast rockcress (*Arabis blepharophylla)* (CNPS Plant Rank

4.3), and San Francisco wallflower (*Erysimum franciscanum)* (CNPS Plant Rank 4.2). The CNDDB identifies the following CNPS List 1B species from the greater project region: perennial goldfields (*Lasthenia californica ssp. macrantha)*, Franciscan thistle (*Cirsium andrewsii)*, Kellogg's horkelia (*Horkelia cuneata var. sericea)*, San Francisco collinsia (*Collinsia multicolor)*, San Francisco campion (*Silene verecunda ssp. verecunda),* and Hickman's cinquefoil (*Potentilla hickmanii)*. CNPS List 4 species in the region include Scouler's catchfly (*Silene scouleri ssp. scouleri)*. None of these species have been previously documented from the study area, nor were observed during the October 2019 field visit; however, protocol-level surveys were not conducted.

Table 2. Special Status Plant Species Evaluated for Presences within Pedro Point Headlands Coastal Trail Study Area

Common Name	Scientific Name	Status	General Habitat Description Growth	Suitable Habitat?
San Mateo thornmint	*Acanthomintha duttonii*	CNPS List 1B.1	Serpentine chaparral and grassland Annual herb	Work area lacks suitable habitat.
Blasdale's bent grass	*Agrostis blasdalei*	CNPS List 1B.2	Grassland, scrub Perennial herb	Work area lacks suitable habitat.
Franciscan onion	*Allium peninsulare var. franciscanum*	CNPS List 1B.2	Grassland, scrub Perennial bulb, herb	Work area has marginal habitat.
Bent-flowered fiddleneck	*Amsinckia lunaris*	CNPS List 1B.2	Grassland, scrub Annual herb	Work area has marginal habitat.
Santa Cruz manzanita	*Arctostaphylos andersonii*	CNPS List 1B.2	Broadleaf upland forest, chaparral, coniferous forests; open sites Perennial shrub	Not observed within site; Work area lacks suitable habitat.
Franciscan manzanita	*Arctostaphylos franciscana*	CNPS List 1B.1 FE	Serpentine coastal scrub Perennial shrub	Not observed within site; Work area lacks suitable habitat.
San Bruno Mountain manzanita	*Arctostaphylos imbricata*	CNPS List 1B.1 CE	Rocky chaparral and coastal scrub Perennial shrub	Not observed within site; Work area has marginal habitat.
Presidio manzanita	*Arctostaphylos montana ssp. ravenii*	CNPS List 1B.1 FE CE	Serpentine chaparral, scrub Perennial shrub	Not observed within site; Work area lacks suitable habitat.
Montara manzanita	*Arctostaphylos montaraensis*	CNPS List 1B.2	Broadleaf upland forest, chaparral, coniferous forests; open sites Perennial shrub	Not observed within site; Work area has marginal habitat.
Pacific manzanita	*Arctostaphylos pacifica*	CNPS List 1B.1	Chaparral and coastal scrub Perennial shrub	Not observed within site. Work area has marginal habitat.
Kings Mountain manzanita	*Arctostaphylos regismontana*	CNPS List 1B.2	Broadleaf upland forest, chaparral, coniferous forests; open sites Perennial shrub	Not observed within sit; unsuitable habitat.
Coastal marsh milk-vetch	*Astragalus pycnostachyus var. pycnostachyus*	CNPS List 1B.2	Mesic coastal dunes, scrub, marshes Perennial herb	Work area lacks suitable habitat.
Alkali milk-vetch	*Astragalus tener var. tener*	CNPS List 1B.2	Alkaline, playas, grassland and vernal pools Annual herb	Work area lacks suitable habitat.
Pappose tarplant	*Centromadia parryi ssp. parryi*	CNPS List 1B.2	Alkali prairie, meadows and seeps Annual herb	Work area lacks suitable habitat.

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Common Name	Scientific Name	Status	General Habitat Description Growth	Suitable Habitat?
Point Reyes birds-beak	*Chloropyron maritimum ssp. palustre*	CNPS List 1B.2	Marshes and swamps Annual herb	Work area lacks suitable habitat.
San Francisco spineflower	*Chorizanthe cuspidata* var. *cuspidata*	CNPS List 1B.2	Sandy coastal dunes, bluff and scrub Annual herb	Site has marginal habitat.
Robust spineflower	*Chorizanthe robusta var. robusta*	CNPS List 1B.1 FE	Sandy coastal dunes, bluff and scrub, woodland Annual herb	Site lacks suitable habitat.
Franciscan thistle	*Cirsium andrewsii*	CNPS List 1B.2	Serpentine seeps, moist grassland, scrub, forest Perennial herb	Site lacks suitable habitat.
Crystal Springs fountain thistle	*Cirsium fontinale* var. *fontinale*	CNPS List 1B.1 FE CE	Serpentine seeps, moist grassland, scrub, woodland Perennial herb	Site lacks suitable habitat.
Compact cobwebby thistle	*Cirsium occidental var. compactum*	CNPS List 1B.2	Chaparral, prairie, dunes, scrub Perennial herb	Site has marginal habitat.
Round-headed Chinese houses	*Collinsia corymbosa*	CNPS List 1B.2	Coastal dunes Annual herb	Site lacks suitable habitat.
San Francisco collinsia	*Collinsia multicolor*	CNPS List 1B.2	Moist shady woodland Annual herb	Work area has marginal habitat.
Western leatherwood	*Dirca occidentalis*	CNPS List 1B.2	Broadleaf upland forest, chaparral, open sites Perennial shrub	Not observed within site; Work area has marginal habitat.
San Mateo woolly sunflower	*Eriophyllum latilobum*	CNPS List 1B.1 FE CE	Serpentine woodland and scrub Perennial herb	Not observed within site; Work area lacks suitable habitat.
Hillsborough chocolate lily	*Fritillaria biflora var. ineziana*	CNPS List 1B.1	Serpentine woodland and grassland Perennial bulb	Site lacks suitable microhabitat
Marin checker lily	*Fritillaria lanceolata var. tristulis*	CNPS List 1B.2	Coastal bluff scrub, prairie, scrub Perennial bulb	Site has marginal habitat
Fragrant fritillary	*Fritillaria liliacea*	CNPS List 1B.2	Ultramafic talus in chaparral and foothill woodland Perennial bulb	Site lacks suitable microhabitat; no serpentine.
Blue coast gilia	*Gilia capitata ssp. chamissonis*	CNPS List 1B.1	Coastal dunes and coastal scrub Annual herb	Site has marginal habitat.
Dark-eyed gilia	*Gilia millefoliata*	CNPS List 1B.2	Coastal dunes Annual herb	Site lacks suitable habitat.
Diablo helianthella	*Helianthella castanea*	CNPS List 1B.2	Serpentine woodlands and Perennial herb	Site lacks suitable habitat.
Congested-headed hayfield tarweed	*Hemizonia congesta ssp. congesta*	CNPS List 1B.2	Valley and foothill grassland, roadsides Annual herb	Site lacks suitable habitat.

Table 2. Special Status Plant Species Evaluated for Presences within Pedro Point Headlands Coastal Trail Study Area

Common Name	Scientific Name	Status	General Habitat Description Growth	Suitable Habitat?
Short-leaved evax	*Hesperevax sparsiflora var. brevifolia*	CNPS List 1B.2	Coastal bluff scrub, dunes and coastal prairie Annual herb	Site has marginal habitat.
Marin western flax	*Hesperolinum congestum*	CNPS List 1B.1 FT CT	Serpentine chaparral and grassland Annual herb	Site lacks suitable habitat
Kellogg's horkelia	*Horkelia cuneata* ssp. *sericea*	CNPS List 1B.1	Openings on old dunes, chaparral and coastal scrub Perennial herb	Site has marginal habitat.
Point Reyes horkelia	*Horkelia marinensis*	CNPS List 1B.2	Coastal dunes, prairies, scrub Perennial herb	Site has marginal habitat
Perennial goldfields	*Lasthenia californica ssp. macrantha*	CNPS List 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub Perennial herb	Area has marginal habitat.
Coast yellow leptosiphon	*Leptosiphon croceus*	CNPS List 1B.1 CC (candidate)	Coastal bluff scrub, coastal prairie Annual herb	Area lacks suitable habitat
Rose leptosiphon	*Leptosiphon rosaceus*	CNPS List 1B.1	Coastal bluff scrub Annual herb	Area lacks suitable habitat
Crystal Springs lessingia	*Lessingia arachnoidea*	CNPS List 1B.2	Serpentine woodland, scrub, grassland Annual herb	Area lacks suitable habitat
San Francisco lessingia	*Lessingia germanorum*	CNPS List 1B.2 FE CE	Coastal scrub, remnant dunes Annual herb	Area lacks suitable habitat
Coast lily	*Lilium maritinum*	CNPS List 1B.1	Upland forest, coniferous forest, prairie, scrub Perennial bulb	Area has marginal habitat
Ornduff's meadowfoam	*Limnanthes douglasii ssp. ornduff*	CNPS List 1B.1	Meadows and seeps Annual herb	Area lacks suitable habitat
Indian Valley bush- mallow	*Malacothamnus aboriginum*	CNPS List 1B.2	Rocky, granitic chaparral and woodland Perennial shrub	No suitable habitat on site.
Arcuate bush-mallow	*Malacothamnus arcuatus*	CNPS List 1B.2	Serpentine chaparral Perennial shrub	No suitable habitat on site.
Davidson's bush-mallow	*Malacothamnus davidsonii*	CNPS List 1B.2	Riparian scrub, chaparral, woodland Perennial shrub	Site has marginal habitat
Hall's bush-mallow	*Malacothamnus hallii*	CNPS List 1B.2	Chaparral and coastal scrub Perennial shrub	Marginal habitat on site
Northern curly-leaved monardella	*Monardella sinuata ssp. nigrescens*	CNPS List 1B.2	Sandy chaparral, dunes and scrub Annual herb	Site has marginal habitat
Woodland woolythreads	*Monolopia gracilens*	CNPS List 1B.2	Openings in redwood and mixed evergreen forests Annual herb	Work area has marginal habitat.
Dudley's lousewort	*Pedicularis dudleyi*	CNPS List 1B.2 CR	Redwood forest, moist areas near streams Perennial herb	No suitable habitat.

Table 2. Special Status Plant Species Evaluated for Presences within Pedro Point Headlands Coastal Trail Study Area

Common Name	Scientific Name	Status	General Habitat Description Growth	Suitable Habitat?
White-rayed pentachaeta	*Pentachaeta bellidiflora*	CNPS List 1B.1 FE CE	Valley and foothill grassland, open dry rocky slopes, often on serpentine bedrock Annual herb	Work area lacks suitable habitat.
Choris' popcorn-flower	*Plagiobothrys chorisianus* var. *chorisianus*	CNPS List 1B.2	Chaparral, coastal scrub, coastal prairie (mesic areas) Annual herb	Work area lacks suitable micro-habitat
Hickman's cinquefoil	*Potentilla hickmanii*	CNPS List 1B.1	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps (vernally mesic, marshes and swamps (freshwater) Perennial herb	Site has marginal habitat
San Francisco campion	*Silene verecunda* ssp. *verecunda*	CNPS List 1B.2	Sand hills and rocky soils in coastal prairie and scrub Perennial herb	Site has marginal habitat.
California seablite	*Suaeda californica*	CNPS List 1B.1 FE	Coastal salt marshes Perennial herb	Site has no suitable habitat.
Two-fork clover	*Trifolium amoenum*	CNPS List 1B.1	Coastal bluff scrub, grassland, often serpentine Annual herb	No suitable habitat on site.
Saline clover	*Trifolium hydrophilum*	CNPS List 1B.2	Moist grasslands, alkaline Annual herb	No suitable habitat on site.
San Francisco owls-clover	*Triphysaria floribunda*	CNPS List 1B.2	Serpentine prairie, scrub, grassland Annual herb	No suitable habitat on site.

Status: -Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC), Federal Species of Concern (FSC); California State Endangered (CE); California State Threatened (CT); California Native Plant Society (CNPS)

2.3.5 Special Status Wildlife Species

Special status wildlife species include those listed, proposed or candidate species by the Federal or the State resource agencies as well as those identified as State species of special concern. In addition, all raptor nests are protected by CDFW Code, and all migratory bird nests are protected by the Federal Migratory Bird Treaty Act. Previous biological reports evaluated the area for species status species. Special status wildlife species evaluated for their potential presence in the project area is described in Table 3.

Table 3. Special Status Wildlife Species and their Predicted Occurrence at Pedro Point Headlands Coastal Trail Study Area, Montara Quad, October 2019

SPECIES	STATUS[1]	HABITAT	POTENTIAL OCCURRENCE ON SITE
Invertebrates			
Monarch butterfly *Danaus plexippus*	*	Eucalyptus, cypress and pine trees groves provide winter habitat when they have adequate protection from wind and nearby source of water	Marginal habitat on site; perennial water only in San Pedro Creek.
San Bruno elfin butterfly *Callophrys mossii bayensis*	FE	Grasslands with larval host plant *Sedum spathuilfolium*	None. No suitable habitat on site.

Mission blue butterfly *Plebejust icarioides missionensis*	FE	Grasslands with *Lupinus albifrons* for larval foodplant	None; no suitable habitat on site.
Myrtle's silverspot butterfly *Speyeria zerene myrtleae*	FE	Coastal dunes/hills	None. Extirpated from San Mateo County
Fish			
Steelhead *Oncorhynchus mykiss*	FT, CH-A	Perennial creeks and rivers with gravels for spawning.	None. No suitable habitat on site. Occurs in San Pedro Creek.

Table 3. Special Status Wildlife Species and their Predicted Occurrence at Pedro Point Headlands Coastal Trail Study Area, Montara Quad, October 2019

Longfin smelt *Spirinchus thaleichthys*	FC, ST	Open waters of estuaries, at bottom of water	None; no suitable habitat on site.
Amphibians			
California giant salamander *Dicamptodon ensatus*	CSC	Adults utilize moist forests adjacent to perennial creeks and rivers; aquatic breeding	None, no suitable habitat on site.
California red-legged frog *Rana draytonii*	FT, CSC, CH-P	Breed from Dec to early April in marshes, estuaries, ponds, and off-channel areas of creeks with still water at least into June. Some adults may disperse into areas with moist, dense vegetation during non-breeding season.	No breeding habitat on site. May disperse during non-breeding seasor dense vegetation in ephemeral drainages. Closest known occurrenc in San Pedro Creek.
Reptiles			
Western pond turtle *Emys marmorata*	CSC	Creeks and ponds with water of sufficient depth for escape cover, and structure for basking; grasslands or bare areas for nesting.	None; no suitable habitat on site.
San Francisco garter snake *Thamnophis sirtalis tetrataenia*	FE, SE, FP	Creeks and ponds with adjacent open grasslands for upland refugia	None; no suitable habitat on site.
Birds			
Ridgeway's rail *Rallus obsoletus obsoletus*	FE, SE, FP	Salt and brackish water marshes with sloughs in SF Bay	None. No suitable habitat on site.
Marbled murrelet *Brachyramphus marmoratus*	FT, SE	Nests in old growth forest of redwood or fir with large branches for nest platforms; forages on fish in ocean/large lake	None; no suitable habitat on site.
Loggerhead shrike *Lanius ludovicianus*	CSC	Nests in shrub habitat with surrounding grasslands or open areas for foraging	May nest in scrub habitats.
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	CSC	Nests in dense vegetation at water's edge of ponds, estuaries, creeks	None; no suitable habitat on site.
Alameda song sparrow *Melospiza melodia pusillula*	CSC	Nests in salt marshes of South SF Bay	None; no suitable habitat on site.
Mammals			

Townsend's big-eared bat *Corynorhinus townsendii*	CSC	Roosts in cave and man-made buildings; very sensitive to disturbance	None; no suitable habitat on site.
Pallid bat *Antrozous pallidus*	CSC	Roosts in caves, hollow trees, mines, buildings, bridges, rock outcroppings	None; no suitable habitat on site.
Big free-tailed bat *Nyctinomops macrotis*	CSC	High cliffs or rocky outcrops for roosting	None; no suitable habitat on site.

Table 3. Special Status Wildlife Species and their Predicted Occurrence at Pedro Point Headlands Coastal Trail Study Area, Montara Quad, October 2019

San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	CSC	Woodlands, scrub, riparian where sticks available to build their houses.	May occur in any habitats on site.
American badger *Taxidea taxus*	CSC	Grasslands with friable soils	None; no suitable habitat on site.

1 Key to status:

FE=Federally listed as endangered species; FT=Federally listed as threatened species; CH-A = Federally designated CH is absent at site; CH-P= Federally designated CH is present, see discussion above ;SE=State listed as endangered species; ST= State listed as threatened species; FP = State Fully Protected species
CSC=California species of special concern' *=Species of local concern under County LCP/ESH**A**

Only four special status wildlife species may occur within the project study area, as noted in Table 3.

California red-legged frog (CRLF) are known from San Pedro Creek east of the northern end of the project study area. Individuals may occasionally disperse during the non-breeding season from the perennial San Pedro Creek, to the west into the ephemeral creek beds that cross the proposed trail alignment where dense moist vegetation is present. Although the USFWS Designated Critical Habitat (CH) map shows that this project study area is included as CH for the CRLF, the study area lacks the primary constituent elements (PCE) as described in CH listing for this species. Therefore, the study area is only marginal habitat for this species. The proposed trail will not permanently adversely modify CH for the CRLF. Recommended measures are described to avoid and minimize direct impacts to individual CRLF if any are present during construction work in the ephemeral drainages that cross the trail study area.

Overwintering Monarch butterflies may occur in the northern portion of the project study area in the Monterey pine forest that is closest to San Pedro Creek (located to the east). This species has suffered severe population declines in recent years, and may be considered as ESHA. The remainder of the forested areas may provide temporary autumnal roosts for migrating Monarchs. Recommended measures are described below to avoid and minimize direct impacts to this species and their habitat.

Loggerhead shrikes may nest and forage in the coastal scrub habitat or may nest at the western edge of the of the forest habitat and forage in the coastal scrub to the east of the project study area. Recommended measures are described below to avoid and minimize direct impacts to this species and their habitat.

San Francisco dusky-footed woodrats are considered a California species of special concern. They occur in a variety of habitats where sticks are available for them to build their houses, in which they nest and use for refuge. Peak breeding is in spring and may occur to September. Recommended measures are described below to avoid and minimize direct impacts to this species and their habitat.

3.0 OPPORTUNITIES AND CONSTRAINTS DISCUSSION

The thresholds of significance presented in the CEQA Guidelines, updated December 2018, were used to evaluate project constraints and to determine if implementation of the proposed project would pose significant impacts to biological resources. For this analysis, significant impacts are those that substantially affect, either directly or through habitat modifications:

a) A species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
b) Riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
c) State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation plan, or other approved local, regional, or state habitat conservation plan.

3.1 BIOLOGICAL CONSTRAINTS OF THE PROJECT

3.1.1 Federally Listed Species

No federally listed plant species are expected to occur in the project study area. The only federally listed wildlife species that may occur in the project study area is the California red-legged frog (CRLF). They may occur during their non-breeding season if dense moist vegetation occurs in the two ephemeral drainages that cross the trail, and if so, this may be a constraint during the trail construction period. Measures listed below can avoid direct impacts to CRLF individuals, if any are present. The trail project is not expected to cause permanent impacts to any CRLF habitat.

Recommendations

- California red-legged frog (CRLF). Conduct preconstruction surveys for CRLF no more than 48 hours prior to construction in or around the two ephemeral drainages within the project area. If any CRLF are present, a Service-approved biologist should capture and relocate them to areas with suitable cover outside the work area, and if necessary, monitor these construction areas after any CRLF are relocated, until construction in these areas is complete. Obtain permits and approvals from USFWS (e.g., Biological Opinion) and CDFW (e.g., SAA) prior to construction. Document any CRLF observed or relocated in a report to resource agencies.

3.1.2 Special Status Species (non-federal)

Monarch butterflies, loggerhead shrike, San Francisco dusky-footed woodrat, and nesting native birds may be impacted by construction, and permanent removal of their habitat by this project. Because most nesting birds are protected by the Migratory Bird Treaty Act as well as California Fish and Wildlife Code, nesting birds may be a constraint during the trail construction period. Monarchs, nesting shrikes and woodrats individuals may be directly impacted if any are present during construction, and permanent removal of their habitat may cause long term impacts to these special status species. Measures are listed below to avoid potential impacts. No other special status wildlife species occur within the project area.

Recommendations

- Monarch butterfly. Qualified biologist should conduct surveys for any important autumnal or overwintering Monarch roosts in the pine and Eucalyptus forests along the project study area during the fall/winter at least 2 weeks prior to tree removal. If any roosts are determined to be of high value to Monarchs, schedule tree removal to occur during months when Monarchs are not present. Develop plan for restoration of nearby areas to create habitat at a 1:1 ratio where permanent removal of high value Monarch habitat will occur. Consult with resource agencies (federal, state, county and city) as needed for habitat restoration plan approval. The Xerces Society (https://xerces.org/monarchs) and the Natural Resource Conservation Service (https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ok/programs/financial/eqip/?cid=nrcseprd814006) offer recommendations for surveys and habitat restoration of the western coastal population of Monarchs.
- Loggerhead shrike and other nesting native birds. Schedule construction to occur between September 1 and March 1 of any given year, which is outside the bird breeding season on the Central Coast. If this is not practical, then a qualified biologist will conduct surveys for nesting birds no more than 14 days prior to any vegetation removal for this project. If no active bird nests are observed, then no additional measures are recommended. If an active bird nest may be directly or indirectly damaged during the project work, as determined by the qualified biologist, then the biologist will flag a buffer zone where no work will occur until the biologist has determined that all young have fledged the nest. If that is not practical, then the work will be delayed until all young have fledged the nest, as confirmed by the biologist. The project is not expected to permanently remove significant nesting habitat for either shrikes or other nesting birds, and plans are being developed for restoration of the degraded coastal scrub habitat abutting a portion of the area to the west of the project study area which will enhance potential foraging habitat for shrike and other species.
- San Francisco dusky-footed woodrat. At least one month prior to onset of construction activities in the project site, a qualified biologist should survey the area for presence of woodrat houses. Any woodrat houses within 10 feet of habitat removal areas should be flagged and mapped. If possible, modify trail alignment to avoid removal of woodrat houses. If that is not possible, the biologist should consult with CDFW biologist regarding best method for preventing direct impacts to woodrat individuals (e.g. hand removal of woodrat houses) prior to construction, and the need for a plan to create and monitor man-made woodrat houses at a 1:1 ratio if appropriate.

3.1.3 State and Federal Regulated Waterways

The proposed study area supports two ephemeral drainages; crossing these drainages can be a constraint to trail design and construction. If the drainages are found to be regulated by federal or state agencies, permits for construction in or over these features may be required. Measures are listed below to avoid affecting these drainages. The proposed project recommends placement of a culvert in the northernmost drainage where the proposed trail switchbacks up the hillside. The trail would cross the drainage several times and a minimum 18 diameter culvert is recommended to accommodate a 100-year discharge. At the southernmost drainage there is an existing culverted crossing on the existing trail/road. If the trail is to be paved, the plan recommends replacement of the culvert.

Recommendations

- If feasible, design trail improvements to span the northernmost drainages, rather than the installation of culverts. Utilize puncheons or other drainage-spanning structures to avoid work or placement of fill (i.e., culvert) within a waterway. If culverts are used, confer with regulating agencies and obtain all necessary permits prior to construction.

- Conduct work in the non-rainy season when the drainages are dry (no flowing water is present and creek dewatering is not required).
- Implement standard erosion control BMP's and waterway protection measures during the trail construction to minimize impacts to the waterways, including:
    - Install devices (straw wattles) to divert surface water away from the work area.
    - Designate the limits of work and monitor construction to ensure no vegetation removal, grading, construction or other work occur outside the designated limits of work.
    - No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored outside the designated limits of work.
    - All staging of equipment and materials, and refueling of equipment, shall be located a minimum of 100-feet from waterways. The contractor shall prepare and implement a fuel spill prevention and clean-up plan.

3.1.4 Vegetation

Trail construction work will require work within the scrub and forested areas. Trees may need to be removed to accommodate new trail sections. None of the vegetation types are considered sensitive or regulated at the State or federal level; however, the City of Pacifica and San Mateo County regulate tree removal. Please refer to the arborist report and recommendations regarding tree removal.

Removal of the common understory vegetation, including non-native tree species, to accommodate the trail project is not considered a significant impact to botanical resources. Although no special status plant species have been documented from the study area, seasonal protocol-level surveys have not been conducted.

Recommendations

- Prior to any ground-disturbing activities, surveys for special status plants should be conducted in all areas potentially impacted and within a 50-foot buffer. The surveys shall be conducted in general accordance with CDFW (CDFG, 2009), California Native Plant Society (CNPS, 2001), and U.S. Fish and Wildlife Service (USFWS, 2000) protocols for conducting special status plant surveys. The surveys should be seasonally timed to coincide with the blooming periods for the species that have potential to occur on-site or that are known to occur on-site (see Table 2).
- Measures should be implemented to avoid special status plants within the limits of disturbance. A mitigation plan should be prepared and submitted to the jurisdiction overseeing if impacts will occur. If a state-listed plant species would be impacted, the plan should be submitted to CDFW for review. If a federally listed plant species would be impacted, the plan should be submitted to USFWS for review. The plan shall include specific descriptions of the mitigation site, rationale for expecting successful restoration, site preparation, planting plan, maintenance activities during the monitoring period, success criteria based on the goals and measurable objectives, adaptive management plan, and notification of completion of compensatory mitigation and agency confirmation.
- Prevent the spread of invasive weeds on the project site that could potentially displace habitats for special status species or reduce the quality of their habitats by implementing construction BMPs. All construction equipment should be power-washed prior to entering the site so that it is free of soil, seeds, and vegetation that could translocate invasive species into the site from elsewhere.
- Implement erosion control for areas disturbed by trail construction. Utilize a native erosion control seed mix to revegetate bare areas for erosion control.
- Implement tree protection measures as outlined in City of Pacifica or San Mateo County regulations. This may include implementing a tree protection plan and tree replacement.

3.1.5 Fish and Wildlife Movement Corridors

No permanent impacts to wildlife movement or corridors is expected from the project.

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