4.6 Terrestrial Biological Resources

This section analyzes the potential for the Monterey Peninsula Water Supply Project (MPWSP or proposed project) to adversely affect biological resources and prescribes mitigation to reduce significant impacts. This section describes terrestrial biological resources in the Monterey region and provides detailed information regarding the resources that exist, or have the potential to exist, within a 50-foot buffer of the project area (the study area for terrestrial biological resources). The resources described include vegetation communities and associated wildlife, wetlands and other water bodies, freshwater and anadromous fisheries, and special-status plants and wildlife (federally and state-endangered, threatened, proposed, and candidate species; and state and local species of concern). Impacts on marine biological resources are discussed separately in Section 4.5, Marine Resources.

The CPUC received several comments pertaining to terrestrial biological resources during the public review period for the April 2015 Draft EIR. Comments on the April 2015 Draft EIR suggested that mapping of biological resources was at a scale that made it difficult to read or distinguish vegetation or wildlife habitat types, and that information on special-status species occurrences should have been included. New maps have been included in this EIR/EIS (See Appendix F) based on more detailed vegetation and habitat mapping that has been completed since the Draft EIR was published. Descriptive information about vegetation and wildlife habitats and special-status species is in Section 4.6.1.4 through Section 4.6.1.10.

Comments indicated that protocol surveys should have been included in the Draft EIR. Although this is not a CEQA or NEPA requirement, such surveys have been completed as part of the permitting process, and the results are reflected in Sections 4.6.1.8, Special-Status Species, and 4.6.1.9, Critical Habitat, of this EIR/EIS.

Comments suggested that the Draft EIR provided insufficient or deferred mitigation with regard to impacts on some biological resources, including special-status plants and silvery legless lizard. Mitigation measures in Sections 4.6.5.1 (Construction Impacts) and 4.6.5.2 (Operational and Facility Siting Impacts) have been revised based on input from regulatory agencies and improved species information resulting from more extensive surveys of biological resources. Mitigation for species listed by the state of California as Fully Protected Species also is addressed in these sections.

Several comments on the Draft EIR concerned use of western snowy plover occurrence data in the vicinity of the proposed subsurface slant wells, status of western snowy plover in the vicinity of this facility, and potential impacts of this facility on plovers. ESA requested western snowy plover occurrence data from Point Blue Conservation Science, but Point Blue Conservation Science was unable to provide this data prior to publication of this EIR/EIS. This EIR/EIS includes additional information and analysis in regards to western snowy plover in Sections 4.6.5.1 (Construction Impacts) and 4.6.5.2 (Operational and Facility Siting Impacts).

Comments on the Draft EIR suggested that impacts of reduced pumping on the riparian habitat of the Carmel River should be analyzed. This EIR/EIS concluded that since a primary purpose of the proposed project is to reduce pumping from the Carmel River to restore and increase flows, the effect of this project would be a beneficial effect on stream flows in the Carmel River and the river's aquatic and riparian biological resources. This is discussed further in Sections 4.3 (Surface Water Hydrology and Water Quality, and Section 4.6.1.2 (Information Sources and Survey Methodology).

Several comments on the Draft EIR were concerned with consistency of the proposed project with a mitigation monitoring plan for the CEMEX facility. This EIR/EIS relies on impact assessments and mitigation approaches developed in coordination with regulatory agencies taking current biological resource conditions into consideration. Comments on the Draft EIR also assert that no jurisdictional wetlands or other waters of the U.S. or of the state occur within the CEMEX property. This EIR/EIS continues to regard surface waters within the study area as potentially jurisdictional, except where noted in the discussion below, pending a jurisdictional determination made by the U.S. Army Corps of Engineers, Central Coast Regional Water Quality Control Board, or other regulatory agencies.

Comments on the Draft EIR also indicated that portions of the proposed project that would occur within Fort Ord Dunes State Park will require permits, coordination, and need to conform to a pending Habitat Conservation Plan (HCP) being prepared by FORA. Consistency of the proposed project with the existing HMP and Draft HCP is discussed in Sections 4.6.2.2, 4.6.5.1, and 4.6.5.2 of this EIR/EIS. Mitigation Measure 4.6-8 (Management Requirements within Borderland Development Areas along Natural Resource Management Area Interface) specifically addresses this issue.

Comments received on the Draft EIR concerned with local coastal planning issues requested that City of Marina Local Coastal Land Use Plan (LCLUP) primary and secondary habitat studies should be completed and these areas are mapped, and that the proposed project should be

consistent with LCLUP. Information on consistencies of habitat studies is in Sections 4.6.1.4, Vegetation Communities and Wildlife Habitats, 4.6.1.5, Sensitive Natural Communities, and 4.6.1.6, Wetlands and Other Waters. Information on LCLUP consistency is in Table 4.6-4 in Section 4.6.2.3, Local Regulations, and in Section 4.8, Land Use, Land Use Planning, and Recreation. Comments on the Draft EIR also recommended analysis of the effect of extraction wells on coastal dune and ESHAs. Information on the zone of influence of the extraction wells is located in Section 4.4, Groundwater Resources.

Some comments expressed concern about the authority of the Lead Biologist designated in the mitigation measures presented in the Draft EIR, and the role of that individual relative to the project proponent. This is further described in Section 4.6.5.2 under Mitigation Measure 4-6.1a.

4.6.1 Setting/Affected Environment

4.6.1.1 Definitions

Project area refers to the area where all construction-related disturbances would occur. All permanent footprints of the proposed facilities are within the project area.

Study area encompasses a 50-foot buffer around the project area. A 50-foot buffer around the project area was established as the survey area to ensure biological resources within the project area and immediate adjacent vicinity were assessed for potential direct and indirect project impacts. Reconnaissance-level biological field surveys conducted for the proposed project were generally consistent with the study area, with some exceptions (described in Section 4.6.1.2, below).

Special-status biological resources include special-status plants and animals,[1] sensitive natural communities, wetlands, and other waters of the United States and of the state, as defined by the U.S. Army Corps of Engineers (USACE), the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Services (NMFS), the California Department of Fish and Wildlife (CDFW), the California Coastal Commission (CCC), the California Regional Water Quality Control Board (RWQCB), and the California Native Plant Society (CNPS).

Special-status plant and animal species are defined as:

- Species listed under the Federal Endangered Species Act (FESA), Marine Mammal Protection Act, California Endangered Species Act (CESA), California Fish and Game Code, or Native Plant Protection Act as endangered, threatened, or depleted; species that are candidates or proposed for listing; or species that are designated as rare, species of special concern, or Fully Protected.
- Locally rare species defined in the CEQA Guidelines, which may include species that are designated as sensitive, declining, rare, or locally endemic, or as having limited or restricted distribution by various federal, state, and local agencies, organizations, and watch

[1] Several species known to occur within the general project area are accorded "special-status" because of their recognized rarity or vulnerability to habitat loss or population decline. Some of these species receive specific protection in federal and/or state endangered species legislation. Others have been designated as "sensitive species" or "species of special concern" on the basis of adopted policies of federal, state, or local resource agencies. These species are referred to collectively as "special-status species."

lists. This includes species ranked as California Rare Plant Rank (CRPR) 1A, 1B, 2A, 2B, 3 or 4 by the CNPS.[2]

Special-status plant and animal species are categorized as either listed or non-listed. Listed special-status species refers to those species that are listed as threatened or endangered under FESA and/or CESA. Non-listed special-status species refers to all other types of special-status species, as described above, that are not listed as threatened or endangered under FESA and/or CESA.

Sensitive natural community is a natural community that receives regulatory recognition from municipal, county, state, and/or federal entities, such as the CDFW in its California Natural Diversity Database (CNDDB), because the community is unique in its constituents, restricted in distribution, supported by distinctive soil conditions, and/or considered locally rare. (See Section 4.6.1.5 for a discussion of sensitive natural communities in the study area.)

Critical habitat is defined for listed species under FESA and consists of: (1) the specific areas within the geographical area occupied by the species at the time it is listed in accordance with the provisions of Section 4 of FESA, on which are found those physical or biological features (constituent elements) that are essential to the conservation of the species and that may require special management considerations or protection; and (2) the specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of Section 4 of FESA, upon a determination by the Secretary that such areas are essential for the conservation of the species.

Waters of the U.S. is defined in the Code of Federal Regulations (33 CFR 328.3[a]; 40 CFR 230.3[s]) as:

(1) All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;

(2) All interstate waters, including interstate wetlands;

(3) All other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce, including any such waters that are or could be used by interstate or foreign travelers for recreational or other purposes; or from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or which are used or could be used for industrial purposes by industries in interstate commerce;

(4) All impoundments of waters otherwise defined as waters of the U.S. under the definition;

(5) The tributaries of waters identified in numbers (1) through (4), above;

(6) Territorial seas; and

[2] CNPS CRPR 1A is a plant that is presumed extinct in California. CRPR 1B is a plant that is rare, threatened, or endangered in California and elsewhere. CRPR 2A is presumed extirpated in California, CRPR 2B is a plant that is rare, threatened, or endangered in California but more common elsewhere. CRPR 3 is a plant about which more information is needed. CRPR 4 is a plant of limited distribution.

(7) Wetlands located adjacent to waters (other than waters that are themselves wetlands) identified in numbers (1) through (6), above.

Federal "Other Waters" is a type of water of the U.S. It includes all waters of the U.S. described above, except for features that meet the federal definition of a wetland.

Waters of the state are defined differently by three state agencies: RWQCB, CDFW, and CCC. Waters of the state are more broadly defined than waters of the U.S. as any surface water or groundwater, including saline waters, within the boundaries of the state of California. Boundaries of waters of the state are often determined on a case-by-case interpretation of data by the state agencies. The definition of waters of the state for each state agency is described in Section 4.6.2.2, State Regulations.

Environmentally Sensitive Habitat Area (ESHA) is a designated protected area within the Coastal Zone as defined in the California Coastal Act. The detailed definition of ESHAs is provided in Section 4.6.2.2, State Regulations.

4.6.1.2 Information Sources and Survey Methodology

The descriptions of vegetation communities, wildlife habitats, and potentially jurisdictional waters in this section are based on reconnaissance-level field surveys,[3] focused and protocol level field surveys,[4] review of available biological resources survey reports encompassing portions of the study area, review of relevant literature, and review of databases and inventories maintained by resource agencies. The impact analysis described in this section is based on special-status species observations available to Environmental Science Associates (ESA) as of June 20, 2016.

The study area was surveyed by ESA, Arcadis, and AECOM[5] between 2012 and 2016. ESA biologists conducted reconnaissance-level field surveys of previously proposed pipeline alignments and facility sites on May 17, June 5, and September 20, 2012 (ESA, 2012); March 6, 7, and 26, 2013, and May 9, 2013 (ESA, 2013); and April 24, 2014, and June 25, 2014 (ESA, 2014). Updated surveys for the majority of proposed pipeline alignments and facility components that are included as part of the proposed project analyzed in this EIR/EIS were conducted by ESA biologists on March 23, 24, and 25; April 7; and May 20, 21, and 22, 2016 (ESA, 2016). AECOM conducted focused and protocol-level surveys, including wetland delineation mapping, of the proposed pipeline and facility sites on September 3 through 5, 2013; March 17 through 21, April 21 through 25, May 20 through 22, and June 11 through 20, 2014; and March 17 and 18, April 7 through 9, June 10, June 15 through 18, 2015, and in 2016[6] (URS, 2014a; AECOM, 2016). The area where water produced during development of the ASR-5 and ASR-6 Wells was not accessed because of unexploded ordnance restrictions, but the majority of the site was

[3] Reconnaissance-level field surveys are conducted for the purpose of generally describing the vegetation communities present within a project area and assessing the potential for special-status species to occur within the project area plus a 50-foot buffer (i.e., the survey area).

[4] Focused surveys are conducted to determine the presence or absence of a certain species or habitat type. Protocol-level surveys are a type of focused survey using specific survey protocol as defined by a regulatory agency.

[5] URS conducted the surveys in September 2013, March 2014, April 2014, and June 2014, but AECOM acquired URS in 2014.

[6] Dates of the 2016 survey have not been provided.

visually surveyed from General Jim Moore Boulevard. The assessment of the Terminal Reservoir site is based on reconnaissance-level surveys conducted of the site by Arcadis and URS in September 2013, March 2014, April 2014, and June 2014 (URS, 2014a), and special-status plant and animal surveys, wetland delineation mapping, and vegetation mapping conducted by AECOM between 2013 and 2015 (AECOM, 2016).

During the 2016 surveys, ESA confirmed plant communities identified (inclusive of vegetation alliance) and wetland delineation mapping conducted by AECOM between 2013 and 2016 and by ESA between 2012 and 2015. ESA biologists also identified and mapped any new plant communities, habitat types, and potentially jurisdictional wetlands and drainages within the study area.

For this analysis, ESA biologists documented plant and wildlife species observed during reconnaissance-level, protocol-level, and focused surveys and evaluated the potential for sensitive natural communities, special-status plant and animal species, and wildlife movement corridors to occur within the study area.

Other key references used in the preparation of this section include, but are not limited to, aerial photographs, topographic maps, soil survey maps, geological maps, USFWS National Wetland Inventory (NWI) maps (USFWS, 2016b), climatic data, project plans, and the following:

- H. T. Harvey & Associates, 2005. *California American Water Company Monterey County Coastal Water Project Terrestrial Biological Resources Phase II Report.*
- Jones & Stokes, 2006. *Final Environmental Impact Report/Environmental Assessment for the Monterey Peninsula Water Management District Phase 1 Aquifer Storage and Recovery Project.* State Clearinghouse No. 2004121065. Prepared for the Monterey Peninsula Water Management District. Certified August 21, 2006.
- Fort Ord Reuse Authority, 2012. *Draft Installation-Wide Multispecies Habitat Conservation Plan*. Prepared by ICF International. March 2012.
- "Monterey Desal rare plant survey" email from Martha Lowe, Environmental Science Associates, to Erin Harwayne, Denise Duffy & Associates (ESA, 2010).
- Special-status plant surveys conducted on the CEMEX site on April 24, 2014 by ESA and Zander Associates (Zander Associates, 2014).
- Special-status plant and animal surveys, wetland delineation mapping, and vegetation mapping conducted in the study area between 2013 and March 13, 2016 (AECOM, 2016).
- Special-status plant surveys conducted by Denise Duffy & Associates, Inc. in 2010 (Denise Duffy & Associates, 2010a).

Other sources of information include: applicable literature on biological resources in the Monterey region; the Monterey County General Plan (Monterey County, 2010); the CNPS on-line Electronic Inventory (CNPS, 2016); the USFWS official list of species occurring in Monterey County (USFWS, 2016a); the CDFW's CNDDB special-status species records for the Moss Landing, Marina, Salinas, Seaside, Spreckels, Carmel Valley, Monterey, Mount Carmel, and Prunedale United States Geological Survey (USGS) 7.5-minute topographic quadrangles (CDFW, 2016); and Calflora (2016).

4.6.1.3 Regional Terrestrial Biological Resources

Monterey County is situated at the confluence of the San Francisco Bay, Central Coast, and South Coast Range floristic provinces. As a result, the flora of Monterey County is some of the most diverse in California. Monterey County represents the southern and northern population range limits of many rare species endemic to the northern and southern portions of the state, respectively.

The study area extends from Tembladero Slough to the Carmel River valley to the south. The proposed Castroville Pipeline traverses agricultural fields and a portion of the Salinas River. Some segments of the proposed pipeline alignments are located on stabilized back dune slopes on the west side of Highway 1, within incorporated areas generally bordering Highway 1 to the east. The proposed slant well site is located within the CEMEX active mining area in northern Marina. In the vicinity of the proposed ASR facilities and other proposed pipeline alignments, the former Fort Ord military base comprises extensive areas of relatively undisturbed maritime chaparral, a unique plant community associated with stabilized Pleistocene sand dunes. The proposed interconnection improvements for the Highway 68 satellite water systems are located within low-density residential and business areas in the forested hillsides above the Carmel River Valley.

Most of the study area is within 5 miles of the Pacific Ocean on level to gently sloped topography. With the exception of the proposed interconnection improvements along the Highway 68 corridor, which range between 400 and 800 feet in elevation, elevations within the other portions of the study area range from sea level to approximately 350 feet. Average annual precipitation in the city of Monterey is 20 inches; annual temperatures average 65 degrees Fahrenheit (NOAA, 2014).

4.6.1.4 Vegetation Communities and Habitat Types

The vegetation/habitat classification presented herein is based on *A Manual of California Vegetation* (Sawyer et al., 2009) and habitat mapping methods used in the *CalAm Coastal Water Project Final Environmental Impact Report* (CPUC, 2009). The majority of the study area was mapped in the field using vegetation alliances described in *A Manual of California Vegetation*. This mapping was conducted by AECOM between 2013 and 2015 in support of federal and state regulatory permit applications (AECOM, 2016). ESA verified this survey data in the field in 2016. For the purposes of this EIR/EIS, these vegetation alliances were combined into broader vegetation community types that correlate with wildlife habitat types. The description of the general vegetation types includes a listing of the finer-scale alliances that are either largely consistent with them or that are included within them. **Table 4.6-1** summarizes the broader vegetation types and their included alliances, and crosswalks these with wildlife habitats. This method supports consistency between this document, which focuses on the broader vegetation community types, and future regulatory permit applications, which may rely on vegetation alliance or wildlife habitat categories.

TABLE 4.6-1
VEGETATION COMMUNITY AND HABITAT TYPE CROSSWALK

Vegetation Community/ Habitat Type	Vegetation Alliance[a]	Wildlife Habitat[b]
Non-native Grassland	Annual brome grasslands California annual grassland	Annual Grassland
Central Dune Scrub	California buckwheat scrub California coffee berry scrub California sagebrush scrub Deerweed scrub Dune mat Island buckwheat scrub Sandmat manzanita chaparral Silver dune lupine-mock heather scrub	Coastal Scrub
Central Maritime Chaparral	Chamise chaparral alliance Maritime chaparral Sandmat manzanita chaparral Silver dune lupine-mock heather scrub Woolly-leaf manzanita chaparral Deerweed scrub	Mixed Chaparral
Northern Coastal Scrub	California sagebrush scrub California sagebrush-California buckwheat Scrub California sagebrush-California black sage Scrub Coastal brambles Deerweed scrub Poison oak scrub Yellow bush lupine scrub	Coastal Scrub
Coyote Brush Scrub	Coyote Brush Scrub	Coastal Scrub
Riparian Woodland and Scrub	Arroyo willow thickets Box-elder forest Fremont cottonwood woodland Shining willow groves	Valley Foothill Riparian
Freshwater Marsh	California bulrush marsh Cattail marshes Soft rush marsh Knotweed marsh	Freshwater Emergent Wetland
Coast Live Oak Woodland	Coast Live Oak woodland	Coastal Oak Woodland
Open Water	None	Riverine
Ice Plant Mats	Ice Plant Mats	None
Agricultural	None	Cropland
Ruderal	Perennial pepperweed patches	None
Developed/Landscaped	Eucalyptus groves Acacia shrubland Monterey cypress stands Monterey pine woodland	Urban Barren Eucalyptus

NOTES:
[a] Per protocol-level and focused surveys conducted by AECOM, which used the classifications from *A Manual of California Vegetation* [Sawyer et al., 2009]
[b] Classifications from *A Guide to Wildlife Habitats of California* [Mayer and Laudenslayer, 1988)

Figures 4.6-1a through **4.6-1o** provide maps of vegetation alliances, listed within their respective vegetation community/habitat type as described below, within the study area. The figures are intended as a general guide; additional and more detailed information is included in the discussion below.

Vegetation communities and habitat types within the project area include: non-native grassland, central dune scrub, central maritime chaparral, northern coastal scrub, coyote brush scrub, riparian woodland and scrub, freshwater marsh, coast live oak woodland, open water (includes pond, channel, river), ice plant mats, agricultural, ruderal, and developed/landscaped.

Non-Native Grassland

Non-native grassland occurs at various locations throughout the study area. It occurs as monotypic stands and also interspersed with several other vegetation communities, such as oak woodland, central maritime chaparral, central dune scrub, ice plant mats, and ruderal areas. It can support dominant plant species of other communities, and can provide habitat for special-status species that occur in these adjacent habitats. The largest expanses of non-native grassland within the project area occur north of the intersection of Del Monte Boulevard and Highway 1 in Marina, along the Monterey Peninsula Recreational Trail in the vicinity of Reservation Road, north of the intersection of Highway 1 and Nashua Road, and at the existing Monterey Regional Water Pollution Control Agency (MRWPCA) Regional Wastewater Treatment Plant, including the proposed Desalination Plant site and other lands north of Charles Benson Road. Within the study area this community comprises a variety of non-native annual grasses, introduced weedy forbs, and a few native grasses and forbs. Common dominants of non-native grassland in the study area include Italian ryegrass (*Festuca perennis*), ripgut brome (*Bromus diandrus*), annual fescue (*Festuca myuros*), hare barley (*Hordeum murinum* ssp. *leporinum*), and wild oat (*Avena fatua*). Associated forbs include filaree (*Erodium botrys*), English plantain (*Plantago lanceolata*), wild radish (*Raphanus sativus*), shortpod mustard (*Hirschfeldia incana*), prickly sow thistle (*Sonchus asper*), deerweed (*Acmispon glaber*), and iceplant (*Carpobrotus edulis, C. chilensis*). Occasional native grasses such as purple needlegrass (*Stipa pulchra*) and creeping wildrye (*Elymus triticoides*) also occur. Some shrubs and trees, including the native coyote brush (*Baccharis pilularis*), mock heather (*Ericameria ericoides*), Monterey cypress (*Hesperocyparis macrocarpa*), and non-native eucalyptus (*Eucalyptus globulus,* and others), also are found sporadically within the grasslands. In general, the diversity of plant species within non-native grassland varies greatly with levels of disturbance. Coastal prairie, a rare and sensitive plant community of relatively undisturbed sites and characterized by a high proportion of native perennial grasses, and a diversity of native forbs and several special-status species, was not observed within the study area.

Non-native grassland includes the following vegetation alliances as mapped by AECOM (2016):

- Annual brome grasslands (*Bromus* [*diandrus, hordeaceus*] - *Brachypodium distachyon* Herbaceous Semi-Natural Alliance)
- California annual grassland

Annual grassland provides little cover for wildlife, yet numerous species forage, and several species breed, in this community. Small mammals such as deer mice (*Peromyscus maniculatus*), California ground squirrels (*Spermophilus beecheyi*), and Botta's pocket gophers (*Thomomys bottae*) are common residents in annual grasslands in Monterey County. Larger mammals such as coyotes (*Canis latrans*) and bobcats (*Lynx rufus*) occasionally forage in this community as well.

A variety of birds use annual grasslands as foraging habitat, including savannah sparrows (*Passerculus sandwichensis*), horned larks (*Eremophila alpestris*), western meadowlarks *(Sturnella neglecta*), lesser goldfinches *(Carduelis psaltria*), and barn swallows (*Hirundo rustica*). Western meadowlarks, horned larks, and mourning doves (*Zenaida macroura*) may nest in grasslands in the project area. Raptors, such as red-tailed hawks (*Buteo jamaicensis*) and northern harriers *(Circus cyaneus*), commonly forage over grasslands as well. Some species of raptors, such as red-tailed hawks and white-tailed kites (*Elanus leucurus*), may occasionally nest in trees within the grassland. Western fence lizards *(Sceloporus occidentalis*), gopher snakes (*Pituophis catenifer catenifer*), and other snakes are also likely to occur in this community in the project area.

Central Dune Scrub

Central dune scrub occurs extensively throughout most of the study area. This vegetation type generally exhibits some level of disturbance from past or present land use, dune instability, or invasive plant species, but the level of disturbance varies throughout the study area.

Central dune scrub occurs in the northern portion of the study area along Lapis Road and Del Monte Boulevard, along the Monterey Peninsula Recreational Trail between Marina and Seaside, in the dunes along the western boundary of the CEMEX active mining area (i.e., the vegetated patches between the active mining area and the beach), in undisturbed sections of the CEMEX active mining area, and along the CEMEX access road. These areas contain native dune scrub species, but also support a variety of non-native and invasive species and often include a substantial proportion of non-native and highly invasive ice plant. Typical native shrubs found throughout the disturbed dune scrub habitat include California sagebrush (*Artemisia californica*), coast buckwheat (*Eriogonum latifolium*), deerweed, California lilac (*Ceanothus* spp.), mock heather (*Ericameria ericoides*), silver dune lupine (*Lupinus chamissonis*), and sandmat manzanita (*Arctostaphylos pumila*). Non-native cover typically includes non-native grasses (wild oat, Mediterranean barley, and Italian ryegrass), iceplant, and other weedy species. Some typical foredune species, such as beach evening primrose (*Camissonia cheiranthifolia*) and sea rocket (*Cakile maritima*), occur along the CEMEX access road where the central dune scrub transitions to the beach.

The composition of dune scrub vegetation transitions throughout the study area from areas dominated by non-native species (within residential neighborhoods in Marina and between Imjin Parkway and Lightfighter Drive in Sand City) to areas with higher native cover in the dunes between the CEMEX active mining area and along the CEMEX access road, Lapis Road, Del Monte Boulevard north of Beach Road, and the Monterey Peninsula Recreational Trail between Imjin Parkway and approximately Reindollar Avenue.

Biological Study Area

Non-native Grassland
- California annual grassland

Central Dune Scrub
- Central Dune Scrub
- California sagebrush scrub
- Silver dune lupine-mock heather scrub
- Dune mat
- California buckwheat scrub
- Sandmat manzanita chaparral

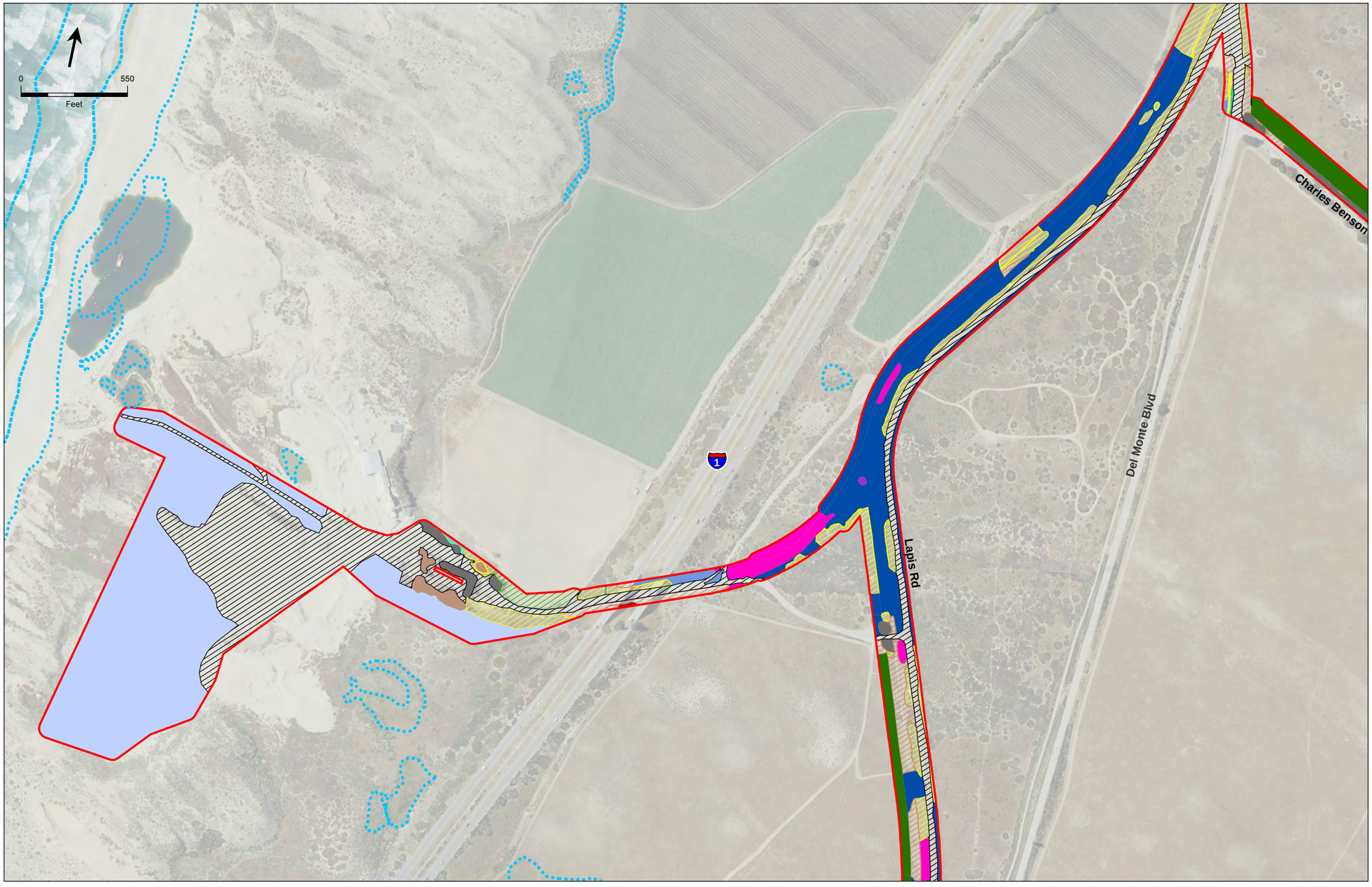
Northern Coastal Scrub
- Yellow bush lupine scrub

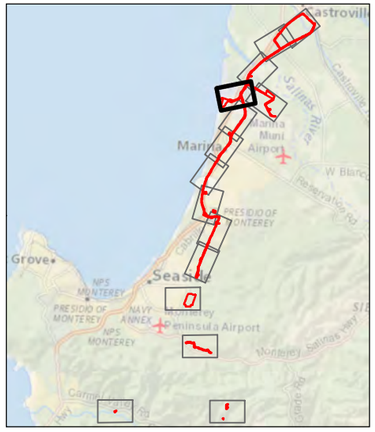
Coyote Brush Scrub
- Coyote Brush Scrub

Developed/Landscaped
- Monterey cypress stands
- Developed
- Eucalyptus groves

Other
- Agricultural
- Ruderal
- Ice Plant mats

Potential Wetlands and Waters
- Potentially USACE, RWQCB, CDFW, and/or CCC Jurisdictional



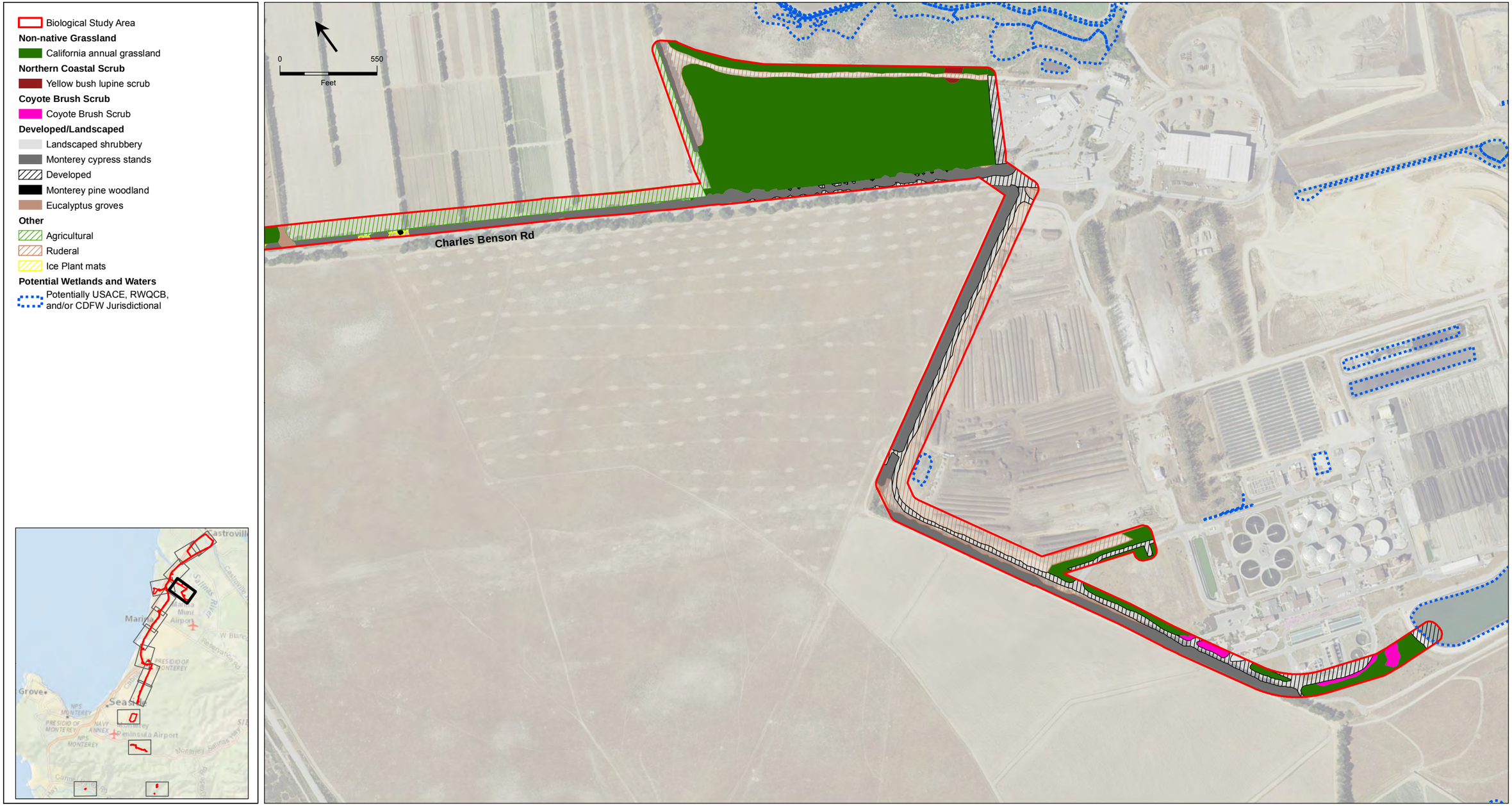


SOURCE: ESA, 2016,AECOM, 2016

205335.01 Monterey Peninsula Water Supply Project

Figure 4.6-1a

Vegetation Communities and Potential Wetlands and Waters in the Terrestrial Biological Resources Study Area



SOURCE: ESA, 2016,AECOM, 2016

205335.01 Monterey Peninsula Water Supply Project

Figure 4.6-1b

Vegetation Communities and Potential Wetlands and Waters in the Terrestrial Biological Resources Study Area

Biological Study Area

Non-native Grassland
- California annual grassland

Central Dune Scrub
- Central Dune Scrub
- California sagebrush scrub
- Deerweed scrub
- Silver dune lupine-mock heather scrub
- Sandmat manzanita chaparral

Northern Coastal Scrub
- California sagebrush-California buckwheat Scrub

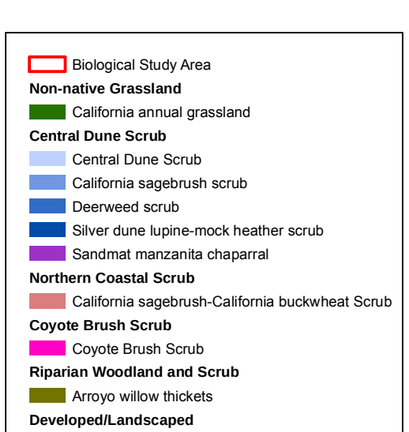
Coyote Brush Scrub
- Coyote Brush Scrub

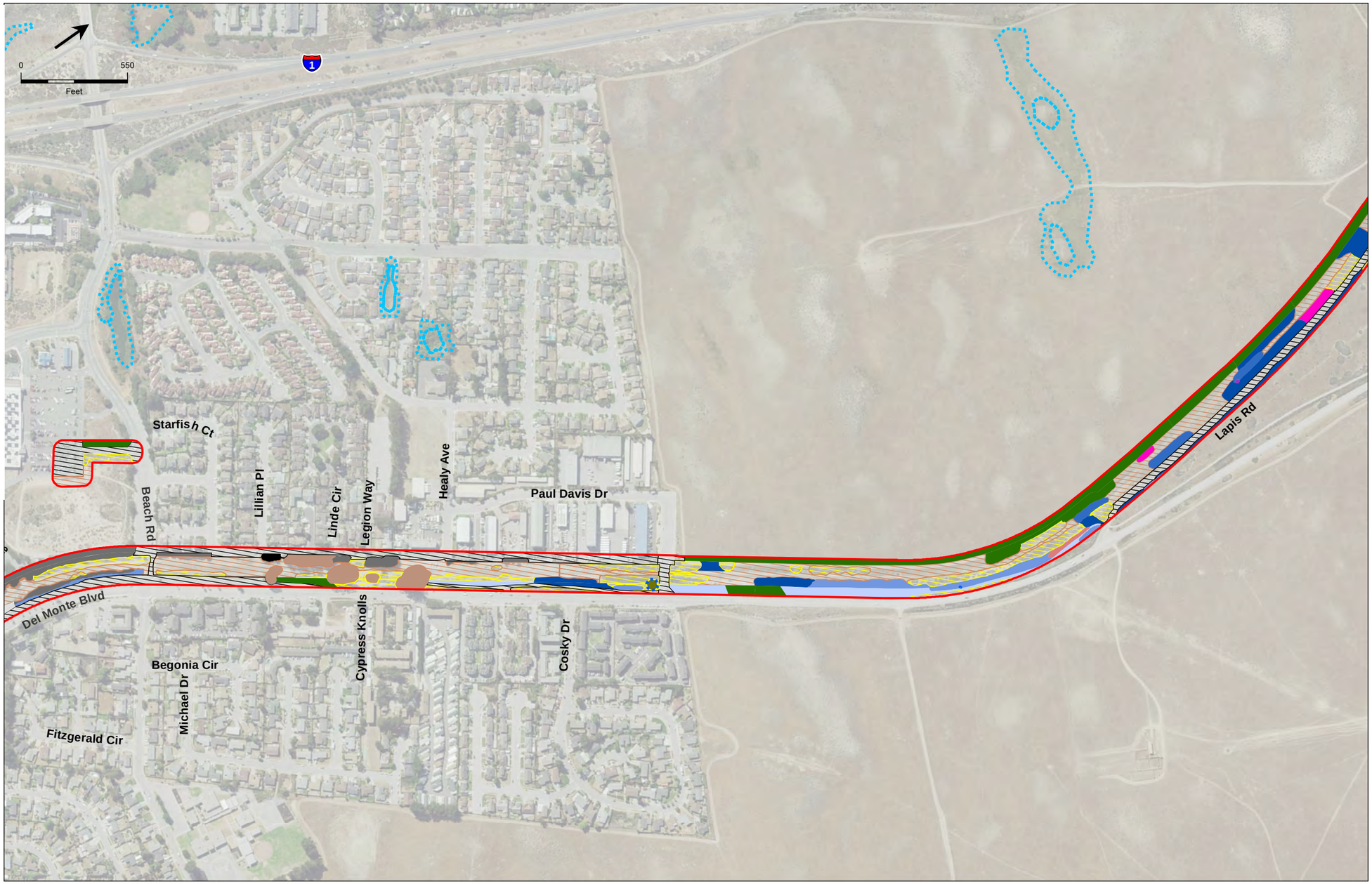
Riparian Woodland and Scrub
- Arroyo willow thickets

Developed/Landscaped
- Landscaped shrubbery
- Monterey cypress stands
- Developed
- Monterey pine woodland
- Eucalyptus groves

Other
- Ruderal
- Ice Plant mats

Potential Wetlands and Waters
- Potentially USACE, RWQCB, and/or CDFW Jurisdictional
- Potentially USACE, RWQCB, CDFW, and/or CCC Jurisdictional





SOURCE: ESA, 2016,AECOM, 2016

Figure 4.6-1c
Vegetation Communities and Potential Wetlands and Waters in the Terrestrial Biological Resources Study Area

Biological Study Area

Non-native Grassland
- California annual grassland

Central Dune Scrub
- California sagebrush scrub
- Silver dune lupine-mock heather scrub
- Island buckwheat scrub

Coyote Brush Scrub
- Coyote Brush Scrub

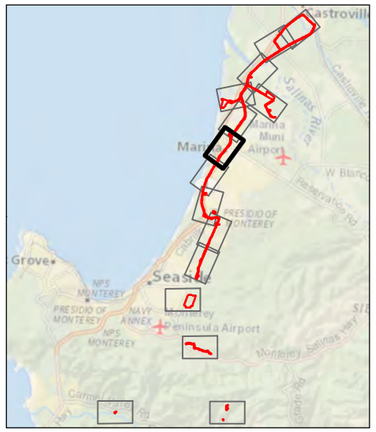
Riparian Woodland and Scrub
- Shining willow groves
- Arroyo willow thickets

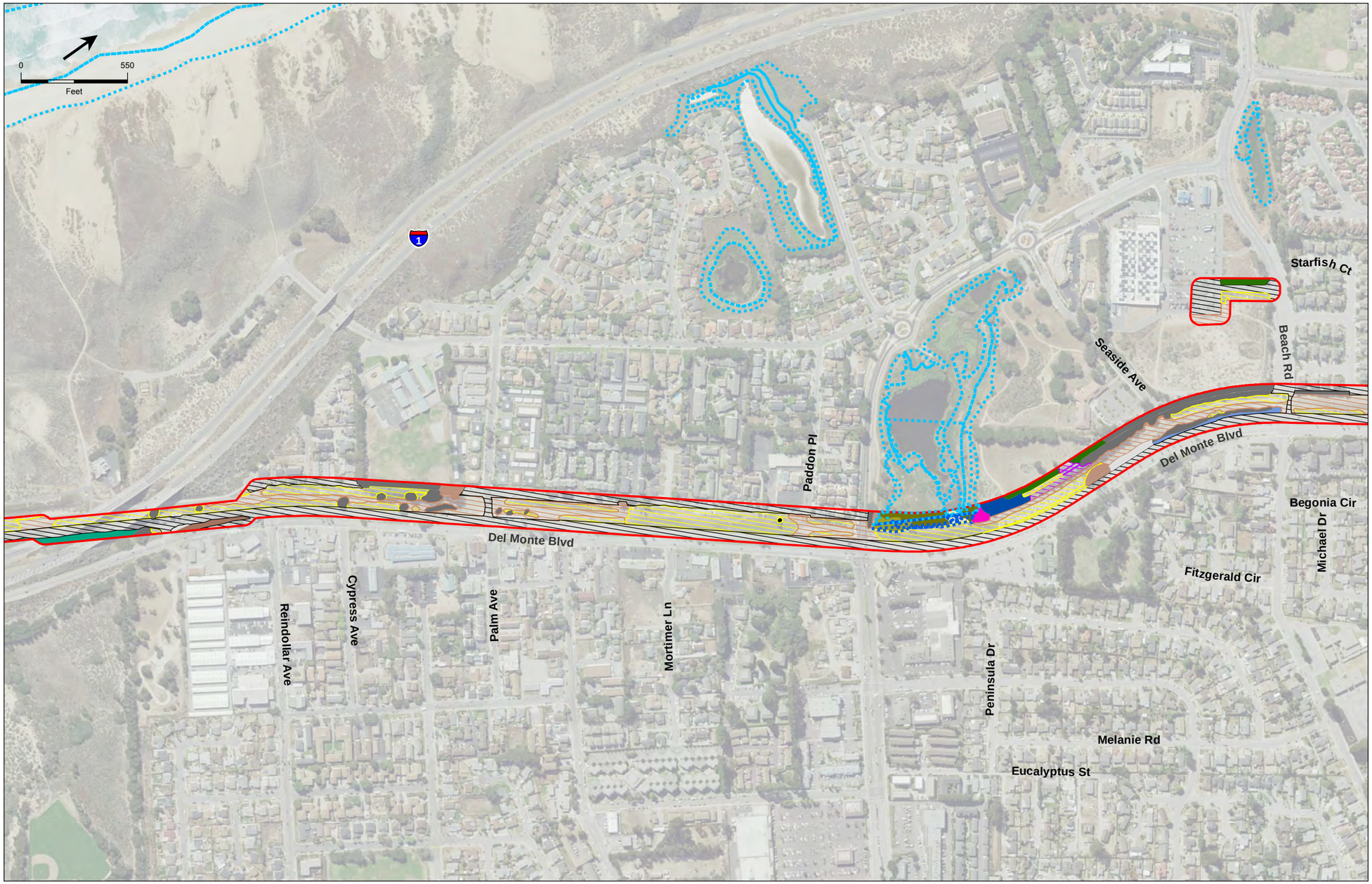
Freshwater Marsh
- California bulrush marsh

Developed/Landscaped
- Landscaped shrubbery
- Monterey cypress stands
- Developed
- Monterey pine woodland
- Eucalyptus groves
- Landscaped trees

Other
- Ruderal
- Coast Live Oak woodland
- Ice Plant mats

Potential Wetlands and Waters
- Potentially USACE, RWQCB, and/or CDFW Jurisdictional
- Potentially USACE, RWQCB, CDFW, and/or CCC Jurisdictional





SOURCE: ESA, 2016,AECOM, 2016

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Figure 4.6-1d

Vegetation Communities and Potential Wetlands and Waters in the Terrestrial Biological Resources Study Area

Biological Study Area

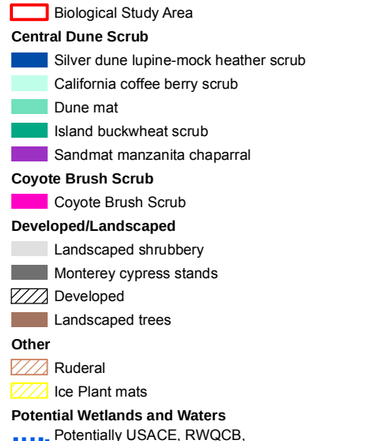
Central Dune Scrub
- Silver dune lupine-mock heather scrub
- California coffee berry scrub
- Dune mat
- Island buckwheat scrub
- Sandmat manzanita chaparral

Coyote Brush Scrub
- Coyote Brush Scrub

Developed/Landscaped
- Landscaped shrubbery
- Monterey cypress stands
- Developed
- Landscaped trees

Other
- Ruderal
- Ice Plant mats

Potential Wetlands and Waters
- Potentially USACE, RWQCB, and/or CDFW Jurisdictional
- Potentially USACE, RWQCB, CDFW, and/or CCC Jurisdictional



SOURCE: ESA, 2016,AECOM, 2016

Figure 4.6-1e
Vegetation Communities and Potential Wetlands and Waters in the Terrestrial Biological Resources Study Area

Biological Study Area
US Army Land

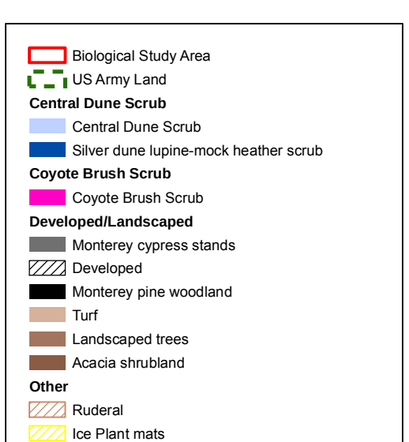
Central Dune Scrub
- Central Dune Scrub
- Silver dune lupine-mock heather scrub

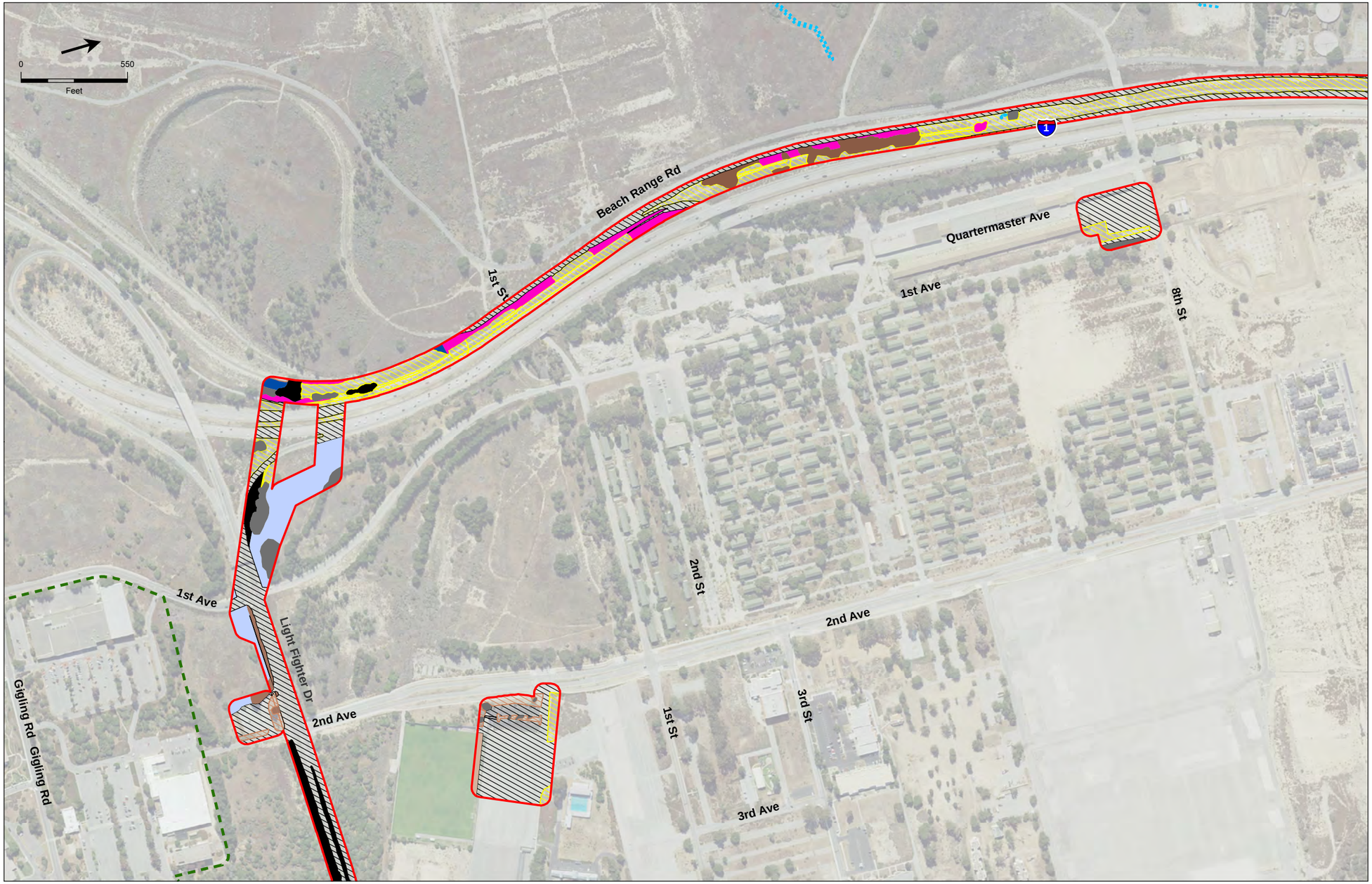
Coyote Brush Scrub
- Coyote Brush Scrub

Developed/Landscaped
- Monterey cypress stands
- Developed
- Monterey pine woodland
- Turf
- Landscaped trees
- Acacia shrubland

Other
- Ruderal
- Ice Plant mats

Potential Wetlands and Waters
- Potentially USACE, RWQCB, and/or CDFW Jurisdictional
- Potentially USACE, RWQCB, CDFW, and/or CCC Jurisdictional





SOURCE: ESA, 2016,AECOM, 2016; US ARMY, 2016

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Figure 4.6-1f
Vegetation Communities and Potential Wetlands and Waters in the Terrestrial Biological Resources Study Area

Biological Study Area
US Army Land

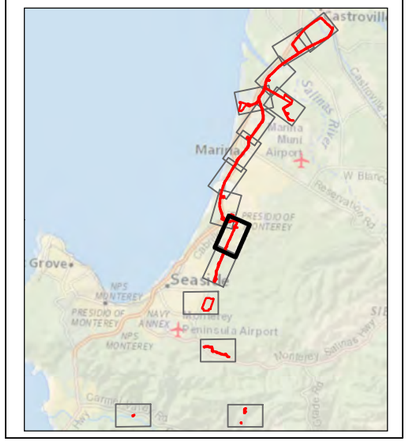
Central Dune Scrub
Central Dune Scrub

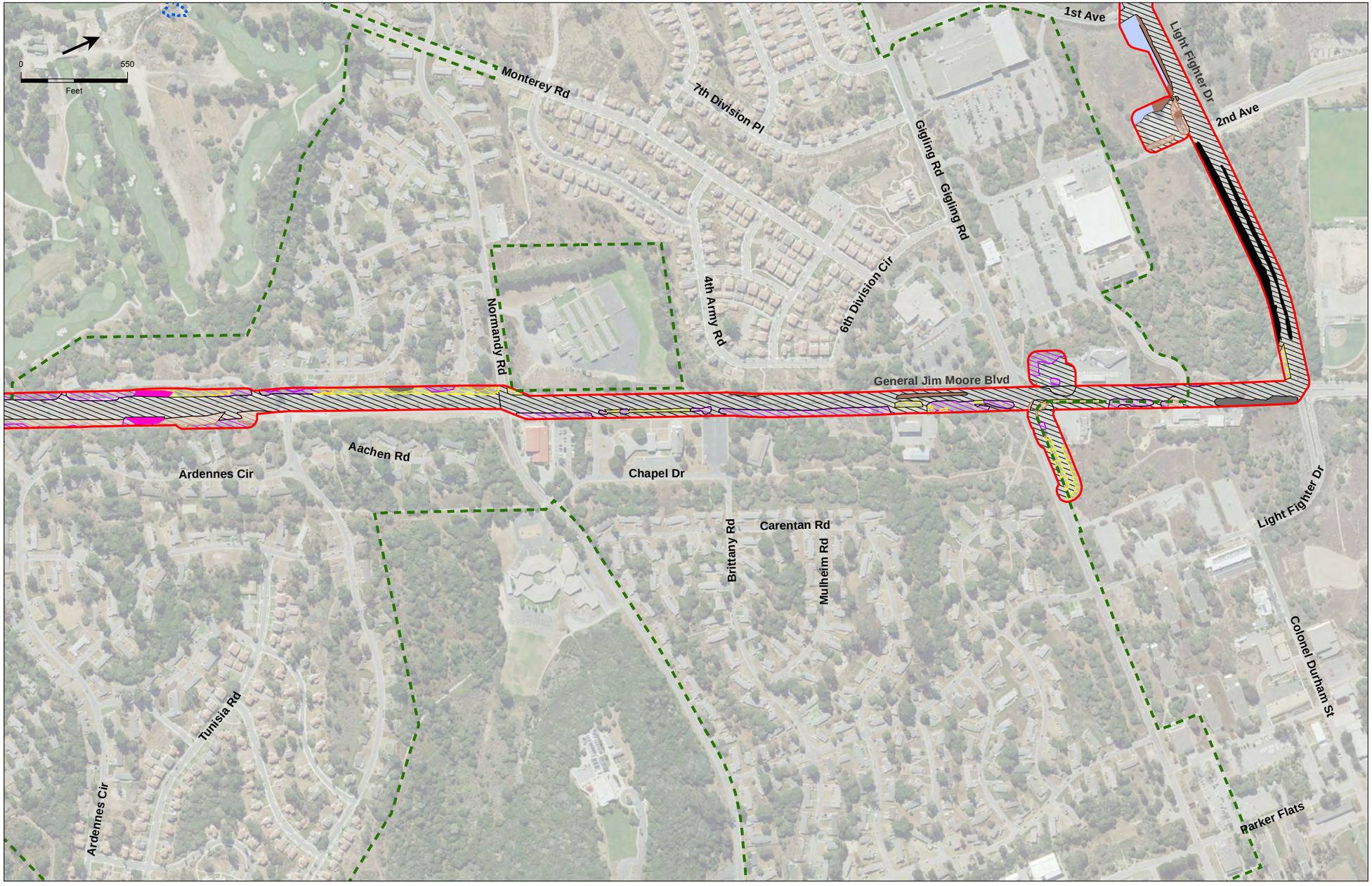
Coyote Brush Scrub
Coyote Brush Scrub

Developed/Landscaped
Landscaped shrubbery
Monterey cypress stands
Developed
Monterey pine woodland
Eucalyptus groves
Landscaped trees

Other
Ruderal
Coast Live Oak woodland
Ice Plant mats

Potential Wetlands and Waters
Potentially USACE, RWQCB, and/or CDFW Jurisdictional





SOURCE: ESA, 2016,AECOM, 2016; US ARMY, 2016

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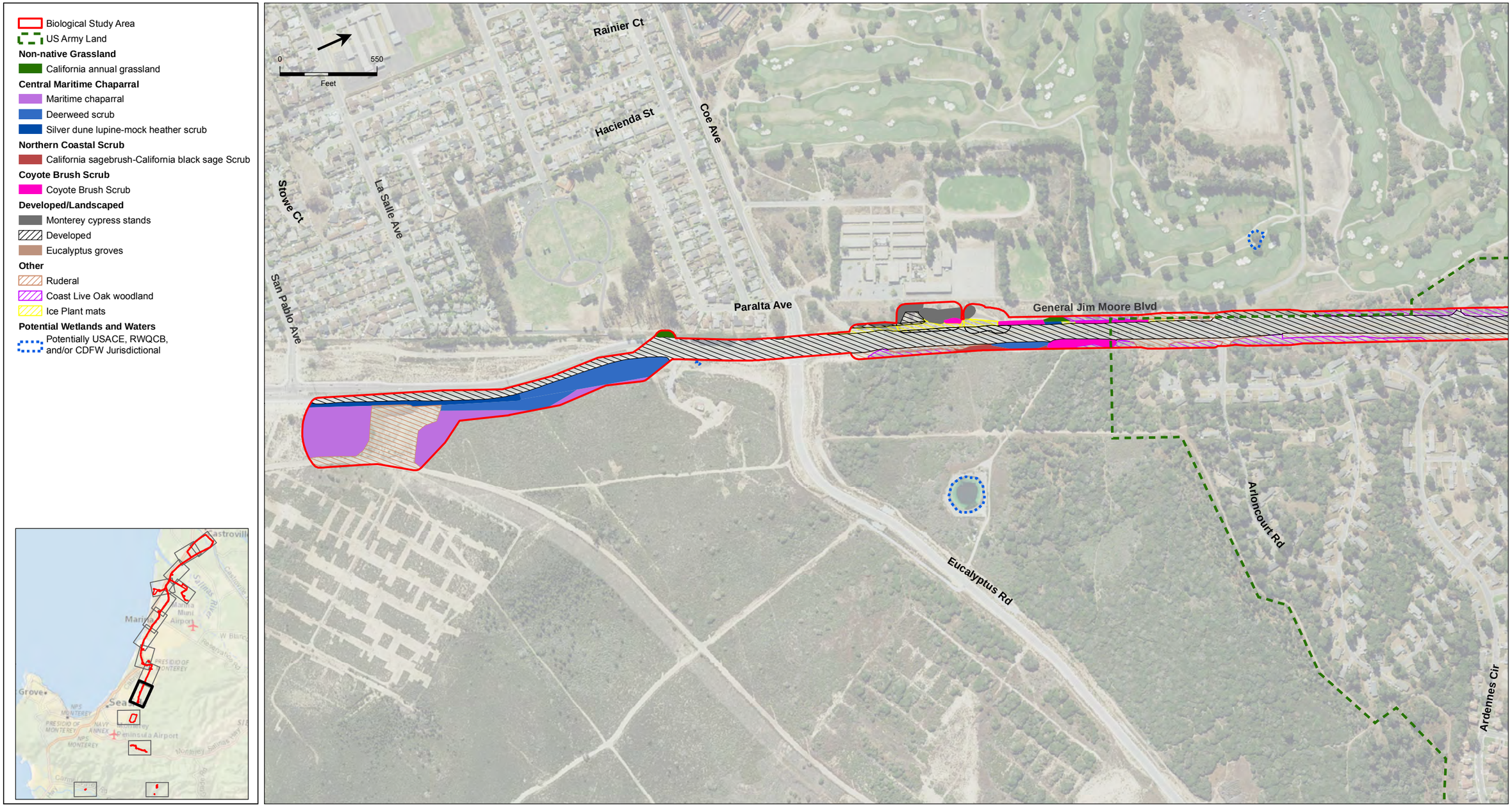
Figure 4.6-1g
Vegetation Communities and Potential Wetlands and Waters in the Terrestrial Biological Resources Study Area



SOURCE: ESA, 2016,AECOM, 2016; US ARMY, 2016

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Figure 4.6-1h

Vegetation Communities and Potential Wetlands and Waters in the Terrestrial Biological Resources Study Area

Biological Study Area

Potential Wetlands and Waters

Potentially USACE, RWQCB, and/or CDFW Jurisdictional

Non-native Grassland

Annual brome grasslands

Central Dune Scrub

Dune mat

Central Maritime Chaparral

Chamise chaparral alliance

Deerweed scrub

Silver dune lupine-mock heather scrub

Sandmat manzanita chaparral

Woolly-leaf manzanita chaparral

Coyote Brush Scrub

Coyote Brush Scrub

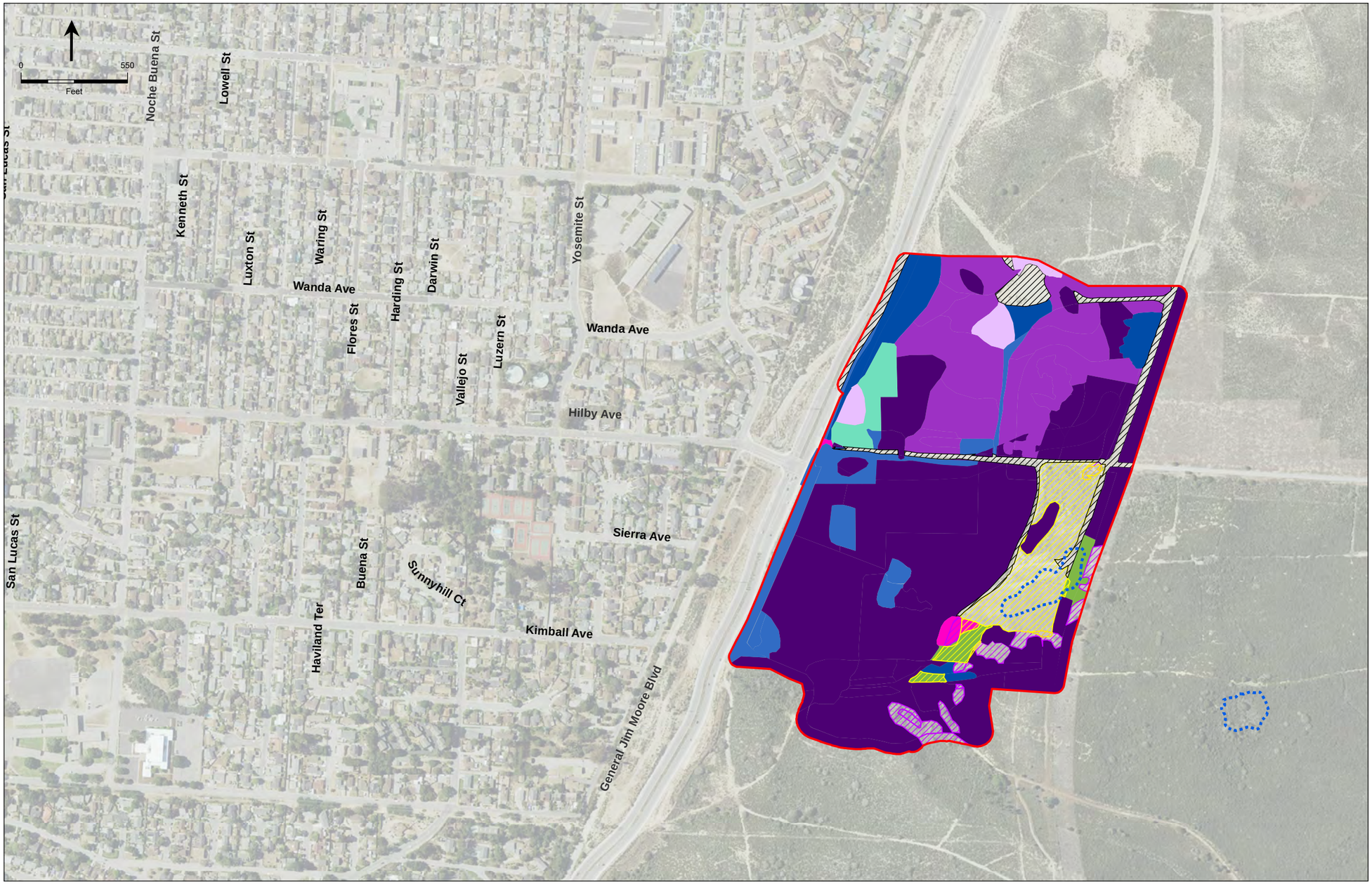
Developed/Landscaped

Developed

Other

Coast Live Oak woodland

Ice Plant mats



SOURCE: ESA, 2016,AECOM, 2016

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Figure 4.6-1i

Vegetation Communities and Potential Wetlands and Waters in the Terrestrial Biological Resources Study Area

Biological Study Area

Non-native Grassland
- California annual grassland

Central Dune Scrub
- California sagebrush scrub
- Silver dune lupine-mock heather scrub
- California buckwheat scrub

Northern Coastal Scrub
- Poison oak scrub
- Yellow bush lupine scrub
- Coastal brambles

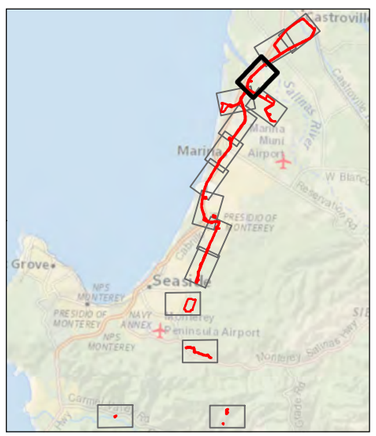
Coyote Brush Scrub
- Coyote Brush Scrub

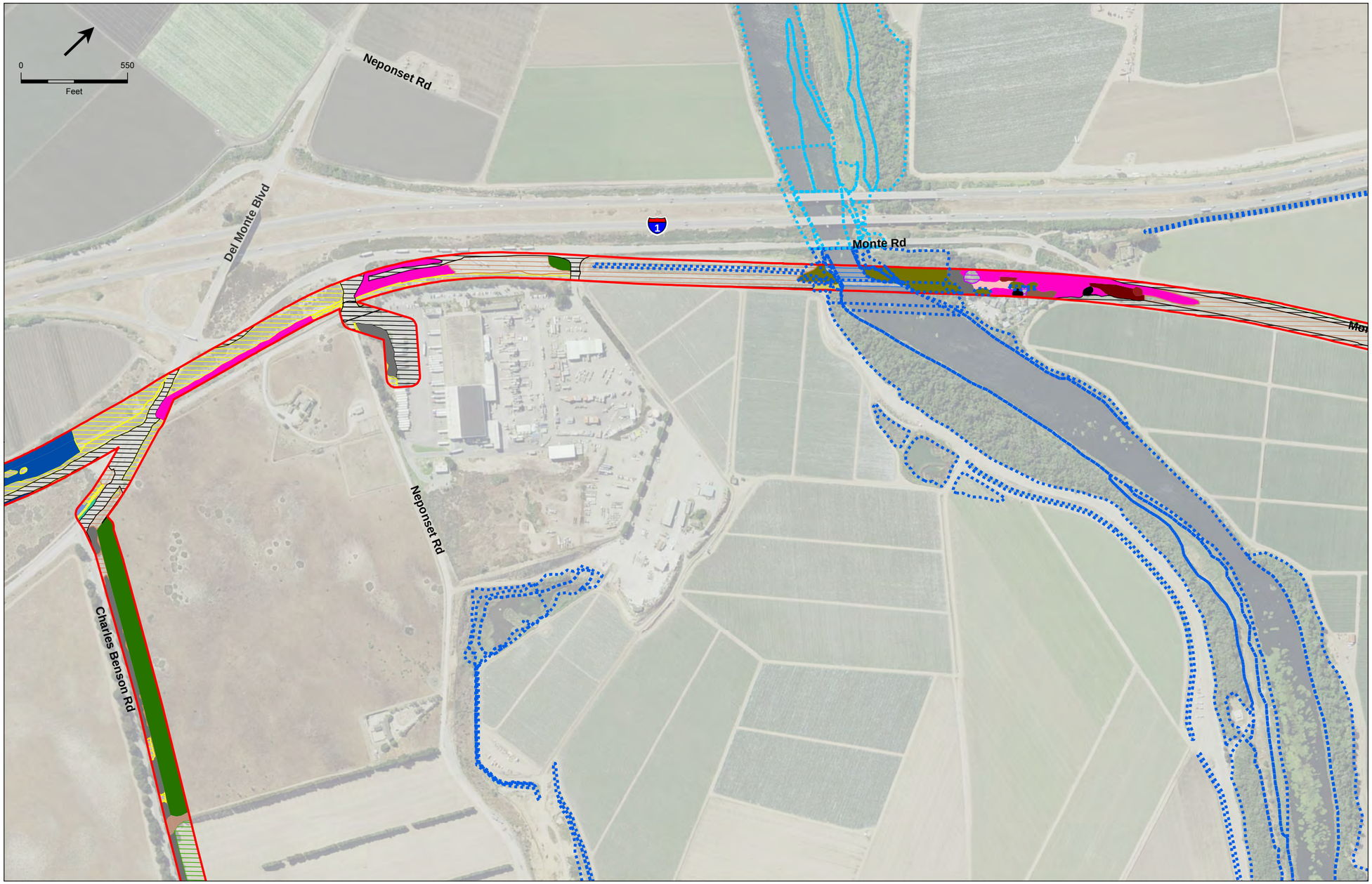
Riparian Woodland and Scrub
- Box-elder forest
- Arroyo willow thickets

Developed/Landscaped
- Monterey cypress stands
- Developed
- Monterey pine woodland
- Eucalyptus groves
- Acacia shrubland

Other
- Agricultural
- Open water
- Ruderal
- Coast Live Oak woodland
- Ice Plant mats

Potential Wetlands and Waters
- Potentially USACE, RWQCB, and/or CDFW Jurisdictional
- Potentially USACE, RWQCB, CDFW, and/or CCC Jurisdictional





SOURCE: ESA, 2016,AECOM, 2016

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Figure 4.6-1j

Vegetation Communities and Potential Wetlands and Waters in the Terrestrial Biological Resources Study Area

Biological Study Area

Non-native Grassland

California annual grassland

Riparian Woodland and Scrub

Arroyo willow thicketts

Developed/Landscaped

Landscaped shrubbery

Developed

Other

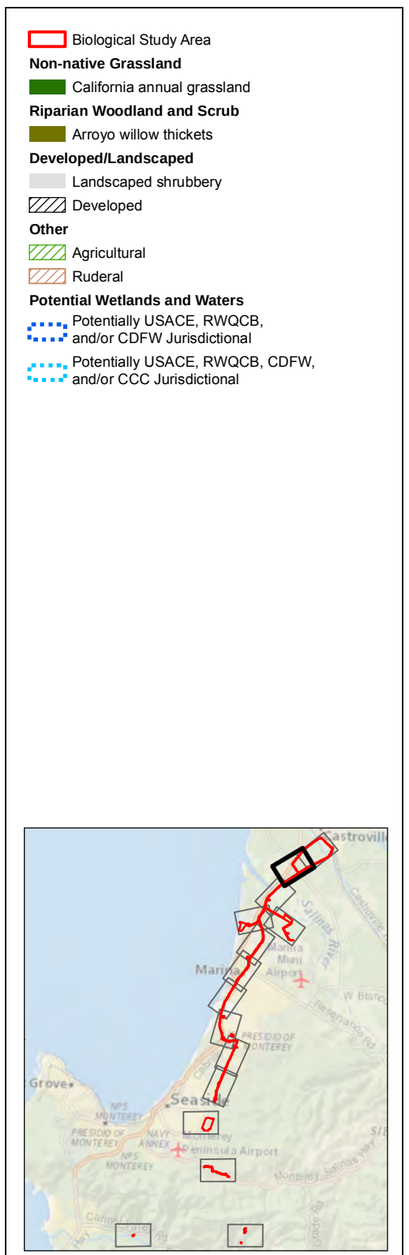
Agricultural

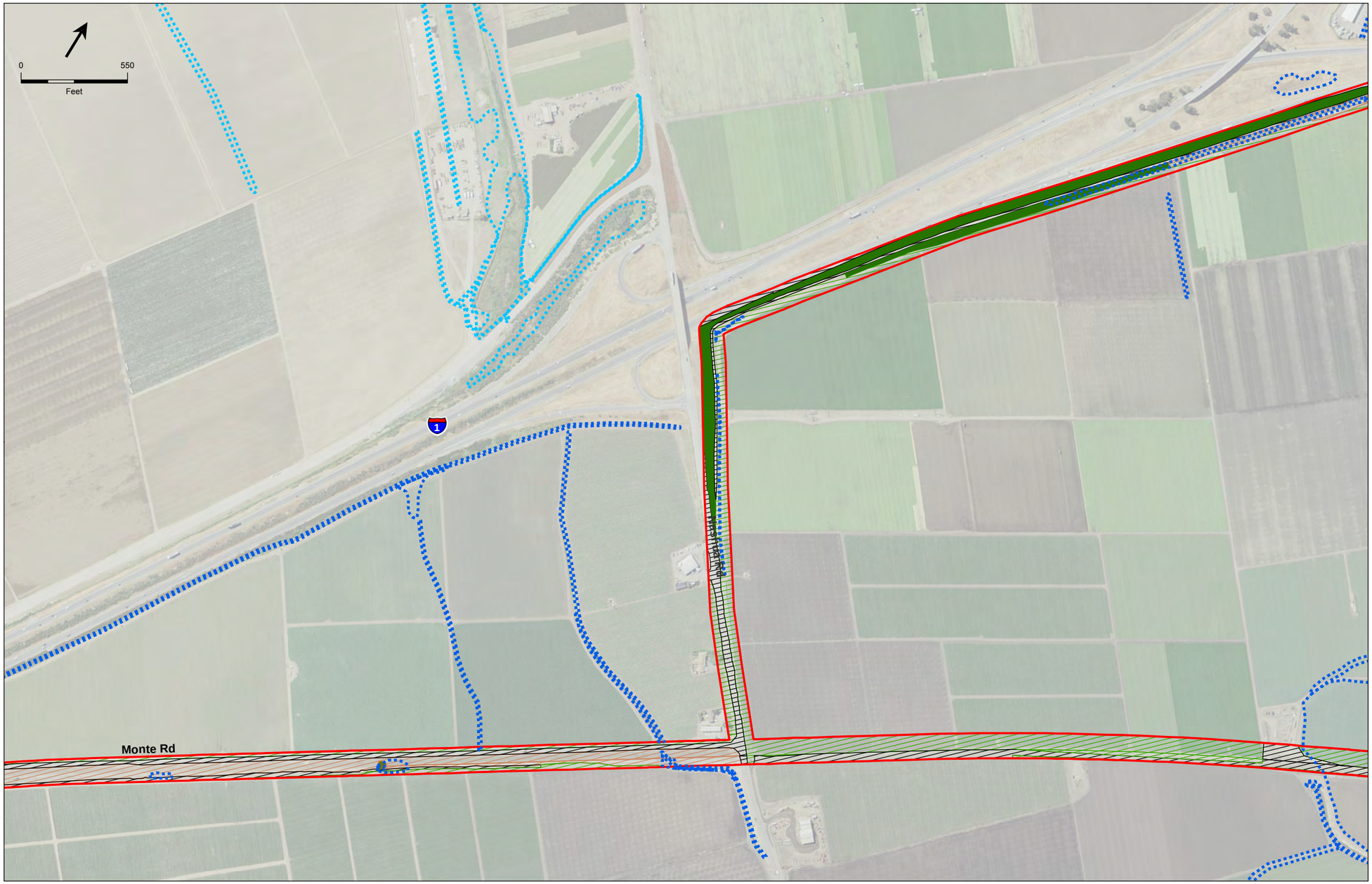
Ruderal

Potential Wetlands and Waters

Potentially USACE, RWQCB, and/or CDFW Jurisdictional

Potentially USACE, RWQCB, CDFW, and/or CCC Jurisdictional





SOURCE: ESA, 2016,AECOM, 2016

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Figure 4.6-1k

Vegetation Communities and Potential Wetlands and Waters in the Terrestrial Biological Resources Study Area

Biological Study Area

Non-native Grassland
- California annual grassland

Coyote Brush Scrub
- Coyote Brush Scrub

Riparian Woodland and Scrub
- Arroyo willow thickets

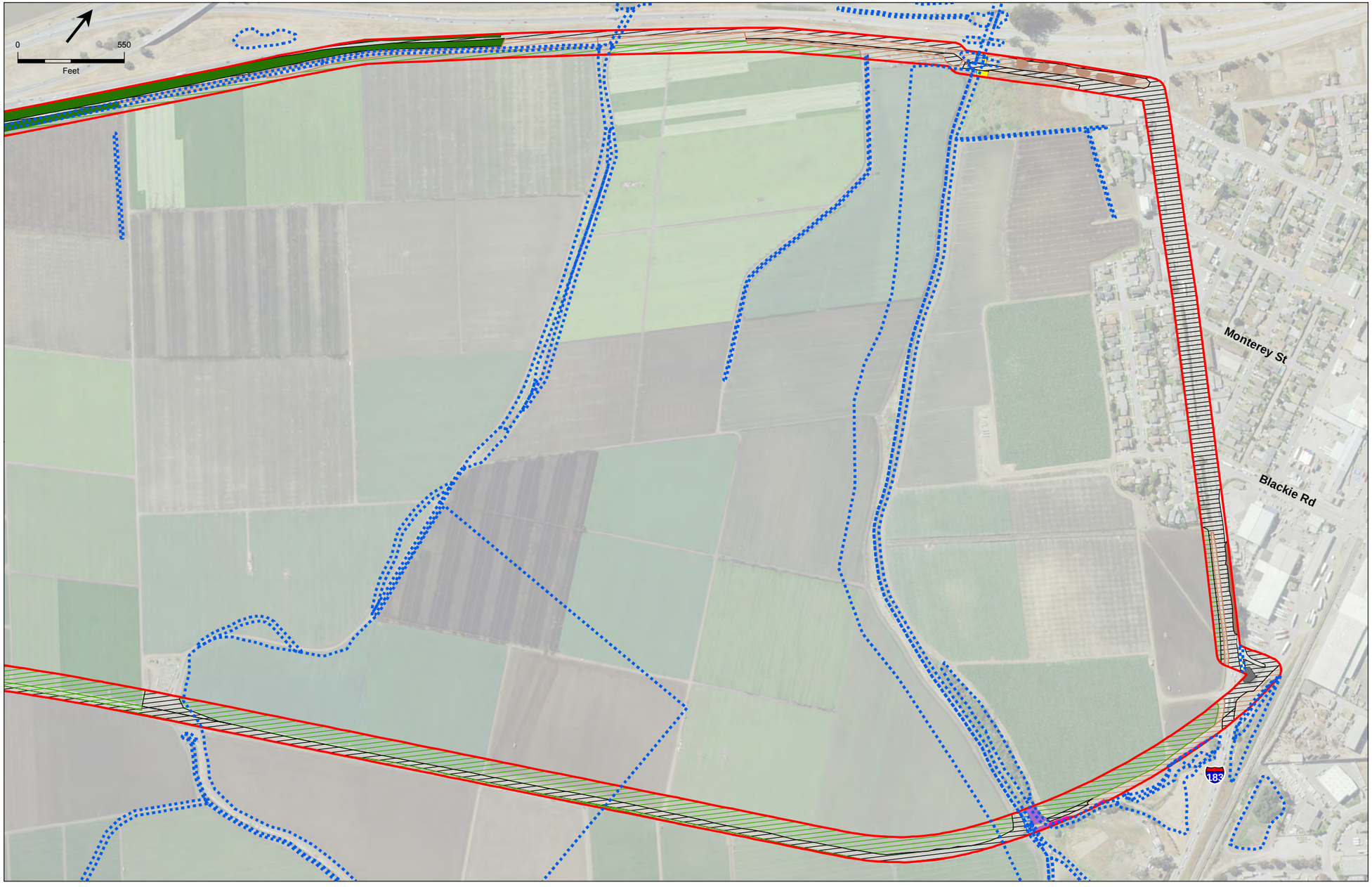
Freshwater Marsh
- California bulrush marsh
- Soft rush marsh
- Knotweed Marsh

Developed/Landscaped
- Landscaped shrubbery
- Monterey cypress stands
- Developed
- Eucalyptus groves
- Landscaped trees

Other
- Agricultural
- Open water

Ruderal
- Ruderal
- Perennial pepperweed patches

Potential Wetlands and Waters
- Potentially USACE, RWQCB, and/or CDFW Jurisdictional



SOURCE: ESA, 2016,AECOM, 2016

Figure 4.6-1l
Vegetation Communities and Potential Wetlands and Waters in the Terrestrial Biological Resources Study Area

Biological Study Area

Potential Wetlands and Waters

Potentially USACE, RWQCB, and/or CDFW Jurisdictional

Non-native Grassland

California annual grassland

Northern Coastal Scrub

California sagebrush scrub

Coyote Brush Scrub

Coyote Brush Scrub

Developed/Landscaped

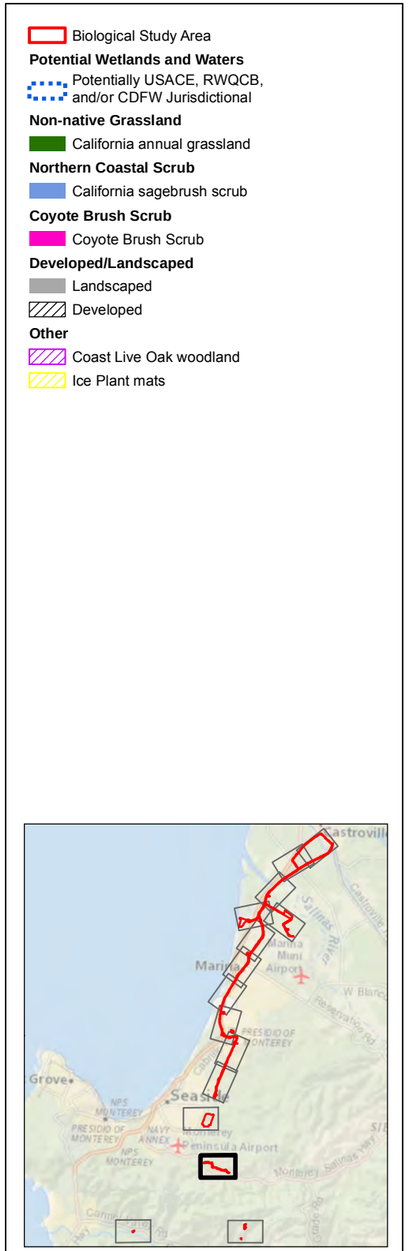
Landscaped

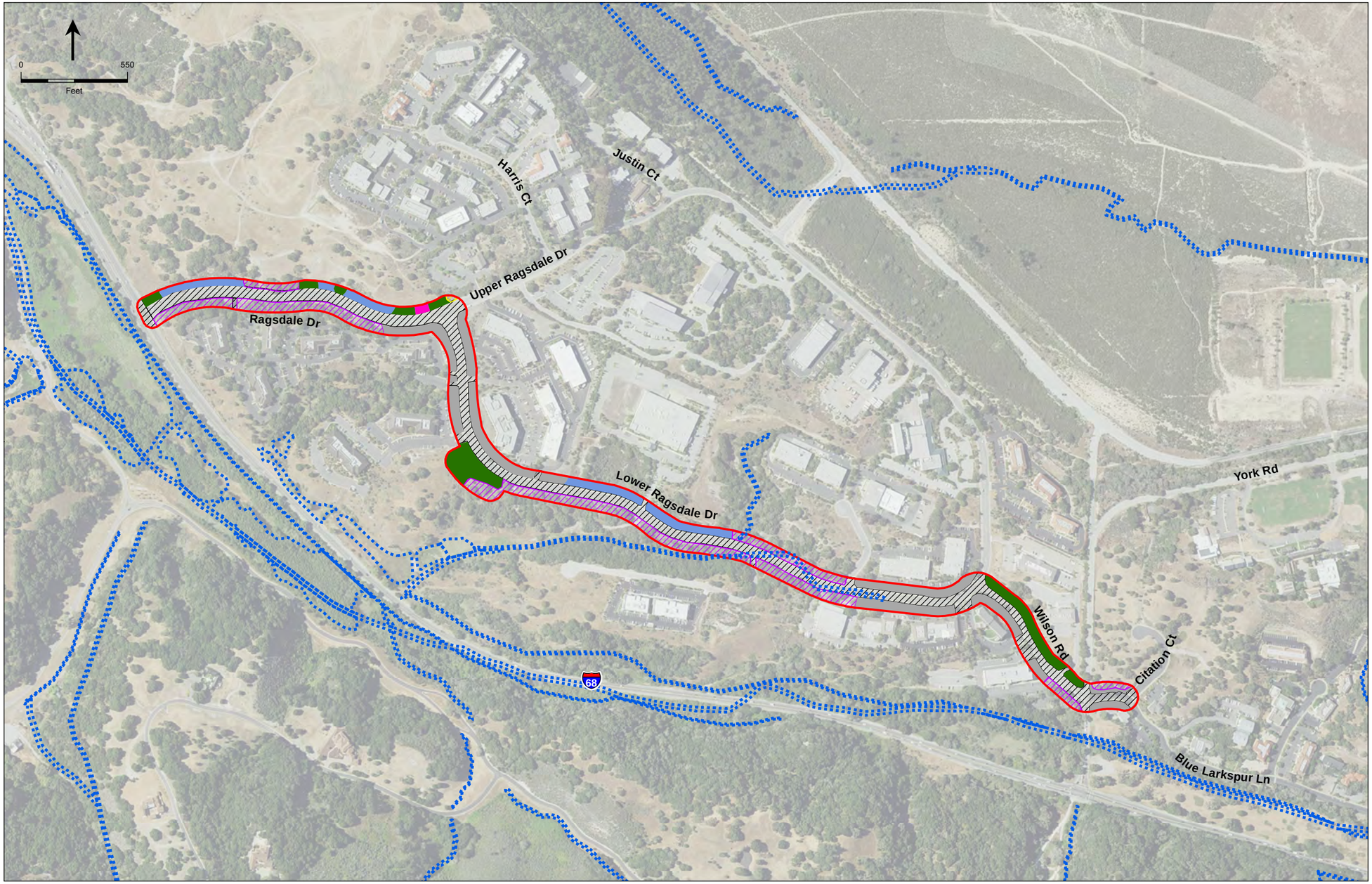
Developed

Other

Coast Live Oak woodland

Ice Plant mats





SOURCE: ESA, 2016,AECOM, 2016

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Figure 4.6-1m

Vegetation Communities and Potential Wetlands and Waters in the Terrestrial Biological Resources Study Area

Biological Study Area

Northern Coastal Scrub

California sagebrush scrub

Developed/Landscaped

Developed

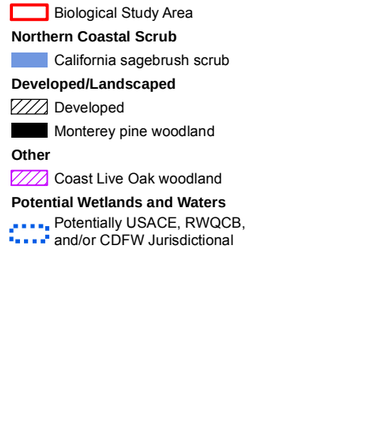
Monterey pine woodland

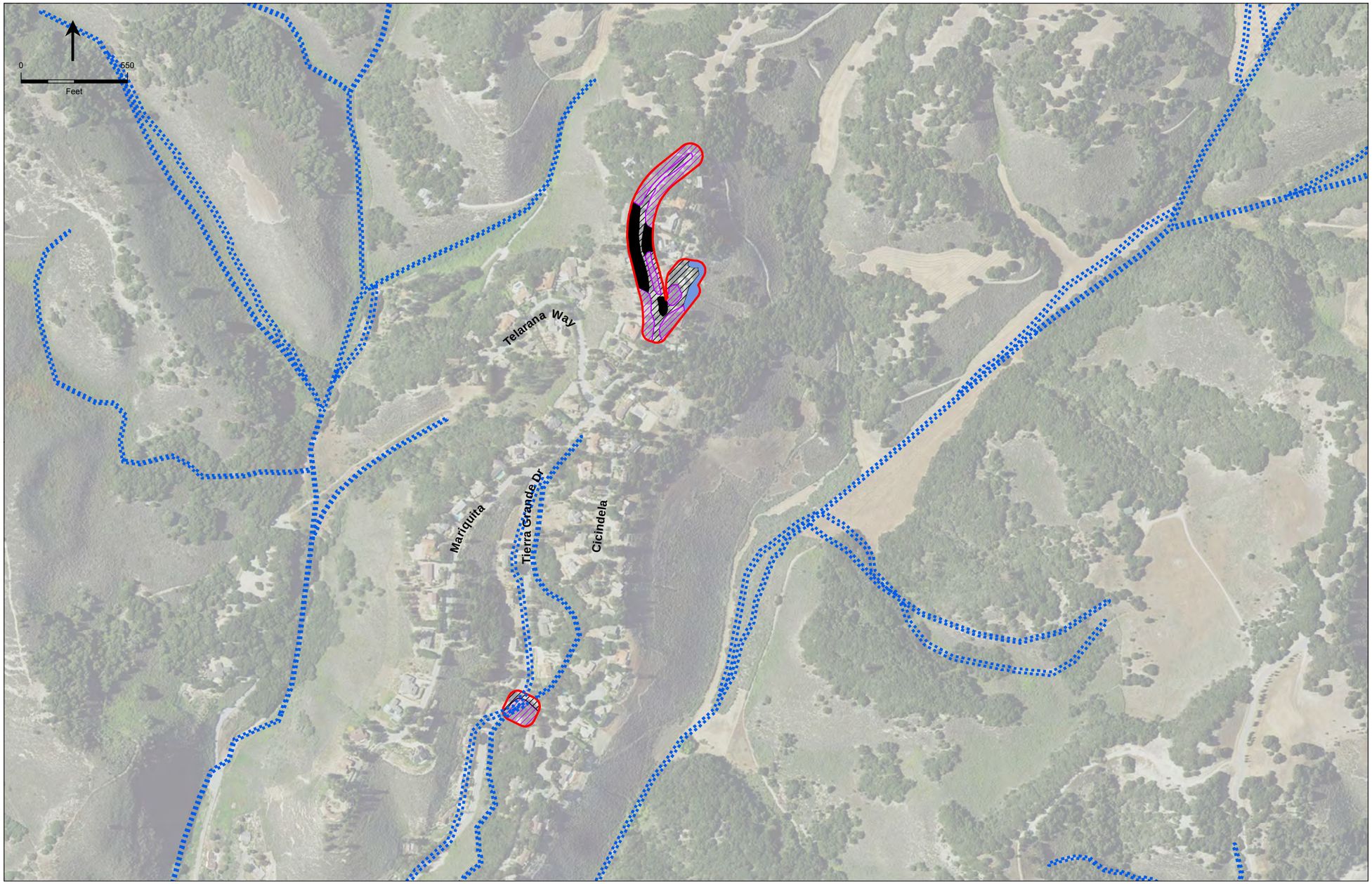
Other

Coast Live Oak woodland

Potential Wetlands and Waters

Potentially USACE, RWQCB, and/or CDFW Jurisdictional





SOURCE: ESA, 2016,AECOM, 2016

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Figure 4.6-1n

Vegetation Communities and Potential Wetlands and Waters in the Terrestrial Biological Resources Study Area

Biological Study Area

Non-native Grassland

California annual grassland

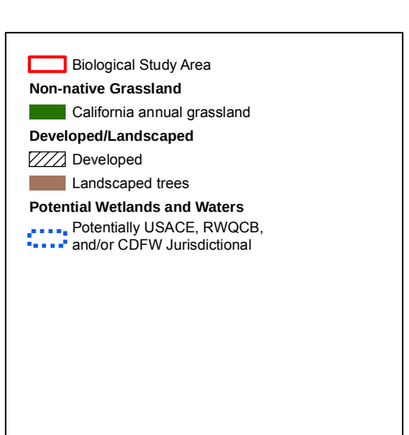
Developed/Landscaped

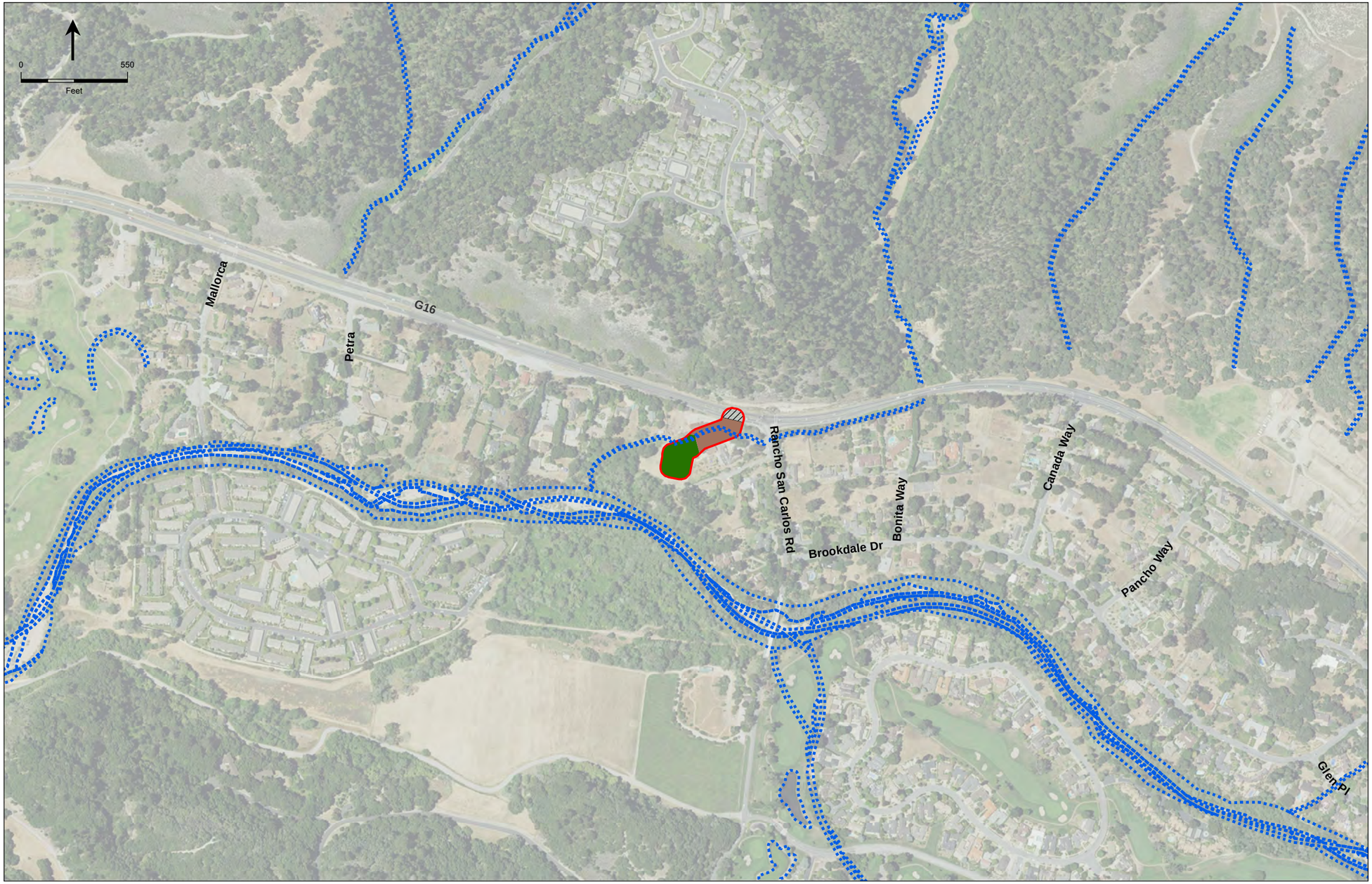
Developed

Landscaped trees

Potential Wetlands and Waters

Potentially USACE, RWQCB, and/or CDFW Jurisdictional





SOURCE: ESA, 2016,AECOM, 2016

Figure 4.6-1o

Vegetation Communities and Potential Wetlands and Waters in the Terrestrial Biological Resources Study Area

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The following vegetation alliances mapped by AECOM (2016) are included in the broad concept of Central dune scrub described above:

- California buckwheat scrub (*Eriogonum fasciculatum* Shrubland Alliance)
- California coffee berry scrub (*Frangula californica* Shrubland Alliance)
- California sagebrush scrub (*Artemisia californica* Shrubland Alliance)
- Deerweed scrub (*Lotus scoparius* Shrubland Alliance)
- Dune mat (*Abronia latifolia - Ambrosia chamissonis* Herbaceous Alliance)
- Island buckwheat scrub (*Eriogonum giganteum* Landscaped Scrub)
- Sandmat manzanita chaparral (*Arctostaphylos pumila* Provisional Shrubland Alliance)
- Silver dune lupine-mock heather scrub (*Lupinus chamissonis - Ericameria ericoides* Shrubland Alliance)

Within the study area, central dune scrub is likely to support several reptile species, including southern alligator lizards (*Elgaria multicarinata*), western fence lizards, and black legless lizards (*Anniella pulchra nigra*). Small mammals such as deer mice and brush rabbits (*Sylvilagus bachmani*) provide prey for nonnative red foxes (*Vulpes vulpes regalis*) that occur in this habitat. White-crowned sparrows (*Zonotrichia leucophrys*) are probably the most abundant breeding bird in this habitat. Horned larks and song sparrows (*Melospiza melodia*) are among other birds found in this habitat. Where its host plant (coast buckwheat) is present, Smith's blue butterfly (*Euphilotes enoptes smithi*) also may occur in central dune scrub.

Central Maritime Chaparral

Central maritime chaparral is a plant community limited to areas of sandy soils subject to summer fog. It is found in relatively small patches throughout its range along the central coast. It is dominated by endemic species of manzanita (*Arctostaphylos* spp.), California lilac (*Ceanothus* spp.), and chamise (*Adenostoma fasciculata*), and supports a high proportion of other rare and endangered plants and wildlife. The former Fort Ord military base encompasses some of the largest, most intact areas of maritime chaparral remaining on the central coast. Maritime chaparral in the study area is closely associated with relict sand dunes (i.e., paleodunes) of the mid-Pleistocene era, a geomorphic feature of very limited distribution within California that has been much reduced by urban development in the communities of Marina and Seaside. In addition, the overall viability of maritime chaparral is likely declining due to long-term suppression of fire and other natural disturbances, which help maintain the health and diversity of this plant community. Studies show that long-term absence of fire within central maritime chaparral may lead to the community's transition to oak woodland (Van Dyke et al., 2001). Many annual and herbaceous perennial species depend on fire and other disturbance to control encroachment of woody species.

Within the study area, central maritime scrub occurs along the east side of General Jim Moore Boulevard and south of Coe Avenue in the former Fort Ord military base; specifically, at the proposed Terminal Reservoir site and at the southern terminus of the construction area for the ASR facilities where water produced during development of the ASR wells would be conveyed and percolated. Within the study area, this community exists as a mosaic of disturbed and

undisturbed variations, with most of the disturbed areas located near General Jim Moore Boulevard and adjacent to existing access roads within the former Fort Ord military base. These areas were likely disturbed during road construction and military operations, and typically support deerweed scrub as an early successional response to the disturbance. The non-disturbed areas are dominated by shaggy-barked or woolly-leaf manzanita (*Arctostaphylos tomentosa* ssp. *tomentosa*), sandmat manzanita, sticky monkeyflower (*Mimulus aurantiacus*), chamise, black sage (*Salvia mellifera*), and poison oak (*Toxicodendron diversilobum*) with many other perennials and shrubs common throughout. The disturbed areas contain many of the same species but have higher cover of deerweed, iceplant, bush lupine (*Lupinus* spp.), and non-native grasses. Additionally, these disturbed areas contain higher cover of unvegetated sandy soil. A variety of special-status plants have been documented within the former Fort Ord military base in and around the proposed Terminal Reservoir site including sandmat manzanita, Monterey spineflower, seaside bird's-beak (*Cordylanthus rigidus* ssp. *littoralis*), Eastwood's goldenbush (*Ericameria fasciculata*), Kellogg's horkelia (*Horkelia cuneata* ssp. *sericea*), and sand gilia (*Gilia tenuiflora* ssp. *arenaria*) (Denise Duffy & Associates, 2010a; Fort Ord Reuse Authority, 2012).

Central maritime chaparral includes the following vegetation alliances as mapped by AECOM (2016):

- Chamise chaparral (*Adenostoma fasciculatum* Shrubland Alliance)
- Sandmat manzanita chaparral (*Arctostaphylos pumila* Provisional Shrubland Alliance)
- Woolly-leaf manzanita chaparral (*Arctostaphylos* [*crustacea*, *tomentosa*] Shrubland Alliance)
- Silver dune lupine-mock heather scrub (*Lupinus chamissonis - Ericameria ericoides* Shrubland Alliance)
- Deerweed Scrub (*Lotus scoparius* [=*Acmispon glaber*] Shrubland Alliance) – occurs as early seral stage in disturbed areas of former maritime chaparral.

Wildlife species likely to occur in maritime chaparral habitats include a variety of small reptiles, such as western fence lizards, alligator lizards, California horned lizards (*Phrynosoma blainvillii*), and California striped racers (*Coluber lateralis lateralis*), as well as a variety of small mammals, including deer mice, brush mice, and jackrabbits (*Lepus californicus*). Birds likely to occur here include California thrashers (*Toxostoma redivivum*), Western scrub-jays (*Aphelocoma californica*), wrentits (*Chamaea fasciata*), and Anna's hummingbirds (*Calypte anna*).

Northern Coastal Scrub

Northern coastal scrub occurs widely throughout the study area near the coast on sandy to clay soils, but typically more interior, developed, and stabilized soils than nearby active dunes. Within the study area, it occurs adjacent to the Salinas River, along General Jim Moore Boulevard within the some of the former Fort Ord lands, along Ragsdale and Lower Ragsdale Drive, and off of Tierra Grande Drive. Northern coastal scrub is associated with and transitions to grassland, maritime chaparral, coast live oak woodland, central dune scrub, and ice plant mats. The vegetation is characterized by sparse to dense cover of soft-leaved, low-stature shrubs such as

coyote brush, California sagebrush, and black sage. Northern coastal scrub often supports a well-developed annual herbaceous understory that includes native wildflowers, non-native grasses (wild oat, Mediterranean barley, and Italian ryegrass), iceplant, and other weedy species. Several special-status plants are documented from this plant community, including Monterey spineflower, Monterey ceanothus, and sandmat manzanita. Many different alliances of northern coastal scrub are recognized based on dominant species.

Northern coastal scrub includes the following vegetation alliances as mapped by AECOM (2016):

- California sagebrush scrub (*Artemisia californica* Shrubland Alliance)
- California sagebrush-California buckwheat Scrub (*Artemisia californica - Eriogonum fasciculatum* Shrubland Alliance)
- California sagebrush-California black sage Scrub (*Artemisia californica - Salvia mellifera* Shrubland Alliance)
- Coastal brambles (Rubus [*parviflorus, spectabilis, ursinus*] Shrubland Alliance)
- Deerweed scrub (*Lotus scoparius* [=*Acmispon glaber*] Shrubland Alliance)
- Poison oak scrub (*Toxicodendron diversilobum* Shrubland Alliance)
- Yellow bush lupine scrub (*Lupinus arboreus* Shrubland Alliance and Semi-Natural Alliance)

Wildlife using this habitat are similar to those species expected in the maritime chaparral, such as California quail, blue-gray gnatcatcher (*Polioptila caerulea*), Anna's hummingbird, Coast Range fence lizard, northern pacific rattlesnake, gopher snake, brush rabbit, and California ground squirrel.

Coyote Brush Scrub

Coyote brush scrub occurs extensively throughout the study area. It ranges from small patches to extensive stands where it is associated with non-native grassland species in the spaces between shrubs. The most extensive stands are located north of the Salinas River, along Monte Road north of Del Monte Boulevard, along the railroad tracks between Lapis Road and the CEMEX access road in Marina, and at various locations along the Monterey Peninsula Recreational Trail between 8th Street and Lightfighter Drive. It is usually situated adjacent to or integrated with grasslands, coastal scrub and ruderal areas (such as roadsides and railroad rights of way). Often it is indicative of previous disturbance that has subsequently been left undisturbed for more than several years, allowing coyote brush to invade and establish in large numbers. Alternatively, it may displace coastal grasslands where fire or grazing have been eliminated, eventually converting them to mosaics of scrub and grassland. Special status plant species are uncommon, but may include species also found in grasslands or northern coastal scrub.

Coyote brush scrub conforms to the following vegetation alliance as mapped by AECOM (2016):

- Coyote brush scrub (*Baccharis pilularis* Shrubland Alliance)

Wildlife occurring in coyote brush scrub is expected to be similar to northern coastal scrub and non-native grassland.

Riparian Woodland and Scrub

Riparian woodland and scrub is often associated with perennial water sources such as lakes and rivers. Within the study area riparian woodland and scrub generally occurs along the edges of the pond at Locke-Paddon Park in Marina and along Laguna del Rey in Seaside, at the Salinas River crossing, and in a roadside drainage crossing of Castroville Road/Highway 183. Willows (*Salix* spp.) are typically the dominant trees and shrubs at these locations. Numerous shrubs, herbs, and vines also occur in the understory of this community, including mulefat (*Baccharis salicifolia*) and native and non-native blackberries (*Rubus ursinus, R. armeniacus*).

Riparian woodland and scrub includes the following vegetation alliances as mapped by AECOM (2016):

- Arroyo willow thickets (*Salix lasiolepis* Shrubland Alliance)
- Box-elder forest (*Acer negundo* Forest Alliance)
- Fremont cottonwood woodland (*Populus fremontii* Forest Alliance)
- Shining willow groves (*Salix lucida* Woodland Alliance)

Riparian woodland and scrub habitats provide cover and resources for a variety of wintering and breeding birds, such as yellow-rumped warblers (*Dendroica coronata*), warbling vireos (*Vireo gilvus*), orange-crowned warblers (*Oreothlypis celata*), and Wilson's warblers (*Cardellina pusilla*). The mixed understory in this community supports a variety of small mammals and reptiles, including raccoon (*Procyon lotor*), deer mice, and coast garter snake (*Thamnophis elegans terrestris*). Several riparian sites are located in incorporated areas in park settings and are subject to disturbance from vehicle and pedestrian traffic. In contrast, the Salinas River crossing location is relatively remote and continuous along the riverbanks, and consists of trees with a dense and multi-layered canopy that provides high quality habitat.

Freshwater Marsh

Freshwater marshes are wetland plant communities with year-round or nearly year-round inundation or soil saturation that supports perennial emergent plants, typically dominated by bulrushes, rushes and cattails. Within the study area, freshwater marshes are located in small impoundments and drainages along the proposed Castroville Pipeline, along Tembladero Slough within the proposed Castroville Pipeline Optional Alignment 1, and along a pond near the intersection of Aquajito Road and Fremont Street in Monterey. Freshwater marsh also may occur as small or sparse understory patches within areas mapped as other more dominant vegetation types, such as riparian forest and scrub.

Freshwater marsh includes the following vegetation alliances as mapped by AECOM (2016):

- California bulrush marsh (*Schoenoplectus californicus* Herbaceous Alliance)

- Cattail marshes (*Typha* [*angustifolia, domingensis, latifolia*] Herbaceous Alliance)
- Knotweed marsh
- Soft rush marshes ((*Juncus effusus* Herbaceous Alliance)

Freshwater marshes are used by common wildlife species including waterfowl such as Canada goose, mallard, American coot, pied-billed grebe, and great egret (*Ardea alba*). Marsh wren (*Cistothorus palustris*) and song sparrow (*Melospiza melodia*) may nest in shoreline vegetation of project area freshwater marsh habitat with northern rough-winged swallow (*Stelgidopteryx serripennis*) foraging over the open water. This habitat may also be used by amphibians including the sierra treefrog (*Pseudacris sierra*) and American bullfrog (*Lithobates catesbeianus*).

Coast Live Oak Woodland

Within the study area, coast live oak woodland is located along General Jim Moore Boulevard between Ardennes Circle and Coe Avenue, and adjacent to the Salinas River. Coast live oak woodland also occurs within the study area of the proposed Ryan Ranch–Bishop and Main System–Hidden Hills Interconnection Improvements. In the vicinity of the project area, coast live oak woodland occurs in sandy soils and is dominated by coast live oak (*Quercus agrifolia*) with the occasional eucalyptus, Monterey pine (*Pinus radiata*), or Monterey cypress. The understory is typically non-native grassland or other herbaceous annuals such as miner's lettuce (*Claytonia perfoliata*) and hedgenettle (*Stachys bullata*). In the vicinity of General Jim Moore Boulevard, coast live oak woodland forms a mosaic with central maritime chaparral and coastal sage scrub communities, and shrub species typically found in these two communities also occur in the adjacent oak woodland.

Coast live oak woodland conforms to the following vegetation alliance as mapped by AECOM (2016):

- Coast live oak woodland (*Quercus agrifolia* Woodland Alliance)

In Monterey County, coast live oak woodlands support a considerable diversity of wildlife species. Mammals likely to be found here include western gray squirrels (*Sciurus griseus*) and Monterey dusky-footed woodrats (*Neotoma fuscipes luciana*) as well as other small rodents. Mule deer (*Odocoileus hemionus*) also occur in oak woodlands. Several avian species rely heavily on the acorns for food, including acorn woodpeckers (*Melanerpes formicivorous*), western scrub-jays, and California quails (*Callipepla californica*). Chestnut-backed chickadees (*Poecile rufescens*), oak titmice (*Baeolophus inornatus*), Hutton's vireos (*Vireo huttoni*), dark-eyed juncos (*Junco hyemalis*), ash-throated flycatchers (*Myiarchus cinerascens*), and Nuttall's woodpeckers (*Picoides nuttallii*) are among other birds that nest in this community. Several species of amphibians, such as arboreal salamanders (*Aneides lugubris*), can be found in coast live oak woodlands, in which moisture is retained under fallen wood and in crevices in the oaks. Reptiles may include ringneck snakes (*Diadophis punctatus*) and Skilton's skinks (*Plestiodon skiltonianus skiltonianus*).

Ice Plant Mats

Ice plant mats are relatively monotypic patches dominated by ice plant species (*Carpobrotus edulis, C. chilensis*; landscaped areas of cultivated ice plant, *Drosanthemum floribundum*, are mapped as "landscaped"). Ice plant mats are low-growing, dense or patchy, and spread by runners. The dense growth habitat precludes other species, though many coastal dune scrub and annual grassland species may occur in gaps in ice plant cover. Ice plants are aggressive invaders of coastal dune and scrub habitats. They are also used in low-maintenance garden landscaping, on roadsides and medians, and in parking lots and sidewalk verges. Ice plants were widely introduced in the region to stabilize sand dunes, and have colonized a significant portion of the coastal dune and paleodune plant communities. Ice plant mats also are a frequent target for removal and restoration of native coastal vegetation.

Ice plant mats conform to the following vegetation alliance as mapped by AECOM (2016):

- Ice plant mats (*Carpobrotus edulis* or Other Ice Plants Herbaceous Semi-Natural Alliance)

Ice plant mats are regarded as providing marginal wildlife habitat value, though may provide cover for some small rodents and reptiles. Seeds of iceplant are eaten by deer, jackrabbits, and brush rabbits, which may contribute to the spread of ice plant (D'Antonio, 1990).

Agricultural

Agricultural lands exist in the northern study area along Charles Benson Road, Lapis Road, Del Monte Boulevard, Monte Road, Nashua Road, Highway 1, Highway 156, and the dirt agricultural road located north of Monte Road/Nashua Road. These lands provide little or no habitat for native plants and wildlife as they are regularly manipulated as crops are planted, harvested, rotated, and irrigated, or the lands are grazed. Other than crops (e.g., strawberries and cut flowers), vegetation in these areas consists primarily of non-native species adapted to disturbance, such as wild oat, bromes, mustards (*Brassica nigra* and *Hirschfeldia incana*), mallows (*Malva* spp.), and filarees.

Agricultural areas can support wildlife species that have adapted to disturbance, but generally support few wildlife species because of their lack of diversity in vegetation and foraging opportunities. California ground squirrels often occur along margins of cropland, and raptors such as red-tailed hawks often forage for ground squirrels over agricultural lands. Fallow fields can attract other foraging birds, including Brewer's blackbird (*Euphagus cyanocephalus*) and killdeer (*Charadrius vociferus*).

Ruderal

Ruderal areas are not currently in active use, but have been subject to intense or recurring disturbance, generally through removal or other alteration of all native vegetation, alteration of topography, soil compaction, and the addition or removal of man-made features such as paving, buildings, and channelization of watercourses. Depending on the intensity and type of disturbance and time since disturbance, ruderal areas can remain relatively barren or become revegetated with primarily non-native weedy species. Within the project area, ruderal areas are generally located along Highway 1, Highway 156, and Highway 183, along Monte Road north of the Salinas River,

along the dirt agricultural road north of Tembladero Slough, within MRWPCA Regional Wastewater Treatment Plant, along Del Monte Boulevard at Reservation Road, and along Del Monte Boulevard at Canyon Del Rey Boulevard.

All ruderal areas are dominated by non-native weedy vegetation; however, the dominant species varies depending on the site characteristics at each location. Dominant species include field mustard (*Brassica rapa*), radish (*Raphanus sativus*), dwarf nettle (*Urtica urens*), and common chickweed (*Stellaria media*). Unidentifiable herbicide-treated weeds occur at the ruderal area near the intersection of Del Monte Boulevard and Canyon Del Rey Boulevard.

Ruderal includes the following vegetation alliance as mapped by AECOM (2016):

- Perennial pepper weed patches (*Lepidium latifolium* Herbaceous Semi-Natural Alliance)
- Ruderal

Ruderal communities do not support the diversity of native plant or wildlife that is characteristic of undisturbed natural communities, but many native wildlife species have adapted to ruderal areas: red-tailed hawk, American crow (*Corvus brachyrhynchos*), white-crowned sparrow (*Zonotrichia leucophrys*), American goldfinch (*Spinus tristis*), raccoon (*Procyon lotor*), and coyote (*Canis latrans*) are examples. Non-native animal species that are associated with ruderal communities include European starling (*Sturnus vulgaris*), rock dove (*Columba livia*), Virginia opossum (*Didelphis virginiana*), and Norway rat (*Rattus norvegicus*).

Developed/Landscaped

Developed and landscaped areas occupy much of the project area, particularly within the cities of Seaside and Monterey, and along Charles Benson Road in unincorporated Monterey County. Developed areas include paved and dirt roadways and trails, parking lots, buildings, and other manmade features. Landscaped features occur in association with these developed features and include gardens, parks, lawns, and landscaping trees and shrubs, such as planted stands of Monterey cypress and Monterey pine.

Developed and landscaped include the following vegetation alliances as mapped by AECOM (2016):

- Eucalyptus groves (*Eucalyptus* [*globulus, camaldulensis*] Woodland Semi-Natural Alliance)
- Acacia shrubland (Acacia Shrubland)
- Monterey cypress stands (*Hesperocyparis macrocarpa* Woodland Special Stands)
- Monterey pine woodland (*Pinus radiata* Forest Alliance)

As with agricultural areas, developed and landscaped areas can support wildlife species that have adapted to site disturbance but native plants are often absent and wildlife abundance and diversity are generally low. Striped skunks, raccoons, and Virginia opossums occur regularly in urban areas. Birds adapted to the urban landscape include house finches (*Haemorhous mexicanus*),

northern mockingbirds (*Mimus polyglottos*), mourning doves, European starlings, house sparrows (*Passer domesticus*), and rock doves.

Open Water

Non-vegetated waters include relatively permanently inundated rivers and streams, tidal sloughs, lakes, and ponds, and may also include some small drainages and ditches. Open water is typically bordered by one or more of the preceding wetland or riparian vegetation types. As habitat, they are occupied by fish, amphibians, and reptiles, and other aquatic organisms, and are accessed as water and food sources by birds and mammals.

4.6.1.5 Sensitive Natural Communities

Sensitive natural communities (or special-status native plant communities) are designated as such by various resource agencies, such as CDFW, or in local policies and regulations and are generally considered to have important functions or values for wildlife or humans and/or are recognized as declining in extent or distribution and are considered threatened enough to warrant some sort of protection. For example, many local agencies in California consider protection of oak woodlands important for their value as an ecosystem and federal, state, and most local agencies classify wetlands and riparian areas as sensitive communities. The CNDDB tracks communities that are considered to be important for habitat conservation; these sensitive natural communities are considered special-status for the purposes of this analysis.

Several of the vegetation communities that occur in the project area are considered sensitive natural communities for the purposes of this analysis for one or more of the following reasons: (a) they are considered a sensitive natural community by CDFW; (b) when they occur in the coastal zone, they are considered ESHA by the CCC, or are designated as ESHA in one or more of the applicable LCPs; and/or (c) they are considered a sensitive community by one or more of the affected local jurisdictions, or are designated as a sensitive community in one or more of the general plans applicable to the project area.

The following communities occur in the study area and are considered special-status natural communities for the purposes of this analysis: central dune scrub, central maritime chaparral, northern coastal scrub, riparian woodland and scrub, freshwater marsh, and coast live oak woodland. Section 4.6.1.10, Sensitive Terrestrial Biological Resources in the Study Area, below, describes the distribution of these communities in the study area.

4.6.1.6 Wetlands and Other Waters

Wetlands are ecologically productive habitats that support a rich variety of both plant and animal life. The importance and sensitivity of wetlands has increased as a result of their value as recharge areas and filters for water supplies and widespread filling and destruction to enable urban and agricultural development.

USACE jurisdiction typically extends to the limit of the wetland, as defined by the presence of hydrophytic vegetation, hydric soils, and wetlands hydrology. In contrast, CCC jurisdiction for

wetlands may extend to the limit of any one of the above parameters and therefore typically is much broader than USACE jurisdiction. However, the CCC only has jurisdiction over wetlands and waters located within the coastal zone. Additionally, the RWQCB also regulates wetlands, other waters of the U.S., and waters of the state. The main channels of the Elkhorn Slough are under the jurisdiction of the Monterey Bay National Marine Sanctuary. Federal and state definitions of wetlands and waters are further detailed in Section 4.6.2, Regulatory Framework.

Wetlands or waters potentially regulated by the USACE, RWQCB, and/or CCC within the study area were mapped by AECOM during field surveys conducted between 2013 and 2015 (AECOM, 2016); however a wetland delineation report has not been finalized for the proposed project. Additionally, ESA mapped any potentially jurisdictional wetlands or waters within the study area during field surveys conducted in 2013, 2014, and 2016 for the MPWSP (ESA, 2013, 2014, 2016). Many potentially jurisdictional wetlands and waters occur within the study area and include the following vegetation community/habitat types described in Section 4.6.1.4 above: riparian woodland and scrub, freshwater marsh, and open water, as well as a few small culverts and drainages present within the study area. These potential wetlands and waters are shown on **Figures 4.6-1a** through **4.6-1o**. A formal wetland delineation report would need to be prepared, and approved by the agencies, to determine the limits of jurisdictional wetlands and waters within the project area.

The USFWS NWI[7] was queried to identify wetlands and other surface waters that have been mapped within, or in close proximity to, the study area. The NWI data represents reconnaissance-level information on the location, type, and size of surface waters that was developed on-screen using digital datasets. Since this data is not collected in the field, and because the definition of wetlands can vary among regulatory agencies, a formal wetland delineation would need to be conducted to determine the limits of jurisdictional wetlands and waters mapped by the NWI. Several potentially jurisdictional wetlands and/or other waters have been mapped by the NWI within, or in close proximity to, the study area. These features are shown on **Figures 4.6-1a** through **4.6-1o** and include a variety of wetland and other water types such as estuarine and marine deepwater, estuarine and marine wetland, freshwater emergent wetland, freshwater forested/shrub wetland, freshwater pond, lake, and riverine.

Wild and Scenic Rivers

The federal Wild and Scenic Rivers Act was enacted by Congress in 1968 for the purpose of preserving the free-flowing characteristics and outstanding remarkable values of designated rivers while allowing uses compatible with the management goals of designated rivers. The categories of outstanding remarkable values include scenic, recreational, geologic, fish and wildlife, historic, and cultural values. The California Wild and Scenic Rivers Act of 1972 is modeled after the federal Wild and Scenic Rivers Act. There are no designated wild and scenic rivers within the study area.

[7] The NWI is a nationwide inventory of wetlands and other surface waters that is compiled by the USFWS to provide information on the distribution and type of wetlands and aid in conservation efforts.

4.6.1.7 Wildlife Movement Corridors

Wildlife movement corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or by areas of human disturbance or urban development. Topography and other natural factors in combination with urbanization have fragmented or separated large open space areas. The fragmentation of natural habitat creates isolated "islands" of vegetation that may not provide sufficient area to accommodate sustainable populations and can adversely impact genetic and species diversity. Movement corridors offset the effects of this fragmentation by allowing animals to move between remaining habitats, which in turn allows depleted populations to be replenished and promotes genetic exchange with separate populations.

The majority of the study area comprises developed areas, or adjacent to developed areas, such as roads and recreational trails, which do not serve as wildlife movement corridors. Although some common wildlife travel along developed areas, wildlife likely move parallel to these developed areas along relatively undeveloped stretches of beach and dune habitat located west and east of the project area. Lands north of Marina are used for agricultural purposes, but may serve as a movement corridor between coastal and inland areas for species adapted to agricultural disturbance such as raptors and songbirds. The Salinas River provides a wildlife movement corridor for fish, birds, and other species that migrate locally along riparian corridors.

4.6.1.8 Special-Status Species

For the purposes of this EIR/EIS, "special-status species" include threatened, endangered, candidate, and other sensitive species identified in local and regional plans, policies, and regulations, and by the CDFW, USFWS, and NMFS.[8] Special-status species include those species listed in Section 15380(b), Section 15380(c), and Section 15380(d) of the CEQA Guidelines. Special-status species include:[9]

- Plant and wildlife species listed as rare, threatened, and endangered under the FESA and CESA;
- Candidate species (species that are proposed for listing under either federal or state law);
- Species designated by CDFW as species of special concern or Fully Protected Species;

[8] Marine biological resources under NMFS authority are covered in Section 4.5, Marine Resources.

[9] CEQA Guidelines Section 15380(b) states "A species of animal or plant is: (1) "endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors; or (2) "rare" when either: (A) Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or (B) The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the Federal Endangered Species Act."

CEQA Guidelines Section 15380(c) states: "A species of animal or plant shall be presumed to be endangered, rare or threatened, as it is listed in: (1) Sections 670.2 or 670.5, Title 14, California Code of Regulations; or (2) Title 50, Code of Federal Regulations Section 17.11 or 17.12 pursuant to the Federal Endangered Species Act as rare, threatened, or endangered."

CEQA Guidelines Section 15380(d) states: "A species not included in any listing identified in subdivision (c) shall nevertheless be considered to be endangered, rare or threatened, if the species can be shown to meet the criteria in subdivision (b)."

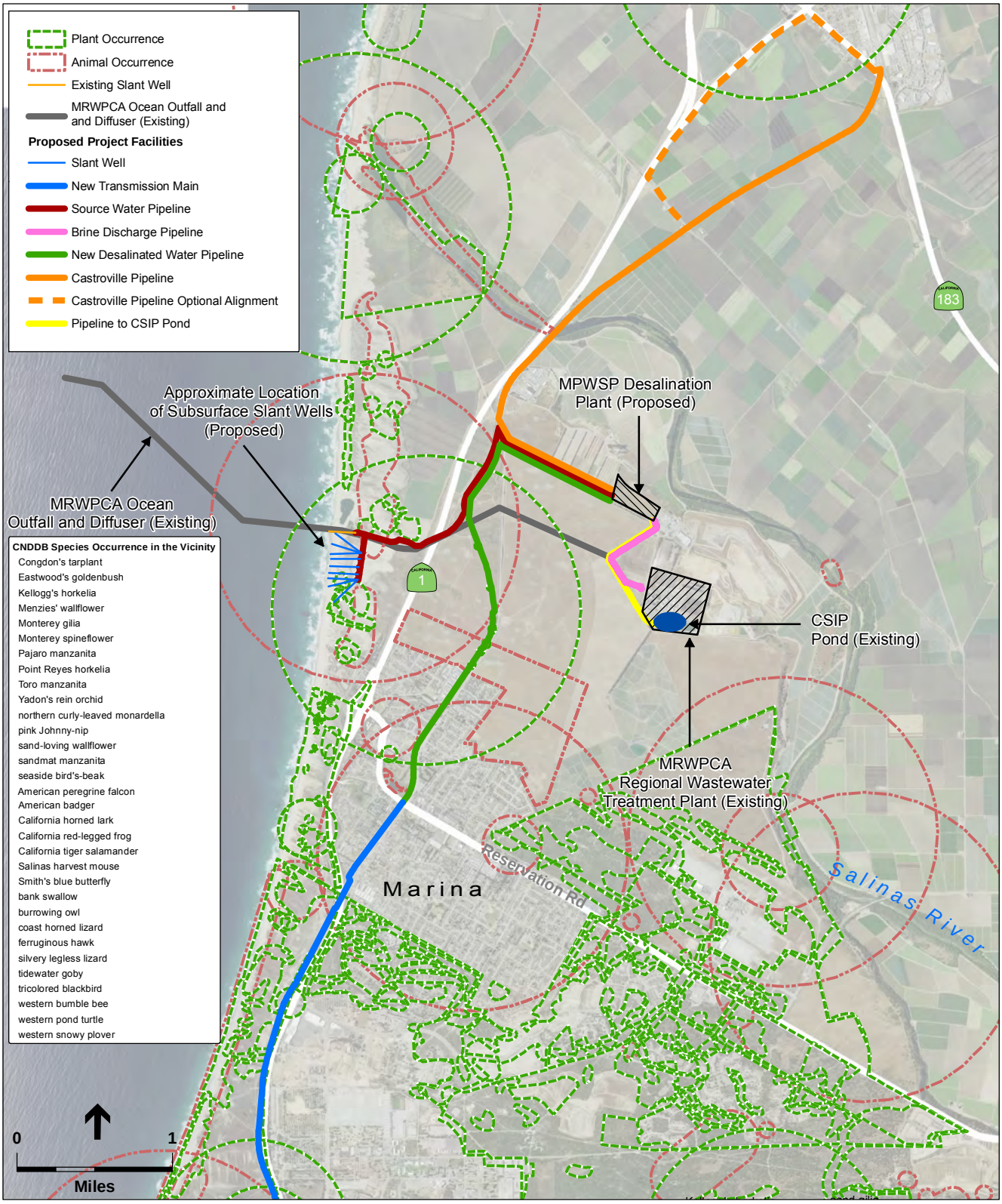
- Species protected by the federal Migratory Bird Treaty Act (MBTA) (16 USC §§ 703-711) and California Fish and Game Code;
- Bald and golden eagles protected by the federal Bald Eagle Protection Act (16 USC § 668); and
- Species that may be considered rare or endangered pursuant to Section 15380 of the CEQA Guidelines (including plants species with California Rare Plant Ranks of 1, 2, 3, or 4).

Data on species occurrence was obtained from the CDFW, the CNDDB, the CNPS Electronic Inventory, the USFWS species list, published biological literature of the region, and site surveys as described in Section 4.6.1.2 above.

Table F-1 in Appendix F lists the special-status plant and animal species that have been documented to occur or have the potential to occur in suitable habitat within the project area. The table also includes an assessment of potential to occur within the project area based on previous special-status record locations and current site conditions. Special-status species with a moderate or higher potential to occur within the project area are discussed in detail below.

Figures 4.6-2a, **4.6-2b**, and **4.6-2c** show the CNDDB occurrence records in the project vicinity.

Seven federal and/or state listed plant species occur in the project area or have a moderate to high potential to occur within the project area. These species include Monterey spineflower, robust spineflower (*Chorizanthe robusta* var. *robusta*), seaside bird's-beak, Menzies' wallflower (*Erysimum menziesii*), sand gilia, Yadon's rein orchid (*Piperia yadonii*), and Pacific Grove clover (*Trifolium polyodon*). Four federal and/or state listed animal species occur in or have a moderate to high potential to occur within the project area including Smith's blue butterfly, California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), and western snowy plover (*Charadrius alexandrinus nivosus*). Twenty-two non-listed special-status plant species are either known to occur within the project area or have a moderate to high potential to occur within the project area. These include Hickman's onion (*Allium hickmanii*), Hooker's manzanita (*Arctostaphylos hookeri* ssp. *hookeri*), Toro manzanita (*Arctostaphylos montereyensis*), Pajaro manzanita (*Arctostaphylos pajaroensis*), ocean bluff milkvetch (*Astragalus nuttallii var. nuttallii*), sandmat manzanita, Monterey Coast paintbrush (*Castilleja latifolia*), Monterey ceanothus (*Ceanothus rigidus*), Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), branching beach aster (*Corethrogyne filaginifolia* [formerly *leucophylla*]), Eastwood's goldenbush, sand-loving wallflower (*Erysimum ammophilum*), Kellogg's horkelia, Carmel Valley bush-mallow (*Malacothamnus palmeri* var. *involucratus*), marsh microseris (*Microseris paludosa*), northern curly-leaved monardella (*Monardella sinuata* ssp. *nigrescens*), south coast branching phacelia (*Phacelia ramosissima* var. *austrolitoralis*), native stands of Monterey pine, Michael's rein orchid (*Piperia michaelii*), Santa Cruz microseris (*Stebbinsoseris decipiens*), and Santa Cruz clover (*Trifolium buckwestiorum*).

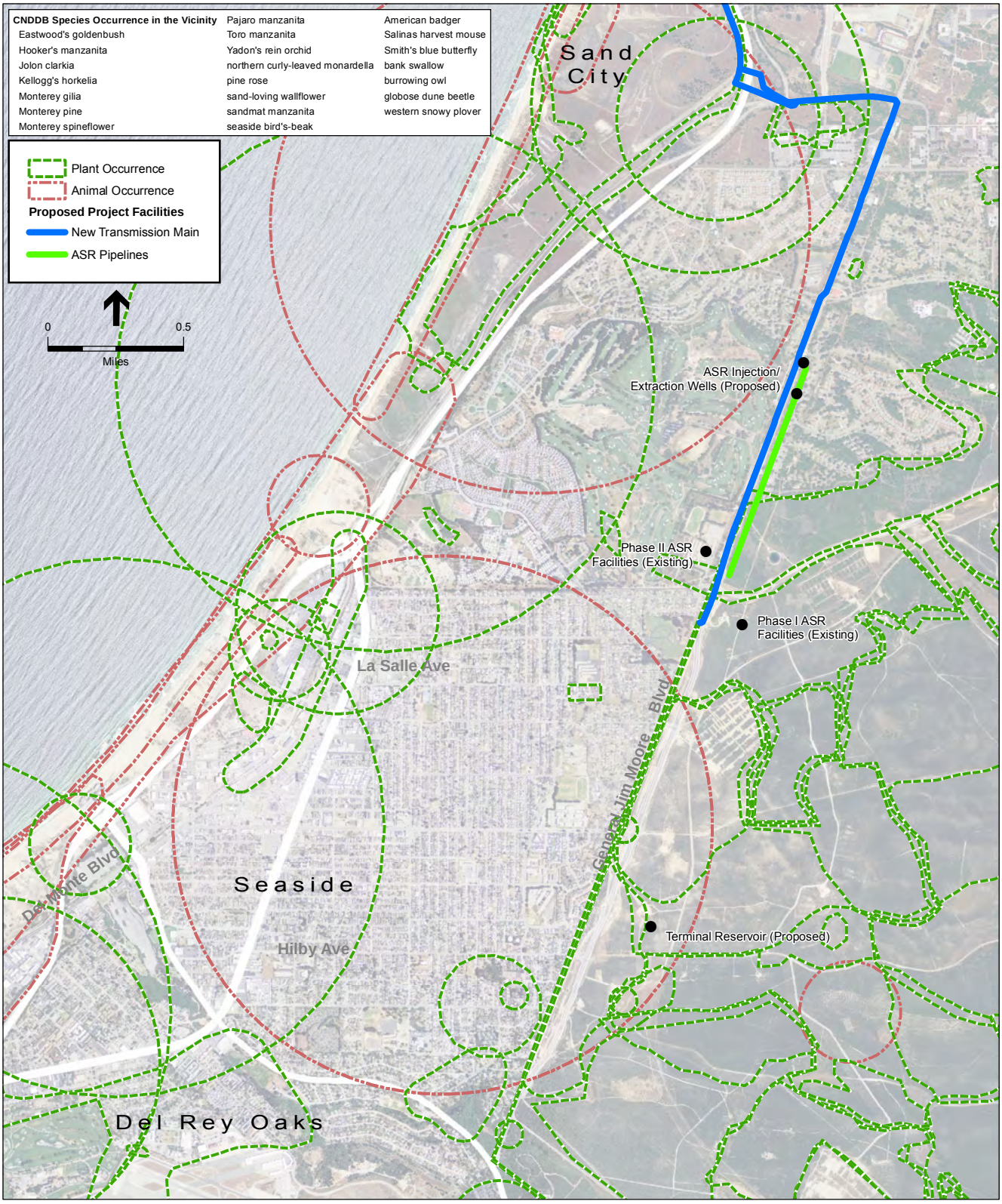


SOURCE: CDFW, 2016; ESA, 2016

205335.01 Monterey Peninsula Water Supply Project

Figure 4.6-2a

CNDDB Occurrence Records

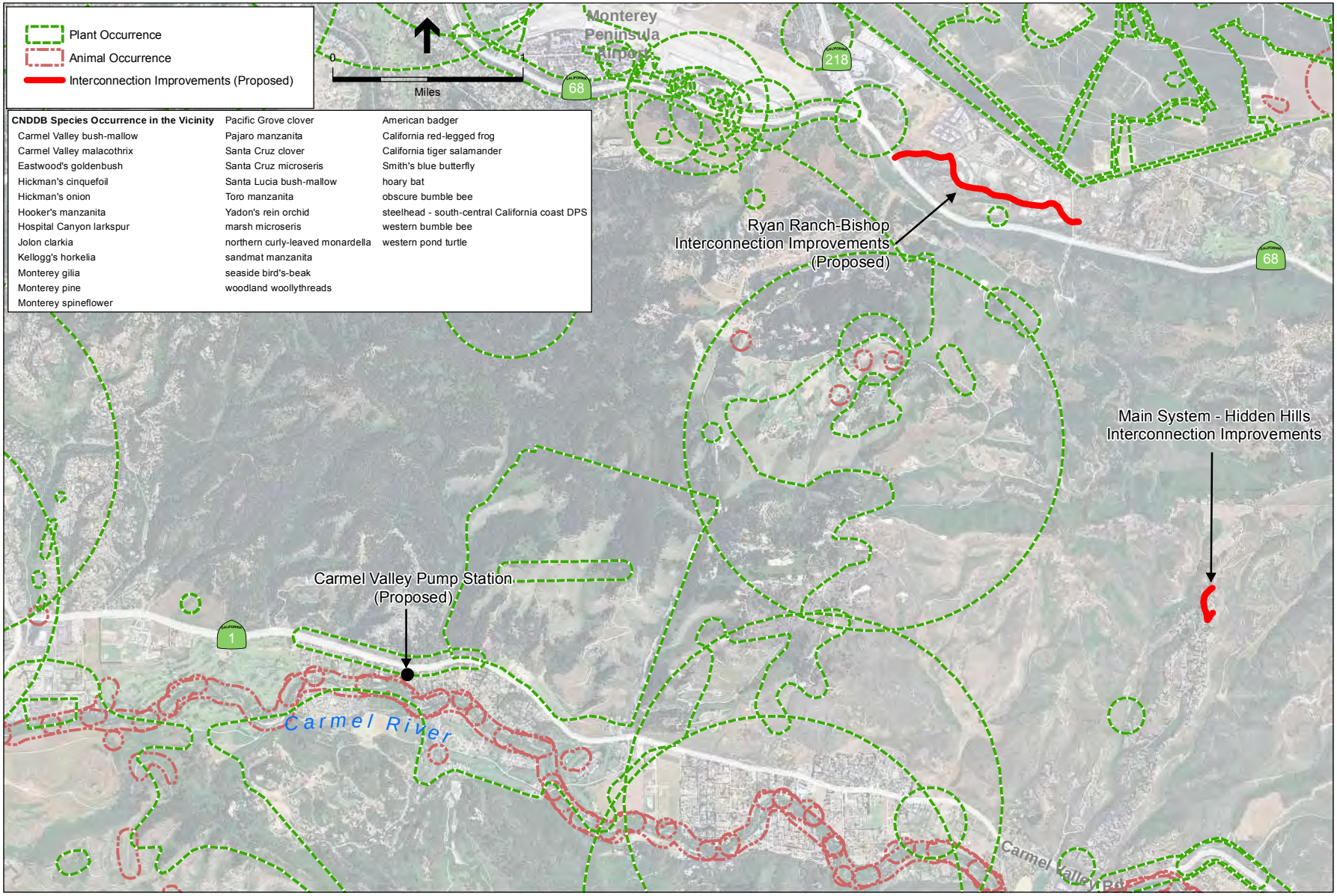


SOURCE: CDFW, 2016; ESA, 2016

205335.01 Monterey Peninsula Water Supply Project

Figure 4.6-2b

CNDDB Occurrence Records



SOURCE: CDFW, 2016; ESA, 2016

205335.01 Monterey Peninsula Water Supply Project

Figure 4.6-2c

CNDDB Occurrence Records

Twenty-three non-listed special-status animal species are either known to occur or have a moderate to high potential to occur within the project area. These include western pond turtle (*Actinemys marmorata*), black legless lizard, silvery legless lizard *(Anniella pulchra pulchra*), coast horned lizard (*Phrynosoma blainvillii*), Coast Range newt (*Taricha torosa*), tricolored blackbird (*Agelaius tricolor*), short-eared owl (*Asio flammeus*), western burrowing owl (*Athene cunicularia*), red-tailed hawk, red-shouldered hawk (*Buteo lineatus*), Ferruginous hawk (*Buteo regalis*), northern harrier (*Circus cyaneus*), white-tailed kite, California horned lark (*Eremophila alpestris actia*), American peregrine falcon (*Falco peregrinus*), American kestrel (*Falco sparverius*), loggerhead shrike (*Lanius ludovicianus*), California yellow warbler (*Setophaga petechia brewsteri*), pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*), Monterey dusky-footed woodrat, Monterey shrew (*Sorex ornatus salaries*), and American badger (*Taxidea taxus*).

Numerous native birds also are likely to occur in the project area. These birds, protected under the MBTA and California Fish and Game Code, are likely to nest locally from March through August, with most nesting occurring April through July.

Federal and State Endangered and/or Threatened Species

Plants

Monterey spineflower (*Chorizanthe pungens* var. *pungens*). Monterey spineflower is federally listed as threatened and a CRPR 1B.2 taxon. It is a small, low-growing, annual herb in the buckwheat family (Polygonaceae) inhabiting the sandy soils of coastal and inland marine terraces in northern Monterey County. Monterey spineflower occurs in disturbed areas in grassland, such as road cuts and eroded areas, or in shifting sands of coastal dunes. It is also associated with sand blowouts in areas partially stabilized by iceplant. Monterey spineflower requires a relatively bare substrate for establishment and growth and is threatened by the encroachment of nonnative annual grasses and perennial weed species.

Populations of Monterey spineflower are known from a variety of locations within and adjacent to the project area. This species has been mapped widely within the former Fort Ord military base including the Fort Ord Dunes State Park near the new Transmission Main alignment south of Reservation Road, along General Jim Moore Boulevard near the new Transmission Main and ASR pipeline alignments, and proposed Terminal Reservoir site (USACE, 1997; Fort Ord Reuse Authority, 2012; CDFW, 2016). During botanical surveys conducted for the proposed project, ESA observed this species in disturbed coastal dune scrub north of Reservation Road along the proposed new Desalinated Water Pipeline alignment on Lapis Road and the west side of Del Monte Boulevard (ESA, 2012; 2016). A large population was also observed within the Terminal Reservoir site (Denise Duffy & Associates, 2010a; Fort Ord Reuse Authority, 2012). In 2010, Monterey spineflower was observed along the proposed Source Water Pipeline alignment along Lapis Road and the CEMEX access road (ESA, 2010). Additionally, Zander Associates biologists observed this species adjacent to the CEMEX access road in 2013 and 2014 at the proposed Source Water Pipeline alignment (Zander Associates, 2013; 2014). During botanical surveys conducted at the CEMEX sand mining facility in 2014 and 2016 in support of this project, ESA found Monterey spineflower in high densities scattered throughout portions of the active mining

area, including at the proposed subsurface slant well sites (ESA, 2014; 2016). Other populations have been observed within central dune scrub and disturbed areas east of Lapis Road and north of the CEMEX access road (CDFW, 2016). It was also observed within the Castroville Pipeline alignment (AECOM, 2016).

This species occurs in both undisturbed and disturbed central dune scrub, non-native grassland, central maritime chaparral, northern coastal scrub, and ice plant mat communities and has a moderate to high potential to occur along the east side of General Jim Moore Boulevard in the vicinity of the proposed ASR facilities and Terminal Reservoir site.

Robust spineflower (*Chorizanthe robusta* var. *robusta*). Robust spineflower is federally listed as endangered and a CRPR 1B.1 taxon. It is an annual herb that blooms from April through September. This species grows in sandy or gravelly soils of coastal dune scrub. Robust spineflower is threatened by development, mining, recreation, and non-native plants. According to USFWS, this species is currently limited to Santa Cruz County, but has been historically documented in Monterey County (USFWS, 2010a). This species was not observed within the project area during the botanical surveys conducted for the proposed project. Although this species is not currently known within Monterey County, it has been historically observed in the project vicinity and has potential to occur within central dune scrub and maritime chaparral at the CEMEX active mining area; along the Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main; and on the east side of General Jim Moore Boulevard in the vicinity of the proposed ASR facilities and Terminal Reservoir site.

Seaside bird's-beak (*Cordylanthus rigidus* var. *littoralis*). Seaside bird's-beak is state listed as endangered and a CRPR 1B.1 taxon. It is a relatively large, many-branched, annual herb in the broomrape family (Orobanchaceae) that blooms from May through October. This species grows in the sandy soils of stabilized dunes and is associated with Monterey pine forest, oak woodland, and maritime chaparral. Like other annual plants of sandy soils, seaside bird's-beak generally requires regular ground disturbance to maintain a bare substrate and control competition with non-native grasses and perennial species. According to the CNDDB, this species has been documented on sand dunes in Sand City, Marina, Seaside, and Monterey although these records are all prior to 1950 and populations in these areas may have been extirpated (CDFW, 2016). Seaside bird's beak has been observed at the Terminal Reservoir site (Denise Duffy & Associates, 2010a; Fort Ord Reuse Authority, 2012). This species may occur in suitable habitat, such as central dune scrub, maritime chaparral, and coast live oak woodland at the proposed subsurface slant well site (e.g., the CEMEX sand mining facility); along the Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main alignments; and at the ASR-5 Well and ASR-6 Well sites, along the ASR Conveyance Pipeline alignment, along the ASR Pump-to-Waste Pipeline and the ASR Recirculation Pipeline alignment.

Menzies' wallflower (*Erysimum menziesii*). Menzies' wallflower is federal and state listed as endangered and a CRPR 1B.1 taxon. Originally, it was thought that two subspecies (*Erysimum menziesii* ssp. *menziesii* and ssp. *yadonii*) occur within Monterey County, with subspecies *menziesii* occurring in a disjunct distribution in Monterey and Mendocino Counties and subspecies *yadonii* restricted to coastal dunes between the mouth of the Salinas River and the

former Fort Ord military base (USFWS, 2008). However, the most recent update to the Jepson Manual only recognizes the species and not these two subspecies (Jepson Flora Project, 2013). This species is a biennial or perennial plant in the mustard family and produces yellow flowers from June through August. It was observed within the new Transmission Main alignment near the intersection of Lightfighter Drive and Highway 1 during surveys conducted for the proposed project in 2014 (URS, 2014b). This species occurs at the foredunes north of the CEMEX sand mining facility (CDFW, 2016) and was observed in this same area during botanical surveys conducted for the proposed project in 2012 and 2016 (ESA, 2012; 2016). It also occurs in sand dunes north and south of the CEMEX facility (CDFW, 2016). This species has potential to occur in central dune scrub at the proposed subsurface slant well site and along the proposed Source Water Pipeline, and new Desalinated Water Pipeline alignments.

Sand gilia (*Gilia tenuiflora* ssp. *arenaria*). Sand gilia is federally listed as endangered, state listed as threatened, and a CRPR 1B.2 taxon. It is a small, erect annual in the phlox family (Polemoniaceae) blooming from April through June. A rare associate of the maritime chaparral, coastal scrub, and oak woodland communities of northern Monterey County, sand gilia favors bare substrates created by unstable soil conditions. Sand gilia often occurs with Monterey spineflower, which is a federally threatened and CRPR 1B.2 species,[10] with similar ecological requirements; however, a more common associate is wand woollystar (*Eriastrum virgatum*). Changes in dune vegetation have greatly reduced the amount of suitable habitat for these disturbance-dependent species, and many remaining populations are associated with roadsides, eroded drainages, and recently burned chaparral. This species has been observed in sand dunes throughout the project area. Within the immediate project vicinity it has been observed at Marina State Beach south of the CEMEX sand mining facility; in central dune scrub north of the CEMEX sand mining facility; within the proposed new Transmission Main alignment near the intersection of Imjin Parkway and Highway 1; in dune scrub west of Auto Center Parkway; at a location[11] east of General Jim Moore Boulevard in the vicinity of the ASR facilities; at a former Fort Ord military base property located approximately 1.2 miles south of the intersection of Del Monte Boulevard and Reservation Road and just east of Highway 1; and at Marina State Beach approximately 1.4 miles south of the intersection of Del Monte Boulevard and Reservation Road and just west of Highway 1 (CDFW, 2016). It has also been observed within the Terminal Reservoir site (Denise Duffy & Associates, 2010a; Fort Ord Reuse Authority, 2012). Based on the broad distribution of occurrence records within the project area, this EIR/EIS assumes sand gilia could potentially occur in central dune scrub and central maritime chaparral at the subsurface slant wells site, along the Source Water Pipeline, new Desalinated Water Pipeline, new Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, and ASR Recirculation Pipeline alignments, at the ASR-5 Well and ASR-6 Well sites, and at the Terminal Reservoir site.

Yadon's rein orchid (*Piperia yadonii*). Yadon's rein orchid is federally listed as endangered and a CRPR 1B.1 taxon. It is a slender perennial herb in the orchid family (Orchidaceae) that blooms

[10] CRPR 1B consists of plants that are rare, threatened, or endangered in California and elsewhere. The 0.2 extension indicates that the plant is "Moderately endangered in California" and reflects the level of threat to the species.

[11] As reported in the CNDDB (CDFW, 2016), the exact location of this occurrence record is unknown, but is mapped as a large polygon east of General Jim Moore Boulevard based on a map in "Flora and Fauna Baseline Study of Fort Ord."

from May through August. This species occurs in Monterey pine forest with a sparse understory, and along ridges and other areas of shallow soil within maritime chaparral. Unlike many other rare plants associated with maritime chaparral, Yadon's rein orchid does not colonize bare ground following disturbance events; instead, this species requires bare areas that remain relatively stable over time, allowing plants to form symbioses with host-specific mycorrhizal fungi. CNDDB occurrence records for this species in the project vicinity are mostly limited to areas south and west of the Monterey Regional Airport (CDFW, 2016). This species has been documented east of Highway 1 and north of Imjin Parkway (CDFW, 2016). It has also been documented approximately 0.3 mile north of the proposed Ryan Ranch-Bishop Interconnection Improvements (Fort Ord Reuse Authority, 2012). Yadon's rein orchid has the potential to occur near the Main System-Hidden Hills Interconnection Improvements site, and at the ASR-5 and ASR-6 Wells sites, along the ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, and ASR Recirculation Pipeline alignments, and at the Terminal Reservoir site.

Pacific Grove clover (*Trifolium polyodon*). Pacific Grove clover is state listed as rare and a CRPR 1B.1 taxon, though possibly of hybrid origin (Baldwin, et al, 2012). It is a small semi-prostrate annual plant in the pea family (Fabaceae) that flowers from April to June. Pacific Grove clover occurs on mesic sites in closed-cone coniferous forest (i.e., Monterey pine and cypress), and in grasslands, coastal prairie or meadow habitat on marine terraces, and in swales in dunes. It has been documented at several locations on the west side of the Monterey Peninsula, on Point Lobos, and in a few other locations near Jack's Peak and in Carmel Valley (CDFW, 2016). Historical records suggest it may once have been more widespread in the vicinity of Monterey and Pacific Grove, but has likely been displaced by residential and golf course development of marine terrace grasslands and forests (Jones & Stokes, 1996). Although it can occur on sites with some ongoing disturbance, the MPWSP facilities located closest to known or potential populations (Ryan Ranch-Bishop Interconnection Improvements and Main System-Hidden Hills Interconnection Improvements) would be in previously developed locations, such as roads.

Invertebrates

Smith's blue butterfly (*Euphilotes enoptes smithi*). Smith's blue butterfly is federally listed as endangered. It is a small butterfly endemic to the central coast of California. This species relies on two host plants—coast buckwheat and seacliff buckwheat (*Eriogonum parvifolium*)—during all of its life stages. These two host plant species are found in coastal sand dunes and chaparral. Smith's blue butterfly uses the flower heads of these plants for feeding, mating, and egg-laying. Adults emerge during summer (June through September), and live approximately one week, during which time they mate. Eggs hatch shortly thereafter, and the caterpillars feed on the host plant then pupate for about 10 months (typically in the leaf litter below the plant) before emerging as adults the next summer. Adults also occasionally feed on nectar from naked buckwheat (*Eriogonum nudum*).

Smith's blue butterfly has been documented at several locations containing central dune scrub in the vicinity of the project area, from the city of Monterey to the south to the Salinas River National Wildlife Refuge to the north (CDFW, 2016; USACE, 1997; Fort Ord Reuse Authority, 2012). There is also a historical record from chaparral near Carmel Valley Village and two records near the

Carmel school in Carmel Valley (CDFW, 2016). During 2012 botanical surveys conducted at the "north CEMEX site" located approximately 0.8 mile north of the CEMEX active mining area,[12] coast buckwheat, one of the two host plants for the Smith's blue butterfly, was observed in high densities in the sand dunes north of the CEMEX sand mining facility (ESA, 2012). Coast buckwheat was also observed in high densities along the CEMEX access road and in central dune scrub within the CEMEX active mining area and Smith's blue butterfly was observed in a mosaic of central dune scrub and ice plant mats during the 2016 botanical surveys of the CEMEX facility (Zander Associates, 2014; ESA, 2014; 2016). Coast buckwheat and seacliff buckwheat was found in central dune scrub along the new Transmission Main between Beach Road and Lightfighter Drive and coast buckwheat was observed along the Source Water Pipeline and new Desalinated Water Pipeline along Lapis Road. (AECOM, 2016; ESA, 2016). Smith's blue butterfly has the potential to occur at the locations where coast buckwheat has been observed.

Fish

South/central California coast steelhead (*Oncorhynchus mykiss irideus*). Steelhead (*Oncorhynchus mykiss irideus*) are federally listed as threatened and considered a California species of special concern. They are anadromous (sea-run) rainbow trout that spawn in freshwater, spend the first one to three years (or more) of life in freshwater, and then migrate to the ocean where they continue to grow and mature before returning to spawn in their natal streams. Steelhead populations within the Salinas River and Carmel River basins are part of the south-central California coast Distinct Population Segment (SCCC DPS) of the species. This DPS extends from the Pajaro River south to, but not including, the Santa Maria River. The Salinas River watershed is considered a part of the Interior Coast Range Biogeographic Population Group (BPG) and the Carmel River is included in the Carmel Basin BPG within the 2013 SCCC DPS Recovery Planning Area (NMFS, 2013).

Overall population of the SCCC DPS is understood to be extremely small (NMFS, 2013). Steelhead populations within the Salinas River watershed have not been well documented, like many watersheds within this DPS, but a few point estimates, summarized in NMFS (2007), are available:

- USFWS catch estimate of 3,600 adults in 1946
- USFWS average run-size estimate of 900 fish in 1951
- Kelley and Dettman estimate of less than 500 adults as of 1983

Based on the above trend and more recent population assessments conducted on the Arroyo Seco, NMFS (2007) concluded that the Salinas River run of steelhead has declined to an adult abundance averaging less than 50 fish and that this remnant population faces a host of risks intrinsic to the low abundance of various sub-populations within the watershed. Poor habitat conditions related to the majority loss of the Salinas River estuary, increase in erosion and

[12] This location corresponds with the subsurface intake system described in CalAm's January 2013 Supplemental Testimony, which included up to 10 subsurface slant wells at the north CEMEX site. After input from resource agencies in March 2013 regarding impacts on western snowy plover habitat at this site, the subsurface intake system for the MPWSP was moved south to its current location in the CEMEX active mining area (see Chapter 7, Alternatives, regarding Preliminary Intake Option 1 at the north CEMEX site for additional discussion).

sedimentation resulting from adjacent land uses (e.g. residential and agricultural development), water management and physical impediments (e.g. groundwater extraction and dams), and presence of invasive species (e.g., giant reed [*Arundo donax*] and striped bass [*Marone saxatilis*]) are considered the primary threats to the Interior Coast Range BPG population (NMFS, 2013). NMFS (2007) concluded that the Upper Salinas, Nacimiento/San Antonio, and Arroyo Seco River sub-populations face "very high", "high", and "fairly high" risks of extinction, respectively. Additional monitoring conducted at the Salinas River Weir between 2010 and 2014 to document steelhead passage counts, abundance, and migration timing detected 53 upstream passages in the most abundant monitoring season (2012-2013) (FISHBIO, 2014). Although there are no steelhead occurrences from the CNDDB in Tembladero Slough, steelhead have the potential to occur in that slough. The Castroville Pipeline would be installed beneath the Salinas River and Tembladero Slough via trenchless technologies.

Amphibians

California tiger salamander (*Ambystoma californiense*). California tiger salamander is federal and state listed as threatened. It is principally an upland species found in annual grasslands and in the grassy understory of valley-foothill hardwood communities in central and northern California. It requires underground refuges (usually ground squirrel or other small mammal burrows), where it spends the majority of its annual cycle. Between December and February, when seasonal ponds begin to fill, adult California tiger salamanders engage in mass migrations to aquatic sites during a few rainy nights to breed. Adult tiger salamanders have been documented at distances of two kilometers (1.2 miles) from breeding ponds (Orloff, 2007).

No potential breeding ponds were observed within the project area. There are few CNDDB records for California tiger salamander within the immediate project vicinity. The closest CNDDB records are from a stock pond located approximately 1 mile south of the Ryan Ranch–Bishop Interconnection Improvements site and 2 miles northwest of the Main System–Hidden Hills Interconnection Improvements site; and from a seasonal swale surrounded by annual grassland and strawberry fields located 1.5 miles northeast of the Castroville Pipeline alignment northern terminus where 33 California tiger salamander larva were captured in 2006 (CDFW, 2016). California tiger salamander larvae have also been documented at a vernal pool located approximately 1 mile northeast of the Ryan Ranch–Bishop Interconnection Improvements site (CDFW, 2016). A known breeding site is also located approximately 1.2 miles northeast of the Ryan Ranch-Bishop Interconnection Improvements site (Fort Ord Reuse Authority, 2012). This species has also been observed approximately 2 miles east of the proposed ASR facilities and the Terminal Reservoir site.

This species would have low potential to occur along the new Transmission Main Pipeline alignment as there are no recent observations in the vicinity of this alignment and this area is highly urbanized.

The MPWSP Desalination Plant site has previously been regularly mowed or disked; however, it currently provides non-native grassland with significant cover from ruderal species. The site is located within 250 feet of a drainage ditch connected to the Salinas River and a retention basin to the northeast of the site. There is some potential that California tiger salamander could occur in

this drainage ditch or retention basin and, if present, could utilize grassland at the MPWSP Desalination Plant as upland habitat.

Non-native grassland within the north portion of the proposed new Desalinated Water Pipeline and Source Water Pipeline alignments is located within 1.2 miles of the drainage ditch connected to the Salinas River. Additionally, a potential breeding pond surrounded by grassland and agricultural fields is located in Armstrong Ranch within 1.2 miles east of the new Desalinated Water Pipeline Alignment. The area surrounding the pond has recently been converted to agricultural, which could limit dispersal from the pond to the pipeline alignment. If present within the ditch and/or pond, California tiger salamander could disperse to grassland within the northern portion of the alignments and use these areas as upland habitat. This species would not be expected to occur at the pond at Locke-Paddon Park as the pond is isolated by development. Grassland located within the Pipeline to CSIP Pond and Brine Discharge Pipeline alignments are also located within 1.2 miles of the drainage ditch connected to the Salinas River and retention basin and California tiger salamander could utilize these areas as upland habitat.

With the exception of grassland located at Charles Benson Road and Del Monte Boulevard, the Castroville Pipeline is surrounded by agricultural or developed areas which provide marginal dispersal habitat for California tiger salamander. Agricultural drainage ditches along the alignment are regularly maintained, sparsely vegetated, shallow and unlikely to support breeding California tiger salamander. One pond located just over 1.2 miles northwest of the alignment among agricultural fields has potential to support breeding California tiger salamander; however CNDDB has no records of species occurrence at these locations (CDFW, 2016). A swale is located approximately 1.2 miles northeast of the Castroville Pipeline terminus. If California tiger salamanders are present in this swale, they could potentially disperse into the project area. Agricultural fields and the City of Castroville which occur between the Castroville Pipeline alignment and the swale provide low quality dispersal habitat unlikely to be used as upland habitat by California tiger salamander.

The grassland adjacent to Charles Benson Road is separated from the Armstrong Ranch grasslands to the south; however California tiger salamander could disperse into this area from the drainage ditch connected to the Salinas River and use this grassland as upland habitat.

According to mapping of potential California tiger salamander breeding and upland habitat conducted within the former Fort Ord (Fort Ord Reuse Authority, 2012), there are no potential breeding ponds located within 1.2 miles of the ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Recirculation Pipeline, or ASR Pump-to-Waste Pipeline, so this species would not be expected to occur at these sites. Potential breeding ponds have been mapped within the former Fort Ord within 1.2 miles of the Terminal Reservoir site (Fort Ord Reuse Authority, 2012). California tiger salamander have potential to use central maritime chaparral at the Terminal Reservoir site.

California tiger salamander has been observed within 1.2 miles of the Ryan Ranch-Bishop Interconnection Improvements site. There are also ponds located within 1.2 miles of the Main System-Hidden Hills Interconnection Improvements site that could support California tiger

salamander. The majority of the Ryan Ranch-Bishop Interconnection Improvements and Main System-Hidden Hills Interconnection Improvements sites are paved and would not support this species. However California tiger salamander could occur in the approximately 0.7 acre grassland area located within the proposed Ryan Ranch-Bishop Interconnection Improvements site and grassland or coast live oak woodland adjacent to both of these Interconnection Improvements sites.

The Carmel Valley Pump Station site consists of non-native grassland with coast live oak woodland fringe south of Carmel Valley Road and surrounded by residential development. California tiger salamander are not expected at this site. There are no CNDDB occurrence records for this species in the vicinity of the Carmel Valley Pump Station site and, from aerial photographs, suitable potential breeding habitat does not appear within 1.2 miles of the site.

California red-legged frog (*Rana draytonii*). California red-legged frog is federally listed as threatened and considered a California species of special concern. This species is principally a pond frog that can be found in quiet permanent waters of ponds, pools, streams, rivers, springs, marshes, and lakes. Moist woodlands, forest clearings, and grasslands also provide suitable habitat for this species in the non-breeding season. Adult frogs seek waters with dense shoreline vegetation, such as cattails (*Typha angustifolia, T. latifolia*), which provide good cover, but may also be found in unvegetated waters. California red-legged frogs breed from January to May. Eggs are attached to vegetation in shallow water and are deposited in irregular clusters. Tadpoles grow up to 3 inches in size before metamorphosing. California red-legged frogs are active year-round along the coast but inland populations may aestivate from late summer to early winter. Adults consume insects such as beetles, caterpillars, and isopods, while tadpoles forage on algae and detritus. Depending on environmental conditions, California red-legged frogs may frequently travel distances greater than 1.2 miles from breeding ponds, and some adults have been documented to travel more than 2 miles (USFWS, 2002). Typical dispersal distances are less than 0.3 mile, with few individuals dispersing up to 1.2 to 1.8 miles (Fellers, 2005). Dispersal habitat is defined in the Federal Register's designation of critical habitat for the California red-legged frog by the USFWS as "upland or riparian habitat within and between occupied or previously occupied sites located within 1 mile of each other (USFWS, 2010b)."

Potential California red-legged frog breeding habitat was not observed within the project boundary during reconnaissance surveys conducted for the proposed project. There are few California red-legged frog CNDDB occurrence records in the immediate project vicinity (CDFW, 2016). Most CNDDB records are limited to the Carmel River with one record from the Salinas River approximately 0.75 mile east of the proposed MPWSP Desalination Plant site (CDFW, 2016). There are some historical observations from 1856, 1891, and 1942 from the Pacific Grove and downtown Monterey area (AmphibiaWeb, 2016). It is unlikely that California red-legged frogs still occur in this area due to years of development and isolation from recent occurrence records. This frog is known to breed along the Carmel River and adults have been observed in artificially-maintained ponds at the Tehama Golf Course, which is located approximately 1.2 miles south of the Ryan Ranch-Bishop Interconnection Improvements and 2.1 miles west of the Main System-Hidden Hills Interconnection Improvements site (CDFW, 2016). Additionally,

there are several potential breeding ponds located within the former Fort Ord, east of, and within 2 miles of, the Terminal Reservoir site (Fort Ord Reuse Authority, 2012).

This species would have low potential to occur at the new Transmission Main as there are no recent observations in the vicinity and this area is highly urbanized.

The MPWSP Desalination Plant has previously been regularly mowed or disked; however, it currently supports non-native grassland with ruderal species cover. The site is located within 675 feet of the Salinas River, and 250 feet of a drainage ditch connected to the Salinas River and retention pond. Since the frog is known from the Salinas River, this species could potentially disperse through MPWSP Desalination Plant site and use non-native grassland as upland habitat.

Non-native grassland within the north portion of the proposed new Desalinated Water Pipeline and Source Water Pipeline is located within one mile of the Salinas River. Additionally a pond surrounded by grassland and agricultural fields is located in Armstrong Ranch within 1.2 miles east of the new Desalinated Water Pipeline Alignment. The area surrounding the pond has recently been converted to agricultural, which could limit dispersal from the pond to the pipeline alignment. If present within the Salinas River and/or pond, California red-legged frog could disperse to grassland within the northern portion of the alignments and use these areas as upland habitat. This species would not be expected to occur at the pond at Locke-Paddon park as it is surrounded by development and likely contains predatory fish. Non-native grassland located within the Pipeline to CSIP Pond and Brine Discharge Pipeline also is located within 1 mile of the Salinas River and California red-legged frog could disperse through these areas as well.

The Castroville Pipeline is surrounded by agricultural or developed areas which provide marginal upland habitat for California red-legged frog. Agricultural drainage ditches along the alignment are regularly maintained, sparsely vegetated, shallow and unlikely to support breeding California red-legged frog. The Salinas River, Tembladero Slough, and the freshwater marsh and riparian woodland and scrub north of Tembladero Slough provide potential aquatic habitat for California red-legged frog. Additionally, same as the Source Water Pipeline and new Desalinated Water Pipeline, potential breeding ponds are located within 1.2 miles of the non-native grassland located north of the 0.8-mile-long pipeline segment along Charles Benson Road. California tiger salamander and California red-legged frog could utilize these grasslands as upland habitat.

According to mapping of potential California red-legged frog breeding and upland habitat conducted within the former Fort Ord (Fort Ord Reuse Authority, 2012), there are no potential breeding ponds located within one mile of the ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, or ASR Recirculation Pipeline, so this species is not be expected to occur at these sites. Potential breeding ponds have been mapped within one mile of the Terminal Reservoir site in the former Fort Ord area (Fort Ord Reuse Authority, 2012). California red-legged frog has the potential to disperse through central maritime chaparral at the Terminal Reservoir site.

California red-legged frog has been observed within one mile of both the Ryan Ranch-Bishop and Main System-Hidden Hills Interconnection Improvements sites, and there are several drainages between the recorded sightings and these project improvements. Although most of the project

area associated with the Ryan Ranch-Bishop Interconnection Improvements and Main System-Hidden Hills Interconnection Improvements are paved, California red-legged frog could occur in the approximately 0.7-acre grassland area located within the proposed Ryan Ranch-Bishop Interconnection Improvements site and grassland or oak woodland that occurs adjacent to both of these sites.

The Carmel Valley Pump Station site consists of non-native grassland with coast live oak woodland fringe south of Carmel Valley Road and surrounded by residential development. The site is located on a lot adjacent to the Carmel River where CNDDB documents a breeding population of California red-legged frog between 1993 and 2003 (CDFW, 2016). However, groundwater pumping of the Carmel River in this area is reported to leave smaller tributaries and backwater pools dry and would influence use of this area for breeding on an annual basis (CDFW, 2016). California red-legged frog could use the Carmel Valley Pump Station site as upland refugia or during dispersal.

Birds

Western Snowy Plover (*Charadrius alexandrinus nivosus*). The western snowy plover is federally listed as threatened and considered a California species of special concern. It breeds primarily on coastal beaches from southern Washington to southern Baja California. The species breeds 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. Less common nesting habitat includes bluff-backed beaches, dredged material disposal sites, salt pond levees, dry salt ponds, and river bars. Snowy plover use areas with wide, sandy, dune-backed beaches for roosting and foraging during the nonbreeding season. This species forages above and below the mean high waterline, typically gathering food from the surface of the sand, wrack line, or low foredune vegetation.

Western snowy plover are known to nest in the beach and sand dunes between Reservation Road and the Salinas River National Wildlife Refuge (Page et al., 2015). In 2015 there were 469 individual snowy plovers in the Monterey Bay breeding population. During surveys conducted for the MPWSP in 2012 (ESA, 2012) and 2013 (ESA, 2013), western snowy plovers were observed at the beach located north and south of the CEMEX sand mining facility, respectively. Multiple western snowy plover nests have been observed on the beach and foredunes within and at the proposed northernmost subsurface slant well cluster in the CEMEX active mining area (PRBO, 2012 in Zander Associates, 2013). This species has also historically nested in the backdunes of the CEMEX active mining facility where the subsurface slantwells are proposed (Neuman, 2015). Several western snowy plovers were observed among the sparse central dune scrub and iceplant mats of the CEMEX active mining facility during reconnaissance surveys in May 2016 (ESA, 2016). Western snowy plover has a high potential to nest along the beach and foredunes in the vicinity of the northernmost subsurface slant well cluster at the western terminus of the proposed Source Water Pipeline alignment. Additionally, western snowy plover may use the beach and dunes within all subsurface slant well and Source Water Pipeline work areas for wintering, roosting, and foraging. Western snowy plover has potential to nest in the backdunes in the proposed subsurface slant well area.

Other Special-Status Species

Plants

Hickman's onion (*Allium hickmanii*). Hickman's onion is a CRPR 1B.2 taxon. It is a perennial, bulbiferous herb in the onion family (Alliaceae) that blooms during April and May. This species is most often associated with shallow, sandy, or otherwise unproductive soils, such as shale and clay hardpan. Hickman's onion is associated with a variety of plant species; most populations are associated with grassland species, but some occur at the grassland/chaparral ecotone or within open oak woodland areas. Plants favor slightly mesic microhabitats within these communities. Coastal influence, and the supplemental moisture associated with summer fog, may be the most important variable affecting population distributions. Remnant patches of coastal prairie typically receive summer fog and are particularly likely to support Hickman's onion. This species has been documented in a moist drainage area over hardpan near the proposed Ryan Ranch–Bishop Interconnection Improvements (CDFW, 2016). This species has not been observed during project-related botanical surveys, but has potential to occur in grassland or grassland understory of coast live oak woodlands alongside the Ryan Ranch-Bishop and Main System-Hidden Hills Interconnection Improvements sites.

Hooker's manzanita (*Arctostaphylos hookeri* ssp. *hookeri*). Hooker's manzanita is a CRPR 1B.2 taxon. One of several rare manzanita species endemic to the Monterey Bay region, Hooker's manzanita (heath family [Ericaceae]) is associated with sandy shale soils and sandstone outcrops. It is an uncommon component of the maritime chaparral community, and is differentiated from other local manzanitas by its short, low-growing stature and shiny green leaves. The distribution of this subspecies extends from the hills east of Watsonville to Carmel; other rare subspecies of *A. hookeri* occupy coastal habitat to the north and south. It is found in chaparral, coastal prairie, coastal scrub, and valley and foothill grassland communities. This species has been documented within maritime chaparral near the Ryan Ranch-Bishop Interconnection site (CDFW, 2016; USACE, 1997). During botanical surveys of the project area in 2016, Hooker's manzanita was observed in central dune scrub bordering the new Transmission Main Pipeline alignment along General Jim Moore Boulevard at Normandy Road (AECOM, 2016). This species has a potential to occur in maritime chaparral and northern coastal scrub (California sagebrush scrub alliance) communities near the Main System-Hidden Hills Interconnection Improvements site and along the east side of General Jim Moore Boulevard in the vicinity of the proposed ASR facilities, and in central dune scrub at the subsurface slant well site and along the Source Water Pipeline, new Desalinated Water Pipeline, new Transmission Main Pipeline, ASR Conveyance Pipeline, ASR Recirculation Pipeline, and ASR Pump-to Waste Pipeline alignments, and at the Terminal Reservoir site.

Toro manzanita (*Arctostaphylos montereyensis*). Toto manzanita is a CRPR 1B.2 taxon. The species is identified by its short-haired glandular appearance and relatively long petioles. Toro manzanita is found in chaparral, woodland, and coastal scrub communities. Occurrence records for this species are located in maritime chaparral in the vicinity of both the Ryan Ranch-Bishop and Main System-Hidden Hills Interconnection Improvements sites, near the Monterey Regional Airport, and on the former Fort Ord military base (CDFW, 2016). Additionally, this species has previously been documented within the Terminal Reservoir site (USACE, 1997). It may occur in

coast live oak woodland, maritime chaparral, or northern coastal scrub (California sagebrush scrub alliance) in the vicinity of the Ryan Ranch-Bishop Interconnection Improvements site; Main System-Hidden Hills Interconnection Improvements site; along the east side of General Jim Moore Boulevard in the vicinity of the proposed ASR-5 and ASR-6 Wells and the three proposed ASR pipelines; along the proposed new Transmission Main; and at the Terminal Reservoir.

Pajaro manzanita (*Arctostaphylos pajaroensis*). Pajaro manzanita is a CRPR 1B.1 taxon. This species is an important component of maritime chaparral in the upper watershed of Elkhorn Slough and occurs with less frequency in the Marina and Seaside areas. It can also occur along the edges of oak woodland. Pajaro manzanita is readily distinguishable by its clasping, square-based leaves and mint green color. This species has been observed in the former Fort Ord military base near the intersection of General Jim Moore Boulevard and Broadway Avenue and near the intersection of Lightfighter Drive and Highway 1 near the northern entrance to the former Fort Ord military base (CDFW, 2016). This species has potential to occur in maritime chaparral, northern coastal scrub or coast live oak woodland communities along the new Transmission Main, ASR Conveyance Pipeline, ASR Recirculation Pipeline, and ASR Pump-to-Waste Pipeline alignments; at both the Ryan Ranch-Bishop and Main System-Hidden Hills Interconnection Improvements sites; at the Terminal Reservoir site; and at the ASR-5 and ASR-6 Well sites.

Sandmat manzanita (*Arctostaphylos pumila*). Sandmat manzanita is a CRPR 1B.2 taxon. It is a low-growing mounded shrub found in sand dunes. The leaves of sandmat manzanita are smaller than other locally occurring manzanitas. The bark is red and shredded. Sandmat manzanita is an important component of maritime chaparral in the former Fort Ord military base and is documented in the vicinity of General Jim Moore Boulevard, in coastal areas from Marina to Seaside, and near the Presidio of Monterey and the Monterey Airport (CDFW, 2016). During reconnaissance-level surveys conducted for this EIR/EIS, this species was observed in central dune scrub at multiple locations along the proposed new Transmission Main alignment between Marina and Lightfighter Drive (ESA, 2016). Two individuals were also observed along Lapis Road near the proposed new Desalinated Water Pipeline alignment during project related botanical surveys conducted in 2012 (ESA, 2012). A large population of this species has also been documented at the Terminal Reservoir site (Denise Duffy & Associates, 2010a; Fort Ord Reuse Authority, 2012). This species has potential to occur within central dune scrub and central maritime chaparral within the subsurface slant wells site, along the Source Water Pipeline alignment, along the new Desalinated Water Pipeline alignment, in the vicinity of the Main System-Hidden Hills Interconnection Improvements, and at the ASR-5 and ASR-6 Wells sites, along the ASR Conveyance Pipeline, ASR Recirculation Pipeline, and the ASR Pump-to-Waste Pipeline alignments.

Ocean bluff milkvetch (*Astragalus nuttallii* var. *nuttallii*). Ocean bluff milkvetch is a CRPR 4.2 taxon. It is a perennial herb of the pea family, endemic to the central coast of California where it grows in sandy soils and forms a thick, low clump of hairy stems and leaves. Flowers are dull cream-colored to violet and fruit is an inflated legume pod up to 6 centimeters in length containing many seeds in a single chamber. Observed during focused botanical surveys of the CEMEX active mining facility conducted in 2015 (AECOM, 2016). May occur in central dune scrub throughout the project area at the subsurface slant wells site, along the Source Water

Pipeline alignment, along the new Desalinated Water Pipeline alignment, the ASR-5 and ASR-6 Wells sites, along the ASR Conveyance Pipeline, ASR Recirculation Pipeline, and the ASR Pump-to-Waste Pipeline alignments, and at the Terminal Reservoir site.

Monterey coast paintbrush (*Castilleja latifolia*). Monterey Coast paintbrush is a CRPR 4.3 taxon. It is a hemiparasitic perennial herb in the broomrape family (Orobanchaceae) that typically blooms between February and September. It grows in sandy soils in closed-cone coniferous forest, coastal dunes, coastal scrub, and openings in cismontane woodland. Monterey Coast paintbrush has been observed in central dune scrub during reconnaissance surveys of the new Transmission Main Pipeline alignment between Reservation Road and Lightfighter Drive and at the CEMEX active mining facility (ESA, 2016; AECOM, 2016). Monterey Coast paintbrush has potential to occur in central dune scrub, central maritime chaparral, and coast live oak woodland at the subsurface slant well site, along the Source Water Pipeline, new Desalinated Water Pipeline, ASR Conveyance Pipeline, ASR Recirculation Pipeline, and ASR Pump-to-Waste Pipeline alignments, at the ASR-5 and ASR-6 Wells, and at the Terminal Reservoir site.

Monterey ceanothus (*Ceanothus rigidus*). Monterey ceanothus is a CRPR 4.2 taxon. It is a perennial evergreen shrub in the buckthorn family (Rhamnaceae) that typically blooms between February and June. This species is found in closed-cone coniferous forest, chaparral, and coastal scrub areas with sandy soils. It is found in Monterey, Santa Cruz, and San Luis Obispo Counties. Monterey ceanothus is known at the Terminal Reservoir site (Fort Ord Reuse Authority, 2012; AECOM, 2016). It was also observed within the new Transmission Main alignment and adjacent to the ASR Conveyance, ASR Recirculation Pipeline, and ASR Pump-to-Waste Pipeline alignments in 2014 during surveys conducted for the proposed project (URS, 2014b). Monterey ceanothus has potential to occur within central dune scrub and central maritime chaparral at the proposed subsurface slant wells site, along the Source Water Pipeline, new Desalinated Water Pipeline, ASR Conveyance Pipeline, ASR Recirculation Pipeline, and ASR Pump-to-Waste Pipeline alignments, and at the ASR-5 and ASR-6 Wells.

Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*). Congdon's tarplant is a CRPR 1B.1 taxon. This spiny, resinous, annual herb in the sunflower family (Asteraceae) occurs in grassland, particularly in areas with alkaline substrates, and in depressions or disturbed areas where water collects. The blooming period extends from June through November. The range of this species includes Alameda, Contra Costa, Monterey, Santa Clara, San Luis Obispo, and San Mateo counties. Congdon's tarplant has been observed in grassland and drainage ditches in the vicinity of Highway 68 east and northeast of both the Ryan Ranch-Bishop and Main System-Hidden Hills Interconnection Improvements. It has also been observed in mesic grassland areas at the Moss Landing Power Plant (CDFW, 2016). This species often occurs in disturbed areas and has potential to occur in slightly mesic, alkaline grassland and ruderal areas in the vicinity of the Ryan Ranch-Bishop and Main System-Hidden Hills Interconnection Improvements and at the MPWSP Desalination Plant site.

Branching beach aster (*Corethrogyne filaginifolia* [formerly *C. leucophylla*]). Branching beach aster is a CRPR 3.2 taxon. It is a perennial herb in the sunflower family. This species typically blooms between May and December and typically occurs in closed-cone coniferous

forest and coastal dune and dune scrub habitat in sandy soils between taller shrub cover. It was frequently observed within the Source Water Pipeline, new Desalinated Water Pipeline, Castroville Pipeline, and new Transmission Main alignments during surveys conducted for the proposed project (URS, 2014b; ESA, 2016).

Eastwood's goldenbush (*Ericameria fasciculata*). Eastwood's goldenbush is a CRPR 1B.1 taxon. It is a perennial yellow-flowering shrub in the sunflower family that blooms from July through October. This species occurs in sandy soils in openings in closed-cone coniferous forest, maritime chaparral, coastal dunes, and coastal scrub communities. Eastwood's goldenbush has been observed on the former Fort Ord military base in the vicinity of General Jim Moore Boulevard and between Patton Parkway and Imjin Road east of Highway 1 (CDFW, 2016). This species has also been documented within the Terminal Reservoir site (Denise Duffy & Associates, 2010a; Fort Ord Reuse Authority, 2012; AECOM, 2016). It has potential to occur in central dune scrub, maritime chaparral, and coastal sage scrub communities at the subsurface slant well site, along the Source Water Pipeline, new Desalinated Water Pipeline, new Transmission Main, ASR Conveyance Pipeline, ASR Recirculation Pipeline, and ASR Pump-to-Waste Pipeline alignments, in the vicinity of the Main System-Hidden Hills Interconnection Improvements, and at the ASR-5 Well and ASR-6 Well sites.

Sand-loving wallflower (*Erysimum ammophilum*). Sand-loving wallflower is a CRPR 1B.2 taxon. It is an annual yellow-flowered herb in the mustard family (Brassicaceae) that blooms February through June. This species is another rare associate of the maritime chaparral community, growing on loose sandy soils of coastal and inland dunes. This species was documented at the Terminal Reservoir site in 2010 (Denise Duffy & Associates, 2013). Populations of sand-loving wallflower are documented within Marina State Beach, Fort Ord Dunes State Park, on former Fort Ord lands in the vicinity of Marina, on the former Fort Ord military base in the vicinity of General Jim Moore Boulevard (including the Terminal Reservoir site), and in disturbed dunes north of the CEMEX sand mining facility (CDFW, 2016). Individuals of this species were observed in coastal dunes north of the CEMEX sand mining facility during project related botanical surveys conducted in 2012 (ESA, 2012). Additionally this species was observed in 2014 and 2016 during surveys conducted for the proposed project at the subsurface slant well site within central dune scrub at the CEMEX active mining facility (ESA, 2014; 2016). Sand-loving wallflower was also documented in central dune scrub along the new Transmission Main Pipeline between Patton Parkway and Imjin Parkway (AECOM, 2016). This species has potential to occur in central dune scrub and maritime chaparral along the Source Water Pipeline, new Desalinated Water Pipeline, new Transmission Main, ASR Conveyance Pipeline, ASR Recirculation Pipeline, and ASR Pump-to-Waste Pipeline alignments, and at the ASR-5 Well and ASR-6 Well sites.

Kellogg's horkelia (*Horkelia cuneata* ssp. *sericea*). Kellogg's horkelia is a CRPR 1B.1 taxon. A spreading perennial herb in the rose family (Rosaceae), Kellogg's horkelia is associated with relict dunes and old marine terraces from San Mateo County south to Santa Barbara County. Relatively recent (within the last 30 to 40 years) CNDDB occurrence records have documented this species within the former Fort Ord military base east of General Jim Moore Boulevard within the development water infiltration area that will be used during development of the ASR-5 Well

and ASR-6 Well, north of the Ryan Ranch-Bishop Interconnection Improvements site, and north of Imjin Parkway east of Highway 1 (CDFW, 2016). This species was observed along Del Monte Boulevard along the new Desalinated Water Pipeline alignment during project related botanical surveys conducted in 2012 and 2016 (ESA, 2012; 2016). Kellogg' horkelia has potential to occur in central dune scrub and maritime chaparral at the subsurface slant well site, along the Source Water Pipeline alignment, and at the Terminal Reservoir site.

Carmel Valley bush-mallow (*Malacothamnus palmeri* var. *involucratus*). Carmel Valley bush-mallow is a CRPR 1B.2 taxon. It is a shrub in the mallow family (Malvaceae), and is a fire-dependent species found on talus hilltops and slopes in chaparral, woodland, and coastal scrub communities. This variety is endemic to Monterey and San Luis Obispo Counties. In the vicinity of the project area, more recent observations have been documented in the vicinity of the Main System-Hidden Hills Interconnection Improvements and Ryan Ranch–Bishop Interconnection Improvements (CDFW, 2016). In 2002, Carmel Valley bush-mallow was observed approximately 0.2 mile southwest of the Main System–Hidden Hills Interconnection Improvements and in 2003 it was observed in coast live oak forest approximately 300 feet south of the Ryan Ranch–Bishop Interconnection Improvements (CDFW, 2016). Carmel Valley bush-mallow has potential to occur in central dune scrub, central maritime chaparral, northern coastal scrub, coast live oak woodland, and non-native grassland communities along the ASR Conveyance Pipeline, ASR Recirculation Pipeline, and ASR Pump-to-Waste Pipeline alignments, at the Terminal Reservoir site, in the vicinity of the Main System-Hidden Hills Interconnection Improvements and Ryan Ranch–Bishop Interconnection Improvements, and at the ASR-5 Well and ASR-6 Well sites.

Marsh microseris (*Microseris paludosa*). Marsh microseris is a CRPR 1B.2 taxon. It is a perennial herb in the sunflower family that typically blooms between April and June, and uncommonly through July. It occurs in vernally wet areas within closed-cone coniferous forest, woodland, coastal scrub, and valley and foothill grasslands. It is found in the San Francisco Bay Area and along the central California coast. There are other historical records from the Del Monte Forest area. The most recent CNDDB observations of this species in the vicinity of the project area is from a 1997 observation located approximately 1.5 miles southwest of the Ryan Ranch–Bishop Interconnection Improvements (CDFW, 2016). This species has potential to occur within seasonally wet areas in the vicinity of both the Ryan Ranch–Bishop and Main System-Hidden Hills Interconnection Improvements sites.

Northern curly-leaved monardella (*Monardella sinuata* ssp. *nigrescens*). Northern curly-leaved monardella is a CRPR 1B.2 taxon. It is an annual herb in the mint family (Lamiaceae), found in chaparral, coastal dunes, coastal scrub, and lower montane coniferous forest. Northern curly-leaved monardella typically blooms between April and September. This species has been observed in suitable habitat at several locations within the project vicinity (CDFW, 2016). The two most recent observations are from the former Fort Ord east of the Terminal Reservoir site and in the vicinity of the Monterey Regional Airport. This species has potential to occur within central dune scrub, central maritime chaparral, and northern coastal scrub communities at the subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, new Transmission Main, ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Recirculation Pipeline, ASR Pump-to-Waste Pipeline, and the Terminal Reservoir.

South coast branching phacelia (*Phacelia ramosissima* var. *austrolitoralis*). South coast branching phacelia is a CRPR 3.2 taxon. It is a perennial herb in the forget-me-not family (Boraginaceae), found in chaparral, coastal dunes, coastal scrub, and coastal sandy (sometimes rocky) marshes and swamps. South coast phacelia typically blooms between March and August. This species was observed at the Terminal Reservoir site during surveys conducted for the proposed project in 2014 (URS, 2014b). South coast branching phacelia has potential to occur in central dune scrub, central maritime chaparral, and northern coastal scrub communities at the subsurface slant wells site, within the Source Water Pipeline, new Desalinated Water Pipeline, Castroville Pipeline, new Transmission Main, and Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline).

Monterey pine (*Pinus radiata*). Monterey pine is a CRPR 1B.1 taxon. It is a perennial evergreen tree in the pine family (Pinaceae). There are only three native stands in California: at Ano Nuevo, in Cambria, and on the Monterey Peninsula. This species has been widely introduced and used in landscaping in many other locations; however, Monterey pine trees planted in urban or streetscape locations typically are not considered special-status. The CNDDB reports two occurrences of this species in the vicinity of the project area. The occurrence records include the entire assumed historical range, which encompass much of the Monterey Peninsula and portions of the project area. In practice, individual or isolated trees that exist only in a landscaping context are not considered sensitive. However, the *Biological Assessment for the Monterey Bay Regional Desalination Project Monterey Presidio Project* concludes that Monterey pines within the Monterey Bay Regional Desalination Project Monterey Presidio Project area are considered special-status because they occur within the historic range of the species (Denise Duffy & Associates, 2010b). On a case-by-case basis, any Monterey pines present at the Terminal Reservoir site, at the Carmel Valley Pump Station, and both Main System-Hidden Hills and Ryan Ranch-Bishop Interconnection Improvements sites may be considered special-status if they are within, or in close proximity to, the assumed historical range reported by the CNDDB.

Michael's rein orchid (*Piperia michaelii*). Michael's rein orchid is a CRPR 4.2 taxon. It is a perennial herb in the orchid family that typically blooms between April and August. It is found in coastal bluff scrub, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, and lower mountain coniferous forest. Michael's rein orchid was observed in several locations within the new Transmission Main pipeline alignment between Patton Parkway and Lightfighter Drive, along General Jim Moore Boulevard near San Pablo Avenue, and at one location within the Terminal Reservoir site during protocol level plant surveys conducted for the proposed project in 2014 (URS, 2014a). This species has potential to occur in central dune scrub and central maritime chaparral at the subsurface slant wells site, within the Source Water Pipeline, new Desalinated Water Pipeline, ASR Conveyance Pipeline, ASR Recirculation Pipeline, and ASR Pump-to-Waste Pipeline alignments, at the ASR-5 Well and ASR-6 Well, and in woodlands in the vicinity of the Ryan Ranch-Bishop and Main System-Hidden Hills Interconnection Improvements sites.

Santa Cruz microseris (*Stebbinsoseris decipiens*). Santa Cruz microseris is a CRPR 4.2 taxon. It is an annual herb in the sunflower family, found in open areas, sometimes in serpentine soils, in

broadleaf upland forest, chaparral, coastal prairie and scrub, and valley and foothill grassland communities. It occurs in Monterey, Santa Cruz, and Marin Counties. Santa Cruz microseris typically blooms in April and May. One CNDDB occurrence record for this species is located in the vicinity of the project area; in 1978 one plant was observed at the top of a roadcut outside of pasture just northeast of the Ryan Ranch–Bishop Interconnection Improvements (CDFW, 2016). This species has a potential to occur in coast live oak or grassland in the vicinity of both the Ryan Ranch-Bishop and Main System-Hidden Hills Interconnection Improvements sites.

Santa Cruz clover (*Trifolium buckwestiorum*). Santa Cruz clover is a CRPR 1B.1 taxon. It is an annual herb in the legume family that blooms April through October. It is typically found on margins of broadleaved upland forest, woodland, and coastal prairie. Its range includes Mendocino, Sonoma, San Mateo, Santa Cruz, and Monterey Counties. There are two CNDDB records for this species in the vicinity of the project area, both of which are from 1993 and are located near both the Ryan Ranch-Bishop Interconnection Improvements and Main System-Hidden Hills Interconnection Improvements sites (CDFW, 2016). This species has potential to occur within coast live oak woodland or non-native grassland in and around these two sites.

Reptiles

Western pond turtle (*Actinemys marmorata*). The western pond turtle is considered a California species of special concern. It is an aquatic turtle that usually leaves the aquatic site to reproduce, to aestivate, and to overwinter. This turtle requires some slack or slow water, although it occurs where enough food resources occur in faster moving water. Western pond turtle usually nest in hard-packed clay soil in upland areas from March to July. Hatchlings disperse from the nest with winter rains. Western pond turtles have been observed within the Carmel River, at a brackish water pond near the intersection of Beach Road and Reservation Road approximately 0.2 mile west of the proposed new Transmission Main Pipeline alignment (CDFW, 2016). This species has potential to occur within suitable aquatic habitat throughout the project area including Locke-Paddon Pond in Marina, Laguna del Rey Park in Monterey, the Salinas River, Tembladero Slough and freshwater marsh and riparian woodland and scrub north of Tembladero Slough.

Black legless lizard (*Anniella pulchra nigra*). Black legless lizard is considered a California species of special concern. They are found in sand dunes and sandy soils along the Monterey Bay. Black legless lizard typically inhabit dune areas with moist soil and bush lupine and mock heather as the dominant plants. They are fossorial animals that burrow in loose soil with a high sand content. This subspecies is typically black or dark brown above and yellow below. Some groups only recognize the species, California legless lizard (*Anniella pulchra*), and do not recognize this or other subspecies (i.e. silvery legless lizard described below). The specific CNDDB record locations for this species are suppressed by CDFW, but this species is known from sand dune communities, including both native and non-native plant dominant areas, at locations within the Marina, Seaside, Monterey, Moss Landing, and Watsonville West USGS 7.5 minute topographic quadrangles (CDFW, 2016). This species has potential to occur within central dune scrub, northern coastal scrub, and central maritime chaparral at the proposed subsurface slant well site; along the Source Water Pipeline, new Desalinated Water Pipeline, southwest portion of the Castroville Pipeline, new Transmission Main, ASR Conveyance Pipeline, ASR Recirculation

Pipeline, and ASR Pump-to-Waste Pipeline alignments; at the Terminal Reservoir site; and at the ASR-5 Well and ASR-6 Well sites.

Silvery legless lizard (*Anniella pulchra pulchra*). Silvery legless lizard is considered a California species of special concern. They are found in vegetation communities within sandy or loose loamy soils and sparse vegetation. Their range includes the coast and central valley of California from the southern San Francisco Bay Area to Baja California. This subspecies is silvery gray, or beige above and yellow below. As with the black legless lizard, some groups only recognize the species, California legless lizard, and do not recognize this or other subspecies. There is one CNDDB record for this subspecies in the vicinity of the project area; two individuals were observed in maritime chaparral near Reservation Road approximately 0.5 mile east of the project area (CDFW, 2016). The next closest CNDDB record is from sand dunes at Moss Landing approximately 5 miles northwest of the project area. Similar to the black legless lizard, this subspecies has potential to occur within central dune scrub, northern coastal scrub, and central maritime chaparral communities at the proposed subsurface slant well site; along the Source Water Pipeline, new Desalinated Water Pipeline, southwest portion of the Castroville Pipeline, new Transmission Main, ASR Conveyance Pipeline, ASR Recirculation Pipeline, and ASR Pump-to-Waste Pipeline alignments; at the Terminal Reservoir site; and at the ASR-5 Well and ASR-6 Well sites.

Coast horned lizard (*Phrynosoma blainvillii*). Coast horned lizard is considered a California species of special concern. They occupy loose sandy loam and alkaline soils in a variety of vegetation communities including chaparral, grasslands, saltbush scrub, coastal scrub, and clearings in riparian woodlands. Coast horned lizards primarily eat insects such as ants and beetles. Their population decline is mainly attributed to conversion of land for agricultural purposes. The human introduction of non-native Argentine ants, which tend to displace the native carpenter ants and do not provide enough nutrition for coast horned lizard, is another factor in their decline. Within the vicinity of the project area, coast horned lizards have been observed in grazed annual grasslands and coastal dune scrub north of Beach Road along the proposed new Desalinated Water Pipeline alignment (CDFW, 2016). They were also observed at the Terminal Reservoir site (URS, 2014a). Additionally, coast horned lizards have been observed at several locations approximately 1.5 miles east of the new Transmission Main alignment (CDFW, 2016). This species has potential to occur in sandy soils within grassland, central dune scrub, central maritime chaparral, and northern coastal scrub at the proposed subsurface slant well site; along the Source Water Pipeline, new Desalinated Water Pipeline, new Transmission Main, ASR Conveyance Pipeline, ASR Recirculation Pipeline, and ASR Pump-to-Waste Pipeline alignments; at the Terminal Reservoir site; and at the ASR-5 Well and ASR-6 Well sites.

Coast Range newt (*Taricha torosa*). Coast Range newt is considered a California species of special concern. Adult Coast Range newt habitat within central California includes grassland and woodland habitats. They breed in ponds, reservoirs and streams. Newts aestivate in terrestrial habitat during the dry summer and can migrate large distances between breeding and aestivation sites, however they may not migrate great distances if suitable aestivations sites are close to breeding sites. Coast Range newts have been observed in and around stock ponds located south of the Carmel River (CDFW, 2016). This species has potential to occur in ponds and streams and in

adjacent grassland and woodland habitat within the survey area including: MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Castroville Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, ASR Facilities, new Transmission Main, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and staging areas.

Birds

Tricolored blackbird (*Agelaius tricolor*). Tricolored blackbird is considered a California species of special concern. Tricolored blackbirds are found almost exclusively in the Central Valley and central and southern coastal areas of California. The tricolored blackbird is highly colonial and forms dense breeding colonies of up to tens of thousands of pairs. This species typically nests in tall, dense, stands of cattails or tules, but also nests in blackberry, wild rose bushes, and tall herbs. Nesting colonies are typically located near standing or flowing freshwater. Tricolored blackbirds form large, often multi-species, flocks during the nonbreeding period and range more widely during the nonbreeding period than during the reproductive season. This species has been observed at Locke-Paddon Park, less frequently at the Salinas River, northeast of the Salinas River, and at other locations in the vicinity of the survey area (CDFW, 2016; eBird, 2016). While this species may also forage in grassland and agricultural areas throughout the project area, Locke-Paddon Park and Laguna del Rey Park are the only areas in the project area that provide adequate potential nesting habitat.

Short-eared owl (*Asio flammeus*). Short-eared owl is considered a California species of special concern. This species inhabit densely vegetated grasslands, emergent wetlands, and shrublands along the coast with abundant prey (e.g., voles, other small mammals, birds, reptiles, amphibians, and arthropods). Short-eared owls require dense vegetative cover such as tall grasses and freshwater emergent vegetation for roosting and resting. Nesting occurs from April through July, with nests constructed on dry ground in depressions concealed by dense vegetation. In the project vicinity, short-eared owl has been observed at the Salinas River National Wildlife Refuge and Armstrong Ranch grasslands (eBird, 2016). This species could forage or nest in grassland, wetland, or northern coastal scrub habitat in the project area near the proposed Source Water Pipeline, new Desalinated Water Pipeline, Castroville Pipeline, and New Transmission Pipeline alignments, and near the proposed MPWSP Desalination Plant facility.

Western burrowing owl (*Athene cunicularia*). Western burrowing owl is considered a California species of special concern. It is a small, terrestrial owl of open country that favors flat, open grassland and sparse shrubland ecosystems. In California, western burrowing owls are found in close association with California ground squirrels. Ground squirrels provide western burrowing owls with nesting and refuge burrows, and maintain areas of short vegetation height, providing foraging habitat and allowing for visual detection of avian predators by burrowing owls. Burrowing owls are semi-colonial nesters, and group size is one of the most significant factors contributing to site constancy by breeding burrowing owls. The nesting season, as recognized by the CDFW, runs from February 1 through August 31. Within the project vicinity, wintering burrowing owls have been observed within coastal dune scrub near the U.S. Navy Post Graduate School and in grazed grassland north of Beach Road on either side of the new Transmission Main

Pipeline alignment (CDFW, 2016). ESA observed two burrowing owls in these grasslands between Highway 1 and Del Monte Blvd. during 2016 reconnaissance surveys (ESA, 2016). Burrowing owls were also historically observed in open valley fields on the former Fort Ord lands near Reservation Road (CDFW, 2016). No recent local breeding burrowing owl occurrence records are included in the CNDDB (CDFW, 2016). During biological surveys conducted for the proposed project numerous ground squirrels and ground squirrel burrows were observed within non-native grassland, central dune scrub, and ruderal areas (ESA, 2016). Both breeding and wintering burrowing owls have potential to occur in non-native grassland, central dune scrub, central maritime chaparral, and ruderal areas that support ground squirrel populations along the Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main Pipeline alignments and at the Terminal Reservoir site.

Red-tailed hawk (*Buteo jamaicensis*). Red-tailed hawks, their nests, and their eggs are protected under California Fish and Game Code 3503.5. This species is commonly found in woodlands and open country with scattered trees. These large hawks feed primarily on small mammals, but will also prey on other small vertebrates, such as snakes and lizards, as well as small birds and invertebrates. Red-tailed hawks nest in a variety of trees in urban, woodland, and agricultural areas. This species is commonly found throughout the project vicinity (eBird, 2016). Red-tailed hawks may forage within grassland and scrub communities within the project area and could potentially nest within mature trees or suitable structures throughout the project area.

Red-shouldered hawk (*Buteo lineatus*). Red-shouldered hawks, their nests, and their eggs are protected under California Fish and Game Code 3503.5. This species is another common raptor species typically found in a variety of woodlands with nearby open areas for foraging. This species has a highly varied diet of small mammals, snakes, lizards, amphibians, small or young birds, and large insects. Red-shouldered hawks build large stick nests in mature trees, including riparian woodland trees and large eucalyptus groves. This species has been observed at numerous locations throughout the project vicinity, most commonly within Laguna del Rey Park and El Estero Park (eBird, 2016). Red-shoulder hawks have potential to nest within riparian woodland, eucalyptus forest, oak woodland, and large groves of ornamental trees within the project area.

Ferruginous hawk (*Buteo regalis*). The ferruginous hawk is included on CDFW's watch list. This species is primarily a bird of the Great Plains and the Rockies, and only winters in California, typically in groups. This species forages over open country including grasslands, deserts, and sagebrush scrub, where it preys on small mammals. Ferruginous hawk has been observed near Moss Landing, on Former Fort Ord Base lands, Salinas River Water Treatment Plant, and at Armstrong Ranch (eBird, 2016). In 2004, four ferruginous hawks were observed wintering in the Armstrong Ranch grasslands (CDFW, 2016). This species could winter in grassland and forage over northern coastal scrub habitat in the project area near the proposed Source Water Pipeline, new Desalinated Water Pipeline, southwest portion of the Castroville Pipeline, and New Transmission Pipeline alignments, and near the proposed MPWSP Desalination Plant facility.

Northern harrier (*Circus cyaneus*). Northern harrier, its nests, and its eggs are protected under California Fish and Game Code 3503.5. This species forages over grasslands, wet meadows,

sloughs, and marshes, feeding on small mammals such as California vole, mice, birds, frogs, small reptiles, and insects. In western states, this species nests on the ground in dry uplands. Northern harrier has been observed near the mouth of the Salinas River, at Armstrong Ranch, Marina State Beach, Fort Ord Dunes State Park, and former Fort Ord base lands in the project vicinity (eBird, 2016). This species could forage over the dunes near the subsurface slantwells; forage or nest in grassland, wetland, northern coastal scrub or central maritime chaparral habitat in the project area near the proposed Source Water Pipeline, new Desalinated Water Pipeline, southwest portion of the Castroville Pipeline, and New Transmission Pipeline alignments; near the proposed MPWSP Desalination Plant facility; along the ASR Conveyance Pipeline, ASR Recirculation Pipeline, and ASR Pump-to-Waste Pipeline alignments; at the Terminal Reservoir site; and at the ASR-5 Well and ASR-6 Well sites.

White-tailed kite (*Elanus leucurus*). White-tailed kite is a state Fully Protected species. These raptors forage for small rodents and other prey primarily in open grassy or scrubby areas. They nest in large shrubs or trees adjacent to this habitat. Kites are likely to be found foraging in a variety of vegetation communities throughout the project area such as grassland, northern coastal scrub, and central maritime chaparral. White-tailed kites have been observed throughout the project vicinity (eBird, 2016). Suitable nesting habitat in areas with low levels of human disturbance is found throughout the project area.

California horned lark (*Eremophila alpestris actia*). California horned lark is included on CDFW's watch list. California larks are a permanent resident in most of California except the Sierra during winter. This species is usually found in open habitat, such as grassland and agricultural areas, where trees and shrubs are absent and has been observed from sea level to above treeline in grasslands, deserts and alpine dwarf-scrub habitat. Horned lark uses grasses, shrubs, forbs, rocks, litter, clods of soil, and other surface irregularities for cover from predators. The California horned lark typically nests in dry grasslands and rangelands that provide low, sparse cover (e.g., grazed, mowed, or barren areas without trees and shrubs) between March and July. Foraging habitat includes open grasslands where insects and seeds are abundant. This species has been observed at the Salinas River National Wildlife Refuge, grasslands of Armstrong Ranch, and in former Fort Ord military base lands within the project vicinity (eBird, 2016). California horned lark may forage and nest in grassland near the new Desalinated Water Pipeline, Source Water Pipeline, south west portion of the Castroville Pipeline, new Transmission Main Pipeline near Lightfighter Drive, Pipeline to CSIP Pond, near the proposed MPWSP Desalination Plant facility, and near the Ryan Ranch Interconnection Improvement site.

American peregrine falcon (*Falco peregrinus*). Peregrine falcon is a federally and state delisted species and state Fully Protected. They are known throughout California and are year-around residents along the Pacific coast. The peregrine is a specialist, preying primarily on mid-sized birds in flight, such as pigeons and doves. Occasionally these birds will eat insects and bats. Although typical nesting sites for the species are tall cliffs, preferably over or near water, peregrines are also known to use urban sites, including bridges and tall buildings. Peregrine falcons have been observed at Laguna Grande Regional Park, near Armstrong Ranch, and along the coast between Marina and Monterey (eBird, 2016). A peregrine nest has been observed within the Moss Landing USGS 7.5 7.5-minute topographic quadrangle, although the exact location is

suppressed by the CNDDB (CDFW, 2016). Nesting habitat is absent from the project area, but this species may hunt and perch throughout the project area.

American kestrel (*Falco sparverius*). American kestrel, its nests, and its eggs are protected under California Fish and Game Code 3503.5. This species is a relatively small member of the falcon family that preys on small birds, mammals, lizards, and insects. The kestrel is found most commonly in open areas, such as grasslands and pastures. American kestrels nest primarily in tree cavities but may also nest in buildings. American kestrels have regularly been observed at Armstrong Ranch and Laguna Grande Park and occasionally at other locations in the project vicinity (eBird, 2016). Most documented sightings occurred in the non-breeding season. This species may nest in trees or buildings located adjacent to foraging habitat, such as grassland and agricultural fields, and forage throughout these open areas.

Loggerhead shrike (*Lanius ludovicianus*). Loggerhead shrike is considered a California species of special concern. They are year-round residents in grassland and scrub communities in California, where they forage primarily on large insects, lizards, and small mammals. Shrikes generally build their nests in shrubs in fairly open areas. This species has been observed at a few locations in the project vicinity including Armstrong Ranch, Fort Ord Dunes State Park, and Ryan Ranch in Del Rey Oaks (eBird, 2016). This species has potential to forage and nest in grassland, northern coastal scrub, and coast live oak woodland communities throughout the project area.

Mammals

Pallid bat (*Antrozous pallidus*). Pallid bat is considered a California species of special concern. They are pale to light brown in color and weighing about 1 ounce, the Pacific race is one of the state's largest bats. Coastal colonies commonly roost in deep crevices in rocky outcroppings, in buildings, under bridges, and in hollow trees. Colonies can range from a few individuals to over a hundred and are non-migratory. Some female and/or young colonies (typical of the coastal subspecies) may use their day roost for their nursery as well as for winter roosting. Pallid bats typically breed from March 15 through August 15. Although crevices are important for day roosts, night roosts often include porches, garages, barns, and highway bridges. Pallid bats may travel up to several miles for water or foraging sites if roosting sites are limited. Pallid bats prefer foraging on terrestrial arthropods in dry open grasslands, vineyards, orchards, or oaks near water and rocky outcroppings or old structures. Although the occurrence of pallid bat in the this part of Monterey County is not well-documented, the species could forage over a variety of communities in the project area and could potentially roost in human-made structures such as the Highway 1 overpasses or smaller bridge crossings in Castroville, Marina, Seaside, and Monterey and in trees throughout the project area.

Western red bat (*Lasiurus blossevillii*). Western red bat is considered a California species of special concern. In California, the western red bat is found in coastal areas south of the San Francisco Bay and in the Central Valley and surrounding foothills (Bolster, 1998). They roost in tree and shrub foliage, predominantly in edge habitats adjacent to streams and open fields. They are often associated with riparian habitats. The western red bat could occur in trees located throughout the project area, particularly those associated with riparian areas.

Monterey dusky-footed woodrat (*Neotoma fuscipes luciana*). Monterey dusky-footed woodrat is considered a California species of special concern. This species prefers hardwood forests, riparian communities, and brushlands and often forages above ground. Food includes berries, fungi, leaves, flowers, and nuts. Woodrats construct large nests of sticks. The breeding season of dusky-footed woodrat typically extends from February through November (Carraway and Verts, 1991). However, at the Hastings Reserve in the Upper Carmel Valley of Monterey County, reproduction is observed year-round, with the fewest pregnancies occurring during December and the most during February (Williams et al., 1992). During reconnaissance-level surveys conducted for the proposed project, woodrat nests were observed in riparian woodland adjacent to the Salinas River near the Highway 1 overcrossing, approximately 0.5 mile north of the project area. Woodrat nests have been observed at the Terminal Reservoir site (URS, 2014a). Woodrats could occur in oak woodland in the vicinity of both the Ryan Ranch-Bishop and Main System-Hidden Hills Interconnection Improvements sites. Woodrats could also occur in central maritime chaparral, northern coastal scrub, and coast live oak woodland communities along the ASR Conveyance Pipeline, ASR Recirculation Pipeline, and ASR Pump-to-Waste Pipeline alignments, at the ASR-5 and ASR-6 Wells sites, at the Carmel Valley Pump Station site, and the Ryan Ranch-Bishop Interconnection Improvements site, and Main System-Hidden Hills Interconnection Improvements site

Monterey shrew (*Sorex ornatus salarius*). Monterey shrew is considered a California species of special concern. This species is found in coastal salt marshes and adjacent sand hills and riparian wetland, woodland, and upland communities in the vicinity of the Salinas River Delta. According to the *Draft Installation-Wide Multispecies Habitat Conservation Plan*, which covers the former Fort Ord military base lands (HCP), in 2005, shrews that were believed to be Monterey shrews were captured during California tiger salamander salvage surveys conducted at the East Garrison site on the eastern end of Reservation Road (Fort Ord Reuse Authority, 2012). The DNA analysis had not been completed at the time of the publication of the HCP but based on the location it is assumed that captured shrews were subspecies *salarius*. Between 2010 and 2011 shrews were also inadvertently captured during California tiger salamander surveys at the Fort Ord Natural Reserve, which is located on the east side of Del Monte Boulevard along Reservation Road. DNA analysis of these shrews was also not available at the time of publication of the HCP, however it is assumed that they are the subspecies *salarius* based on dentition and external morphology. These shrews were found in a variety of vegetation types including: shaggy bark manzanita, coastal scrub, under oak trees, sandmat manzanita, and non-native grassland. Based on the 2005 and 2010/2011 captures, Monterey shrew also potentially occur in coast live oak woodland, grasslands, northern coastal scrub, central maritime chaparral, and savanna vegetation. The HCP mapped potential habitat for the Monterey shrew. Based on that habitat mapping and onsite conditions, Monterey shrew has potential to occur along the new Transmission Main Pipeline, ASR Conveyance Pipeline, ASR Recirculation Pipeline, and ASR Pump-to-Waste Pipeline alignments along General Jim Moore Blvd.; at the Carmel Valley Pump Station; in the vicinity of the Ryan Ranch-Bishop Interconnection Improvements and Main System-Hidden Hills Interconnection Improvements; at the Terminal Reservoir site; and at the ASR-5 Well and ASR-6 Well sites.

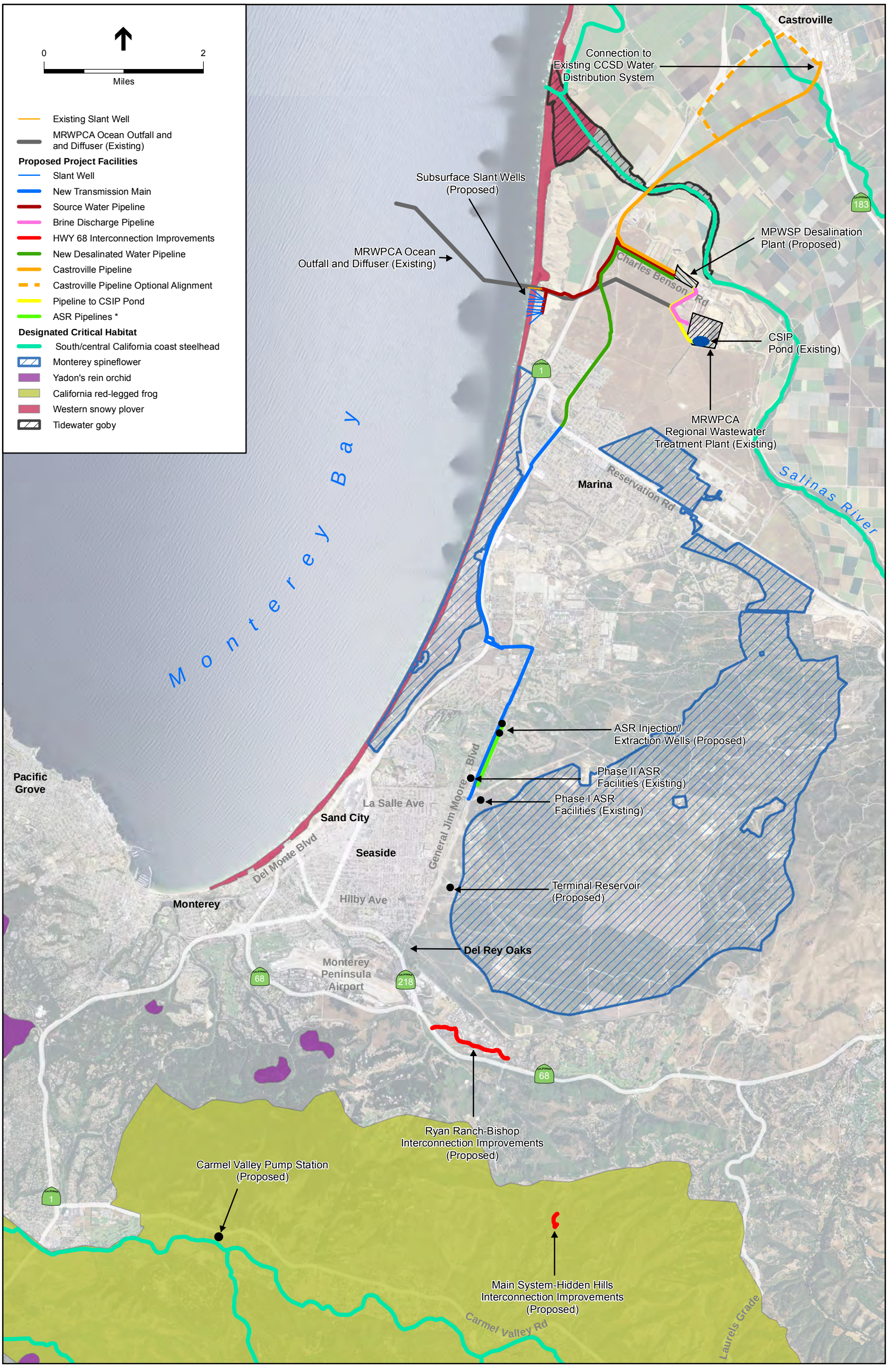
American badger (*Taxidea taxus*). American badger is considered a California species of special concern. In North America, American badgers occur as far north as Alberta, Canada and as far south as central Mexico. In California, American badgers occur throughout the state except in humid coastal forests of northwestern California in Del Norte and Humboldt Counties. The species has been decreasing in numbers throughout California over the last century. American badgers occur in a wide variety of open, arid vegetation communities but are most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub. The principal habitat requirements for this species appear to be sufficient food (burrowing rodents), friable soils, and relatively open uncultivated ground. American badgers are primarily found in areas of low to moderate slope. There is a historical CNDDB occurrence record for this species from the city of Marina. More recent records indicate the species was observed in grazed grassland in the vicinity north of the Ryan Ranch-Bishop and Main System-Hidden Hills Interconnection Improvements sites and in grasslands, oak savannas, and coast live oak woodland habitat at the former Fort Ord approximately 0.5 mile east of the Terminal Reservoir site (CDFW, 2016). This species has potential to occur in non-native grassland at the MPWSP Desalination Plant, along the Source Water Pipeline, new Desalinated Water Pipeline, Castroville and new Transmission Main alignments, at the Terminal Reservoir site, ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Recirculation Pipeline, and ASR Pump-to-Waste Pipeline alignment and in the vicinity of the Ryan Ranch-Bishop and Main System-Hidden Hills Interconnection Improvements sites.

4.6.1.9 Critical Habitat

Critical habitat for six federally listed species is designated either within or in close proximity to the proposed project. The species include Monterey spineflower, Yadon's rein orchid, south/central California steelhead, California red-legged frog, western snowy plover, and tidewater goby. **Figure 4.6-3** shows designated critical habitat for these species in the project vicinity.

Monterey Spineflower

Two Monterey spineflower critical habitat units occur in the project vicinity. Unit 3 (Marina) includes coastal beaches, dunes, and bluffs from the city of Marina south to the city of Seaside and Sand City and generally parallels the western side of the study area. An approximately 2-mile segment of the proposed new Transmission Main alignment is located parallel, and between 150 and 200 feet east, of the eastern boundary of Unit 3. Unit 8 (Fort Ord) includes grassland, maritime chaparral, coastal scrub, and oak woodland within the former Fort Ord military base east of General Jim Moore Boulevard. The Terminal Reservoir site and area where water produced during development of the ASR-5 and ASR-6 wells would be conveyed lie along a portion of the western boundary of Unit 8. The Federal Register listing notice for Monterey spineflower (73 FR 6) defines the primary constituent element for this species as a vegetation structure arranged in a mosaic with openings between the dominant elements (e.g., scrub, shrub, oak trees, or clumps of herbaceous vegetation) that changes in spatial position as a result of physical processes such as windblown sands and fire and that allows sunlight to reach the surface of the following sandy soils: coastal beaches, dune land, Baywood sand, Ben Lomond sandy loam, Elder sandy loam, Oceano loamy sand, Arnold loamy sand, Santa Ynez fine sandy loam, Arnold- Santa Ynez complex, Metz complex, and Metz loamy sand.



SOURCE: ESA, 2016; USFWS, 2016

NOTE:
*The ASR Pipelines are the ASR Conveyance Pipeline, the ASR Pump-to-Waste Pipeline, and the ASR Recirculation Pipeline. See Figure 3-9a for the individual pipeline alignments.

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Figure 4.6-3
Designated Critical Habitat

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Yadon's Rein Orchid

Multiple Yadon's rein orchid critical habitat units are located in the project vicinity. Units 4a and 4b (Aguajito), 5 (Old Capitol), and 6a and 6e (Monterey Peninsula) are all located within 2 miles of the study area. Units 4a and 4b are located between 1.3 and 1.9 miles southeast of the Ryan Ranch–Bishop Interconnection Improvements, respectively. Units 4a and 4b contain a mix of Monterey pine forest and maritime chaparral communities. Unit 6a supports Monterey pine forest, Gowen cypress/Bishop pine forest, and maritime chaparral. Unit 6e supports a mix of coast live oak and Monterey pine forest. The area between Units 5, 6a, and 6e and the study area is generally developed. The area between Units 4a and 4b and the Ryan Ranch–Bishop Interconnection Improvements site is generally undeveloped and includes a mix of grassland and oak woodland communities. The Federal Register listing notice for Yadon's rein orchid (72 FR 205) defines the primary constituent elements for this species as:

1. A vegetation structure providing filtered sunlight on sandy soils:
    a. Coastal pine forest (primarily Monterey pine) with a canopy cover of 20 to 70 percent, and a sparse herbaceous understory on Baywood sands, Narlon loamy fine sands, Sheridan coarse sandy loams, Tangair fine sands, Santa Lucia shaly clay loams and Chamise shaley clay loams underlain by a hardpan; or
    b. Maritime chaparral ridges with dwarfed shrubs (primarily Hooker's manzanita) on Reliz shaly clay loams, Sheridan sandy loams, Narlon sandy loams, Arnold loamy sands and soils in the Junipero–Sur complex, Rock Outcrop–Xerorthents Association, and Arnold–Santa Ynez complex often underlain by rock outcroppings.
2. Presence of nocturnal, short-tongued moths in the families Pyralidae, Geometridae, Noctuidae, and Pterophoridae.

South/Central California Coast Steelhead

The study area is located between two critical habitat hydrologic units for south/central California coast steelhead: the Carmel River Hydrologic Unit and the Salinas Hydrologic Unit. Both the Salinas River and Tembladero Slough, which are within the Salinas Hydrologic Unit, are located within the Castroville Pipeline alignment. Tembladero Slough is also within the Castroville Pipeline optional alignment 1. The Carmel River, which is located within the Carmel River Hydrologic Unit, is located approximately 280 feet south of the proposed Carmel Valley Pump Station. The Federal Register listing notice for south/central California coast steelhead (70 FR 170) defines primary constituent elements for this species as: freshwater spawning sites, freshwater rearing sites, freshwater migration corridors, estuarine areas free of obstruction, and offshore marine areas with water quality and habitat conditions suitable to support this species.

California Red-Legged Frog

Both the Main System–Hidden Hills Interconnection Improvements site and Carmel Valley Pump Station site are located within California red-legged frog critical habitat Unit MNT-2 (Carmel River). The Ryan Ranch–Bishop Interconnection Improvements site is located approximately 1.0 mile north of this unit. Unit MNT-2 includes the Carmel River drainage and nearby San Jose

Creek. The Federal Register listing notice for California red-legged frog (75 FR 51) defines primary constituent elements for this species as:

1. Aquatic breeding habitat, which is described as standing bodies of fresh water including streams, pools, and other ephemeral or permanent water bodies;

2. Non-breeding aquatic and riparian habitat, which is described as freshwater pond or stream habitats that may not hold water long enough for the species to complete its life cycle, but could provide for shelter, foraging, predator avoidance, and aquatic dispersal of frogs;

3. Upland habitat, which is defined as upland areas adjacent to breeding or non-breeding aquatic habitat including various vegetation types such as grassland, woodland, forest, wetland, or riparian areas that provide shelter, forage, and predator avoidance for frogs. Upland habitat should include boulders, rocks and organic debris, small mammal burrows, or moist leaf letter; and

3. Dispersal habitat, which is defined as accessible upland or riparian habitat within and between occupied or previously occupied sites located within 1 mile of each other. Dispersal habitat does not include moderate- to high-density urban or industrial developments with large expanses of asphalt or concrete, or other areas that do not contain features identified in 1, 2, or 3 above.

Western Snowy Plover

Western snowy plover critical habitat Unit CA 22 (Monterey to Moss Landing) includes beaches from Moss Landing south to Monterey. The northernmost slant well head and the western terminus of the Source Water Pipeline alignment are located approximately 240 feet east of, and outside of, this critical habitat unit. The remaining slant well heads are approximately 600 feet east of the critical habitat unit. Portions of the new Transmission Main, and new Desalinated Water Pipeline alignments run roughly parallel and east of this unit and are located a minimum of 0.2 to 0.6 mile from the unit. The Federal Register listing notice for western snowy plover (77 FR 118) defines the primary constituent elements for the western snowy plover as sandy beaches, dune systems immediately inland of an active beach face, salt flats, mudflats, seasonally exposed gravel bars, artificial salt ponds and adjoining levees, and dredge spoil sites, with:

1. Areas that are below heavily vegetated areas or developed areas and above the daily high tides;

2. Shoreline habitat areas for feeding, with no or very sparse vegetation, that are between the annual low tide or low water flow and annual high tide or high water flow, subject to inundation but not constantly under water, that support small invertebrates, such as crabs, worms, flies, beetles, spiders, sand hoppers, clams, and ostracods, that are essential food sources;

3. Surf- or water-deposited organic debris, such as seaweed (including kelp and eelgrass) or driftwood located on open substrates that supports and attracts small invertebrates described in (2) for food, and provides cover or shelter from predators and weather, and assists in avoidance of detection (crypsis) for nests, chicks, and incubating adults; and

4. Minimal disturbance from the presence of humans, pets, vehicles, or human-attracted predators, which provide relatively undisturbed areas for individual and population growth and for normal behavior.

Tidewater Goby

Tidewater goby (*Eucyclogobius newberryi*) critical habitat Unit MN-2 (Salinas River) includes the lower reach of the Salinas River. This unit is outside the geographical area occupied by the species and is not considered to be currently occupied. This unit is located within the proposed Castroville Pipeline alignment. The Federal Register listing notice for tidewater goby (78 FR 25) defines the primary constituent element for tidewater goby as follows:

1. Persistent, shallow (in the range of approximately 0.3 to 6.6 ft (0.1 to 2 m)), still-to-slow-moving lagoons, estuaries, and coastal streams with salinity up to 12 ppt, which provide adequate space for normal behavior and individual and population growth that contain one or more of the following:
    a. Substrates (e.g., sand, silt, mud) suitable for the construction of burrows for reproduction;
    b. Submerged and emergent aquatic vegetation, such as *Potamogeton pectinatus*, *Ruppia maritima*, *Typha latifolia*, and *Scirpus* spp., that provides protection from predators and high flow events; or
    c. Presence of a sandbar(s) across the mouth of a lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, thereby providing relatively stable water levels and salinity.

Smith's Blue Butterfly

Critical habitat for the Smith's blue butterfly was proposed in 1977; however, it has never been finalized. The proposed Smith's blue butterfly critical habitat includes coastal sand dunes from Del Rey Creek north to the Salinas River. The subsurface slant well site, portions of the new Source Water Pipeline alignment, and portions of the new Transmission Main are within the proposed critical habitat. The Federal Register listing notice for the proposed rule for Smith's blue butterfly (42 FR 26) does not include primary constituent elements for Smith's blue butterfly.

4.6.1.10 Sensitive Terrestrial Biological Resources in the Study Area

This section discusses the potential for sensitive terrestrial biological resources to occur at each facility in the study area. **Table 4.6-2** presents the occurrence potential for special-status species at the individual facility sites and pipeline alignments. (Refer to **Figures 3-2** through **3-13** in Chapter 3, Description of the Proposed Project, for the locations of the proposed facilities.) The list of special-status plant and animal species in **Table 4.6-2** was compiled from the CNPS on-line Electronic Inventory (CNPS, 2016); the USFWS official species list for the proposed project (USFWS, 2016a); and the CDFW's CNDDB special-status species records for the Moss Landing, Marina, Salinas, Seaside, Spreckels, Carmel Valley, Monterey, Mount Carmel, and Prunedale USGS 7.5-minute topographic quadrangles (CDFW, 2016). The occurrence potential for special-status species considers the habitat requirements and life history of the individual species, site-specific reconnaissance-level biological surveys (habitat assessments) of the project area, and

focused and protocol-level surveys of special-status species at select facility locations. As described in Section 4.6.4, Approach to Analysis, the impact analyses presented in Sections 4.6.5.1 and 4.6.5.2 consider only those species with a moderate to high potential to occur.

Subsurface Slant Wells

The subsurface slant wells include ten subsurface slant wells (the converted test slant well and nine new wells). The 10 slant wells would be located at six sites: four sites (the test slant well site and three new sites) would each have one slant well and two sites would have three slant wells at each (see **Figure 3-3a**). The well sites are numbered sequentially, with Site 1 being the northernmost site and Site 6 the southernmost site. Site 1 is located near the western terminus of the CEMEX access road, approximately 120 feet southeast of the CEMEX settling ponds. Site 1 is located along the CEMEX access road, but is situated at the approximate midpoint of the vegetated sand dunes. The remaining well clusters would be installed on the eastern side of the vegetated sand dunes. The construction footprint of the nine new permanent slant wells and conversion of the test slant well into a permanent well is approximately 9 acres. A portion of this construction footprint overlaps with a portion of the construction footprints for the Source Water Pipeline and Source Water Pipeline using the optional alignment.

The subsurface slant well construction area is comprised of areas of relatively undisturbed central dune scrub, formerly disturbed sand dunes that are revegetating with native and non-native dune scrub vegetation, and unvegetated disturbed sandy soil in actively mined areas. The areas of relatively intact scrub occurs along the western active mining area boundary (just east of the unvegetated beach area) and at the west end of the access road in the vicinity of the settling ponds. The current and recently disturbed areas occur east of the vegetated sand dunes and south of the CEMEX access road. Central dune scrub within the subsurface slant wells site and CEMEX active mining area includes iceplant and native plant species typically found in central dune scrub or foredune vegetation communities such as California sagebrush, coast buckwheat, mock heather, beach evening primrose, and sea rocket.

The majority of the subsurface slant well area would likely be considered “primary habitat” under the City of Marina’s LCLUP (City of Marina, 1982). Primary habitat is defined as all environmentally sensitive habitat areas in Marina. Secondary habitat is defined as areas adjacent to primary habitat areas within which development must be sited and designed to prevent impacts which would significantly degrade the primary habitat. A Rare and Endangered Species Habitat Assessment prepared for the CalAm test slant well project (SWCA, 2014) identified the CEMEX access road as secondary habitat. The area north, and just south of the access road was identified as primary habitat. The proposed sites for the nine new slant wells were outside of the mapped area in SWCA’s assessment. Habitat maps provided in the City of Marina’s LCLUP do not provide adequate detail to determine the exact limits of primary and secondary habitat within the project area. For the purpose of this analysis, it is assumed that primary habitat would include any central dune scrub habitat mapped within the CEMEX mining facility and secondary habitat would be any developed areas located within 100 feet of the central dune scrub. The limits of the primary and secondary habitat within the MPWSP project area would be determined through the Coastal Development permit process with confirmation from the City of Marina.

TABLE 4.6-2
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR AT PROJECT FACILITIES

Species	Status (USFWS/ CDFW/ CRPR)	Subsurface Slant Wells	MPWSP Desalination Plant	Pipelines North of Reservation Road				Facilities and Improvements South of Reservation Road						Staging Areas
				Source Water Pipeline	New Desalinated Water Pipeline	Castroville Pipeline	Brine Discharge Pipeline, Pipeline to CSIP Pond	ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Recirculation Pipeline, ASR Pump-to-Waste Pipeline	New Transmission Main	Terminal Reservoir	Carmel Valley Pump Station	Ryan Ranch-Bishop Interconnection Improvements	Main System-Hidden Hills Interconnection Improvements	
Potential To Occur Codes:														
N= Not expected to occur: No suitable habitat within project area; project area outside currently known distribution or elevation range; no nearby documented occurrences or nearby documented occurrences are historical only.														
L = Low potential to occur: Potentially suitable habitat highly limited and/or of marginal quality; potentially suitable habitat present but species not documented nearby.														
M = Moderate potential to occur: Low to moderate quality habitat present; species documented in the project vicinity.														
H = High potential to occur: High quality suitable habitat present within project area; species documented in the project vicinity.														
O = Observed: Species (or an indication that the species is present) was observed in the project area during field surveys conducted by ESA or others.														
Federal or State Listed Species														
Plants														
Monterey spineflower	FT/--/CRPR 1B.2	O	O	O	O	O	L	O	O	O	N	N	N	H
robust spineflower	FE/CRPR 1B.1	M	L	M	M	M	L	M	M	M	N	N	N	M
Seaside bird's-beak	SE/CRPR 1B.1	M	L	M	M	M	L	M	M	O	N	N	N	M
Menzies' wallflower	FE/SE/ CRPR 1B.1	M	N	M	M	M	N	N	O	N	N	N	N	L-M
sand gilia	FE/ST/ CRPR 1B.2	H	L	H	M	M	L	H	H	O	N	N	N	M
Yadon's rein orchid	FE/CRPR 1B.1	N	N	N	N	N	N	M	L	H	N	L	M	L-M
Invertebrates														
Smith's blue butterfly	FE/--	H	N	H	H	N	N	L	H	L	N	N	N	L-M
Fish														
South/central California coast steelhead	FT/CSSC	N	N	N	N	M	N	N	N	N	N	N	N	N
Amphibians														
California tiger salamander	FT/ST	N	L-M	L-M	L-M	L-M	L-M	L	L	M	N	L-M	L-M	L-M
California red-legged frog	FT/CSSC	N	M	L-M	L-M	L-M	L-M	L	L	M	H	L-M	L-M	L-M
Birds														
Western snowy plover	FT/CSSC	O	N	O	N	N	N	N	N	N	N	N	N	N
Other Special-Status Species														
Plants														
Hickman's onion	CRPR 1B.2	N	N	N	N	N	N	L	N	L	N	L-M	L-M	L
Hooker's manzanita	CRPR 1B.2	M	N	M	M	N	N	M	O	H	N	L	M	L-M
Toro manzanita	CRPR 1B.2	N	N	N	N	N	N	M	M	M	N	M	M	L
Pajaro manzanita	CRPR 1B.1	N	N	N	N	N	N	M	M	M	N	M	M	N
sandmat manzanita	CRPR 1B.2	M	N	H	H	N	N	O	O	O	N	L	M	H
ocean bluff milkvetch	CRPR 4.2	O	N	O	L	N	N	M	L	M	N	N	N	L
Monterey Coast paintbrush	CRPR 4.3	H	N	H	H	M	N	M	O	H	L	L	L	M
Monterey ceanothus	CRPR 4.2	M	N	M	M	N	N	O	O	O	N	N	N	O
Congdon's tarplant	CRPR 1B.1	N	L-M	L	L	L-M	L	L	L	N	N	M	M	L
branching beach aster	CRPR 3.2	H	N	O	O	O	N	L	O	L	N	N	N	H
Eastwood's goldenbush	CRPR 1B.1	M	N	L-M	L-M	L-M	N	M	M	O	N	L	M	L-M
sand-loving wallflower	CRPR 1B.2	O	N	M	M	M	N	M	O	O	N	N	N	L-M

TABLE 4.6-2 (Continued)
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR AT PROJECT FACILITIES

Species	Status (USFWS/ CDFW/ CRPR)	Subsurface Slant Wells	MPWSP Desalination Plant	Pipelines North of Reservation Road				Facilities and Improvements South of Reservation Road						Staging Areas
				Source Water Pipeline	New Desalinated Water Pipeline	Castroville Pipeline	Brine Discharge Pipeline, Pipeline to CSIP Pond	ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Recirculation Pipeline, ASR Pump-to-Waste Pipeline	New Transmission Main	Terminal Reservoir	Carmel Valley Pump Station	Ryan Ranch-Bishop Interconnection Improvements	Main System-Hidden Hills Interconnection Improvements	

Potential To Occur Codes:
N= Not expected to occur: No suitable habitat within project area; project area outside currently known distribution or elevation range; no nearby documented occurrences or nearby documented occurrences are historical only.
L = Low potential to occur: Potentially suitable habitat highly limited and/or of marginal quality; potentially suitable habitat present but species not documented nearby.
M = Moderate potential to occur: Low to moderate quality habitat present; species documented in the project vicinity.
H = High potential to occur: High quality suitable habitat present within project area; species documented in the project vicinity.
O = Observed: Species (or an indication that the species is present) was observed in the project area during field surveys conducted by ESA or others.

Other Special-Status Species (cont.)														
Plants (cont.)														
Kellogg's horkelia	CRPR 1B.1	M	N	H	O	M	N	O	O	H	N	L	L	M
Carmel Valley bush-mallow	CRPR 1B.2	N	N	N	N	N	N	M	N	M-H	N	M-H	M-H	L
marsh microseris	CRPR 1B.2	L	N	L	L	N	N	L	L	L	N	M	L-M	N
northern curly-leaved monardella	CRPR 1B.2	M	N	M	M	M	N	M-H	M-H	H	N	L	L	L-M
south coast branching phacelia	CRPR 3.2	H	N	H	H	M	N	H	M	O	N	N	N	L-M
Monterey pine	CRPR 1B.1	N	N	N	N	N	N	N	N	L-M	M	L-M	L-M	N
Michael's rein orchid	CRPR 4.2	M	N	H	H	M	N	H	O	O	L	L-M	L-M	L-M
Santa Cruz microseris	CRPR 1B.2	L	N	L	L	L	N	L	L	L	N	L-M	L-M	N
Santa Cruz clover	CRPR 1B.1	N	N	L	L	L	N	L	L	L	N	L-M	L-M	N
Pacific Grove clover	--/SR/CRPR 1B.1	N	N	L	L	L	N	L	L	L	N	L-M	L-M	N
Reptiles														
Western pond turtle	CSSC	N	N	N	M	L-M	N	N	N	N	N	N	N	N
black legless lizard	CSSC	M-H	L	M	M	L-M	N	H	M-H	H	N	N	N	M
silvery legless lizard	CSSC	M-H	L	M	M	L-M	N	H	M-H	H	N	N	N	M
coast horned lizard	CSSC	M-H	L	L-M	L-M	L	N	M	L-M	O	N	L	L	L-M
Coast Range newt	CSSC	N	L-M	L-M	L-M	L-M	L-M	L-M	L-M	L-M	L-M	L-M	L-M	L-M
Birds														
tricolored blackbird	CSSC (nesting)	N	L	N	O	L	N	L	M	L	L	L	L	L
short-eared owl	CSSC (nesting)	L	M	M	M	L-M	L	L	M	L	N	N	N	L-M
western burrowing owl	CSSC (nesting, wintering)	N	L	H	H	L	N	L	L-M	L-M	N	N	N	L-M
red-tailed hawk	3503.5	L	H	H	H	H	H	H	H	H	H	H	H	H
red-shouldered hawk	3503.5	L	M-H	M	M	L	M	H	H	M-H	H	H	H	H
Ferruginous hawk	WL (wintering)	N	L-M	H	H	L-M	N	L	L-M	L	N	N	N	L
Northern harrier	3503.5 (nesting)	L	M	M	M	L-M	L	L-M	M	L-M	N	N	N	M
White-tailed kite	--/FP (nesting)	L	M	M-H	M-H	L-M	M	M	M-H	M	L-M	L-M	L-M	M
California horned lark	WL	L	H	H	H	L-M	L	L	H	L	L	L-M	L	M
American peregrine falcon	FD/SD/FP	L	M	H	H	M	M	L-M	H	L-M	L-M	L-M	L-M	L
American kestrel	3503.5	L	M	H	H	L-M	M	M	H	M	M	M	M	M
loggerhead shrike	CSSC (nesting)	L	M	H	H	M	H	H	H	H	M	H	H	M

TABLE 4.6-2 (Continued)
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR AT PROJECT FACILITIES

Species	Status (USFWS/ CDFW/ CRPR)	Subsurface Slant Wells	MPWSP Desalination Plant	Pipelines North of Reservation Road				Facilities and Improvements South of Reservation Road						Staging Areas
				Source Water Pipeline	New Desalinated Water Pipeline	Castroville Pipeline	Brine Discharge Pipeline, Pipeline to CSIP Pond	ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Recirculation Pipeline, ASR Pump-to-Waste Pipeline	New Transmission Main	Terminal Reservoir	Carmel Valley Pump Station	Ryan Ranch-Bishop Interconnection Improvements	Main System-Hidden Hills Interconnection Improvements	
Potential To Occur Codes:														
N= Not expected to occur: No suitable habitat within project area; project area outside currently known distribution or elevation range; no nearby documented occurrences or nearby documented occurrences are historical only.														
L = Low potential to occur: Potentially suitable habitat highly limited and/or of marginal quality; potentially suitable habitat present but species not documented nearby.														
M = Moderate potential to occur: Low to moderate quality habitat present; species documented in the project vicinity.														
H = High potential to occur: High quality suitable habitat present within project area; species documented in the project vicinity.														
O = Observed: Species (or an indication that the species is present) was observed in the project area during field surveys conducted by ESA or others.														
Other Special-Status Species (cont.)														
Mammals														
pallid bat	CSSC	N	L-M	L-M	L-M	L-M	L-M	L-M	L-M	L-M	L-M	L-M	L-M	L-M
western red bat	CSSC	N	L-M	L-M	M	M	L-M	L-M	L-M	L-M	L-M	L-M	L-M	L-M
Monterey dusky-footed woodrat	CSSC	N	N	N	N	N	N	M	M	O	M	M	M	L-M
Monterey shrew	CSSC	N	L	N	N	L	N	M	M	M	L-M	M	M	L-M
American badger	CSSC	N	L-M	M	M	L-M	L	L-M	M	L-M	N	L-M	L-M	L-M

SPECIAL-STATUS SPECIES CODE DESIGNATIONS:

Federal
- FE = Federally listed as endangered
- FT = Federally listed as threatened
- FD = Federally delisted

State
- SE = State listed as endangered
- ST = State listed as threatened
- SR = State listed as rare
- SD = State delisted
- FP = State Fully Protected
- WL = State watch list
- CSSC = California species of special concern
- 3503.5 = Section 3503.5 of the California Fish and Game Code prohibits take, possession, or destruction of any birds in the orders Falconiformes (hawks) or Strigiformes (owls), or of their nests and eggs.

California Rare Plant Rank (Formerly known as CNPS List):
- 1A = Plants presumed extinct in California.
- 1B = Plants rare, threatened, or endangered in California and elsewhere.
- 2A = Plants presumed extirpated in California.
- 2B = Plants rare, threatened, or endangered in California, but more common elsewhere.
- 3 = Plants about which more information is needed.
- 4 = Plants of limited distribution.

An extension reflecting the level of threat to each species is appended to each CRPR as follows:
- .1 – Seriously threatened in California.
- .2 – Moderately threatened in California.
- .3 – Not very threatened in California.

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There are no potentially jurisdictional waters of the U.S. and/or waters of the state within the slant well study area, although a formal wetland delineation has not been prepared. MBNMS is not included in the LCLUP study area.

Table 4.6-2 presents the potential for special-status species to occur at the subsurface slant well site. Western snowy plover, ocean bluff milkvetch, Monterey spineflower, sand-loving wallflower, and coast buckwheat (host plant for Smith's blue butterfly) have been observed within the site (ESA, 2013, 2014, 2016; AECOM, 2016). Special-status plant and wildlife species that have not been observed at the site but that could potentially occur in central dune scrub at this site include robust spineflower, seaside bird's-beak, Menzies' wallflower, sand gilia, Smith's blue butterfly, Hooker's manzanita, sandmat manzanita, Monterey Coast paintbrush, Monterey ceanothus, branching beach aster, Eastwood's goldenbush, Kellogg's horkelia, northern curly-leaved monardella, south coast branching phacelia, Michael's rein orchid, black legless lizard, silvery legless lizard, and coast horned lizard.

MPWSP Desalination Plant

The proposed MPWSP Desalination Plant and associated facilities (including the pretreatment system, Reverse Osmosis system, post-treatment system, chemical storage, and administrative building) are located on the upper terrace (approximately 25 acres) of a 46-acre vacant parcel on the north side of Charles Benson Road and approximately 675 feet south of the Salinas River. Approximately 25 acres would be developed.

The majority of the proposed MPWSP Desalination Plant site is comprised of non-native annual grassland. Although this area contains non-native grassland species as dominants, there is significant cover from ruderal species such as field mustard, radish, dwarf nettle, and chickweed. Site soils are sandy. A small patch of yellow bush lupine scrub is located in the northeastern corner of the site.

There are no potentially jurisdictional waters of the U.S. or waters of the state within the MPWSP Desalinated Plant study area, although a formal wetland delineation has not been prepared.

Monterey spineflower was observed during botanical surveys of the proposed MPWSP Desalinated Plant (AECOM, 2016). This site could support Congdon's tarplant, a species that can be found in disturbed vegetation communities. Although the site does not contain high quality upland habitat for California red-legged frog, this species has been observed in the Salinas River, approximately 0.75 mile east of the site, and could occur in grassland at the MPWSP Desalination Plant site. Similarly, the site does not contain high quality upland habitat for California tiger salamander. However, if California tiger salamander are present in a drainage ditch or retention pond located approximately 250 feet from the site, they could occur in grassland at the MPWSP Desalination plant site. Similarly, if Coast Range newt occur in the Salinas River, drainage ditch or retention pond, they have potential to occur in grassland at the site. Additionally, American badger could occur at the site.

Table 4.6-2 lists the potential for special-status species to occur at the MPWSP Desalination Plant site. Several mature ornamental eucalyptus and Monterey cypress trees border the site along

its southern and western boundaries. These trees may provide potential nesting habitat for raptors such as red-tailed hawk, red-shouldered hawk, and American kestrel and special-status bat species. Short-eared owl, northern harrier, white-tailed kite and American peregrine falcon could forage over the site. The entire site provides nesting habitat for California horned lark and loggerhead shrike and common passerines protected under the MBTA.

Pipelines and Other Conveyance Facilities North of Reservation Road

Pipelines north of Reservation Road include the Source Water Pipeline, Source Water Pipeline Optional alignment, new Desalinated Water Pipeline, new Desalinated Water Pipeline Optional alignment, Castroville Pipeline, Castroville Pipeline Optional alignment, Brine Discharge Pipeline, and Pipeline to CSIP Pond.

Source Water Pipeline

The Source Water Pipeline extends east from the subsurface slant wells in the CEMEX active mining area, along the CEMEX access road, Lapis Road, and, parallel and north of Charles Benson Road, to the MPWSP Desalination Plant site. The construction footprint is approximately 16.4 acres. A portion of this footprint overlaps with a portion of the construction footprints for the subsurface slant well, Castroville Pipeline, Castroville Pipeline using the optional alignment 1, Castroville Pipeline using the optional alignment 2, the new Desalinated Water Pipeline, and the new Desalinated Water Pipeline using the optional alignment. The optional alignment for the Source Water Pipeline would be identical to the alignment described above, except that the 0.8-mile-long segment that runs along Charles Benson Road would be installed within the paved Charles Benson Road right-of-way (as opposed to north of and outside of the right-of-way). The construction footprint for the Source Water Pipeline using the optional alignment is approximately 16.5 acres. A portion of the construction footprint for the Source Water Pipeline using the optional alignment overlaps with a portion of the construction footprints for the subsurface slant well, Castroville Pipeline, Castroville Pipeline using the optional alignment 1, Castroville Pipeline using the optional alignment 2, the new Desalinated Water Pipeline, and the new Desalinated Water Pipeline using the optional alignment.

The study area within this alignment contains central dune scrub along the developed CEMEX access road and a mix of central dune scrub, comprised of silver dune lupine-mock heather scrub and California sagebrush scrub alliances, coyote brush scrub, ice plant mats, agricultural and ruderal areas from the CEMEX entrance to the intersection of Lapis Road and Del Monte Boulevard. Central dune scrub within the CEMEX active mining area along the access road contains relatively high cover of native dune scrub species. Central dune scrub and coyote brush scrub communities east of the CEMEX active mining area are moderately disturbed and include non-native invasive species such as radish, mustard, and iceplant. The developed CEMEX entrance is surrounded by large eucalyptus and Monterey cypress trees. From Lapis Road the Source Water Pipeline alignment extends through non-native grassland and agricultural fields to the MPWSP Desalination Plant site. A mix of Monterey cypress stands, Eucalyptus groves, ruderal areas, and iceplant mats which border Charles Benson Road to the north. The 0.8-mile-long segment of the proposed pipeline alignment north of and outside of the Charles Benson Road right-of-way would be located along the north side of the row of trees and along the

southern boundary of agricultural lands. The Source Water Pipeline Optional Alignment would be installed entirely within the paved Charles Benson Road right-of-way, outside of the agricultural lands and on the south side of the row of trees.

As described for the subsurface slant wells approximately 0.3 mile of the Source Water Pipeline alignment in the CEMEX active mining area is considered "secondary habitat" areas under the City of Marina's LCLUP. Adjacent areas are considered "primary habitat." These areas were mapped by SWCA for the CalAm test slant well project (SWCA, 2014). Central dune scrub outside of the City of Marina, but within the coastal zone, may be designated as ESHA under the North County Land Use Plan Local Coastal Program and/or by the CCC.

There are no potentially jurisdictional waters of the U.S. or waters of the state along the Source Water Pipeline (including the Source Water Pipeline Optional Alignment) alignment, although a formal wetland delineation has not been prepared.

Table 4.6-2 lists all special-status species with potential to occur along the Source Water Pipeline alignment. Monterey spineflower was observed along the CEMEX access road within the active mining area (Zander, 2013; 2014). Branching beach aster has been observed along Lapis Road and the CEMEX access road during protocol level plant surveys conducted for the proposed project (URS, 2014b). Coast buckwheat, the host plant for Smith's blue butterfly, has been observed along the CEMEX access road within the CEMEX active mining facility (Zander, 2014) and Smith's blue butterfly has potential to occur in this area. Western snowy plover is known to nest in the beach and foredunes at the western edge of the proposed Source Water Pipeline alignment (PRBO, 2012 in Zander Associates, 2013). Ocean bluff milkvetch has been observed along the proposed Source Water Pipeline alignment within the CEMEX active mining area during botanical surveys of the project area in 2015 (AECOM, 2016). Robust spineflower, seaside bird's beak, Menzies' wallflower, sand gilia, Hooker's manzanita, sandmat manzanita, Monterey Coast paintbrush, Monterey ceanothus, Eastwood's goldenbush, sand-loving wallflower, Kellogg's horkelia, northern curly-leaved monardella, south coast branching phacelia, and Michael's rein orchid have potential to occur within central dune scrub in the project area. California red-legged frog, California tiger salamander, and Coast Range newt have potential to occur in non-native grassland in the northern portion of the pipeline alignment during dispersal. Reptiles that are known to occur in scrub communities with sandy soils, such as black legless lizard, silvery legless lizard, and coast horned lizard, could potentially occur within central dune scrub in this area. American badger may occur within non-native grassland. Wintering western burrowing owls and Ferruginous hawk have also been observed on the Armstrong Ranch property (CDFW, 2016) and could occur within grassland in or adjacent to the pipeline alignment. Pallid bat has a low to moderate potential to roost within crevices underneath the Highway 1 overpass. Raptors such as red-tailed hawk, white-tailed kite, short-eared owl, northern harrier, California horned lark, and loggerhead shrike could potentially nest and/or forage throughout the pipeline alignment and special-status bat species could roost within trees in the alignment.

New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment

The new Desalinated Water Pipeline would extend from the MPWSP Desalination Plant west, north of and parallel to Charles Benson Road, then turn north on Del Monte Boulevard for approximately 800 feet to Lapis Road, then continue south along Lapis Road to another Lapis Road/Del Monte Boulevard intersection, then turn south and continue south along Del Monte Boulevard to Reservation Road. The construction footprint is approximately 35.4 acres. A portion of the construction footprint for the new Desalinated Water Pipeline overlaps with a portion of the construction footprints for the Source Water Pipeline, Source Water Pipeline using the optional alignment, Castroville Pipeline, Castroville Pipeline using the optional alignment 1, and Castroville Pipeline using the optional alignment 2. The new Desalinated Water Pipeline Optional alignment would be identical to the alignment described in the paragraph above, except that the 0.8-mile-long segment that runs along Charles Benson Road would be installed within the Charles Benson Road paved right-of-way (as opposed to north of and outside of the right-of-way). The construction footprint for the new Desalinated Water Pipeline using the optional alignment is approximately 35.5 acres. A portion of the construction footprint for the new Desalinated Water Pipeline using the optional alignment overlaps with a portion of the construction footprints for the Source Water Pipeline, Source Water Pipeline using the optional alignment, Castroville Pipeline, Castroville using the optional alignment 1, and Castroville Pipeline using the optional alignment 2.

The alignment north of Charles Benson Road is the same as that described above for the Source Water Pipeline; it includes non-native annual grassland and agricultural land bordered on the south by Monterey cypress and eucalyptus trees. As described for the New Source Water Pipeline Optional alignment, the new Desalinated Water Pipeline Optional alignment would travel through the developed Charles Benson Road along this segment. The alignment from the intersection of Charles Benson Road and Del Monte Boulevard south to Marina Green Drive includes a mix of moderately disturbed central dune scrub, including silver dune lupine-mock heather scrub, sandmat manzanita chaparral, California sagebrush-California buckwheat scrub, California sagebrush scrub and deerweed scrub alliances, coyote brush scrub, non-native annual grassland, ice plant mats, ruderal, and developed roadways. The segment between Marina Green Drive and Reservation Road is largely dominated by ruderal areas, developed/landscaped areas, and ice plant mats and is surrounded by urban development. Some native communities, such as central dune scrub, coyote brush scrub, and coast live oak woodland, occur within this segment, but they are highly disturbed. Several Monterey cypress stands and eucalyptus groves also occur within the segment between Marina Green Drive and Reservation Road. Riparian woodland and scrub communities associated with Locke-Paddon Park occurs near Reservation Road within the alignment.

Areas west of Del Monte Boulevard between Beach Road and Reservation Road are located within the coastal zone. Riparian woodland and scrub, central dune scrub, and coast live oak woodland within the coastal zone may be considered primary and secondary habitat under the City of Marina Coastal Land Use Plan, and may be designated as ESHA under the North County Land Use Plan Local Coastal Program and by the CCC.

Riparian woodland and scrub at Locke-Paddon Park and an isolated willow thicket near the intersection of Marina Green Drive and Del Monte Boulevard are potentially jurisdictional waters of the U.S./waters of the state.

Table 4.6-2 lists all potential special-status species with potential to occur along the Desalinated Water Pipeline alignment. Despite disturbance, Monterey spineflower and Kellogg's horkelia were observed within central dune scrub along Del Monte Boulevard during surveys conducted for the proposed project (ESA, 2012; 2016). Branching beach aster was observed along Del Monte Boulevard during protocol level plant surveys conducted for the proposed project (URS, 2014b). Robust spineflower, seaside bird's beak, Menzies' wallflower, sand gilia, Hooker's manzanita, sandmat manzanita, ocean bluff milkvetch, Monterey Coast paintbrush, Monterey ceanothus, south coast branching phacelia, Michael's rein orchid, Eastwood's goldenbush, sand-loving wallflower, northern curly-leaved Monardella, south coast branching phacelia, and Michael's rein orchid have potential to occur within suitable habitat in the project area. California red-legged frog and California tiger salamander have potential to occur in non-native grassland in the northern portion of the pipeline alignment. Coast Range newt have potential to occur in grassland and woodland habitat and adjacent to the pond at Locke-Paddon Park. Black legless lizard, silvery legless lizard, and coast horned lizard, could potentially occur within central dune scrub in this area. Western pond turtle may occur at the brackish water pond on Beach Road west of the pipeline. American badger may occur within the non-native grassland. Western burrowing owls and wintering Ferruginous hawks have also been observed on the Armstrong Ranch property (CDFW, 2016) and could occur within grassland in or adjacent to the pipeline alignment. Raptors such as red-tailed hawk, short-eared owl, northern harrier, white-tailed kite, and passerines such as California horned lark and loggerhead shrike, could potentially nest and/or forage throughout the pipeline alignment and special-status bat species could roost within trees in the alignment.

Riparian woodland and scrub adjacent to the pond in Locke-Paddon Park has the potential to support western pond turtle. Tricolored blackbird has been observed within Locke-Paddon Park (CDFW, 2016; eBird, 2016) and could occur along the pipeline alignment.

Castroville Pipeline and Castroville Pipeline Optional Alignments

The 4.5-mile-long Castroville Pipeline would extend west from the MPWSP Desalination Plant north of, and parallel to Charles Benson Road, to Del Monte Boulevard. The pipeline would travel north on Del Monte Boulevard for approximately 800 feet where it turns north along the TAMC right-of-way to the Salinas River. From the Salinas River it continues on the TAMC right-of-way to the intersection of Monte Road and Nashua Road. From this intersection the pipeline would extend north along an agricultural road to Highway 183, then would continue north on Del Monte Avenue for approximately 500 feet. The construction footprint is approximately 15.0 acres. A portion of the Castroville Pipeline construction footprint overlaps with a portion of the construction footprints for the Source Water Pipeline, Source Water Pipeline using the optional alignment, new Desalinated Water Pipeline, and new Desalinated Water Pipeline using the optional alignment. The Castroville Pipeline Optional alignment 1 would be identical to the Castroville Pipeline alignment except that at the intersection of Monte Road and Nashua Road the alignment would turn northwest along Nashua Road to the Monterey Peninsula Recreational Trail. The optional pipeline would continue northeast

along the Monterey Peninsula Recreational Trail for approximately 1.5 mile to Highway 183, then continue southeast on Highway 183 for approximately 0.7 mile. The construction footprint for the Castroville Pipeline using the optional alignment 1 is approximately 16.2 acres. A portion of the construction footprint for the Castroville Pipeline using the optional alignment 1 overlaps with a portion of the construction footprints for Source Water Pipeline, Source Water Pipeline using the optional alignment, new Desalinated Water Pipeline, and new Desalinated Water Pipeline using the optional alignment. The Castroville Pipeline Optional alignment 2 would be identical to the Castroville Pipeline alignment except, similar to the Source Water Pipeline and new Desalinated Water Pipeline Optional alignments, the 0.8 mile segment along the Charles Benson Road would be installed within the paved Charles Benson Road right-of-way (as opposed to north of and outside of the paved road right-of-way). The construction footprint for the Castroville Pipeline using the optional alignment 2 is approximately 15.1 acres. A portion of the construction footprint for the Castroville Pipeline using the optional alignment 2 overlaps with a portion of the construction footprints for the Source Water Pipeline, Source Water Pipeline using the optional alignment, new Desalinated Water Pipeline, and new Desalinated Water Pipeline using the optional alignment.

The alignment segment that parallels Charles Benson Road to the north is the same as that described above for the Source Water Pipeline and new Desalinated Water Pipeline; it includes non-native annual grassland and agricultural land bordered on the south by Monterey cypress and eucalyptus trees. As described for the Source Water Pipeline and new Desalinated Water Pipeline Optional alignments, the Castroville Pipeline Optional alignment 2 would travel through the developed Charles Benson Road along this segment. The Castroville Pipeline alignment then traverses through developed areas, ruderal areas, coyote brush scrub, and ice plant mats with a few isolated patches of central dune scrub and non-native grassland before crossing through agricultural lands, ruderal, and developed areas until it reaches the Salinas River. The Salinas River includes open water and adjacent riparian woodland and scrub, coyote brush scrub, and northern coastal scrub communities. North of the Salinas River the study area includes mostly agricultural, developed, and ruderal areas until it crosses over Tembladero Slough. North of Tembladero Slough, the alignment passes through a mix of agricultural, developed, ruderal, coyote brush scrub, riparian woodland and scrub and freshwater marsh communities. The Castroville Pipeline Optional alignment 1 would pass through similar habitat types, which include mostly agricultural, ruderal and developed areas and a few isolated freshwater wetlands and the open water of Tembladero Slough.

A small segment of the proposed Castroville Pipeline alignment is located within the coastal zone. Central dune scrub may be designated as ESHA under the North County Land Use Plan Local Coastal Program and by the CCC.

There are a few potentially jurisdictional waters of the U.S./water of the state within the Castroville Pipeline alignment which include the Salinas River, Tembladero Slough, riparian woodland and scrub communities, freshwater marsh communities, and a few culverts and ditches.

Table 4.6-2 lists all potential special-status species with potential to occur along the Castroville Pipeline alignment and the same species would be expected to occur along the Castroville Pipeline using the optional alignment 1 and using the optional alignment 2. Monterey spineflower

and branching beach aster have been observed within the alignment north of the intersection of Charles Benson Road and Del Monte Boulevard. Although these areas are fairly disturbed they have potential to support other special-status plants that occur in central dune scrub. California red-legged frog could occur in the Salinas River, Tembladero Slough and willow areas north of Tembladero Slough. California red-legged frog and California tiger salamander could occur in upland grassland areas within approximately 1.2 miles of potential breeding habitat. American badger could occur in non-native grassland. Coast Range newt could occur in and around Tembladero Slough and the Salinas River and in adjacent grassland areas. Black legless lizard, silvery legless lizard, and coast horned lizard, could potentially occur within the small areas of central dune scrub in this area. Red-tailed hawk, short-eared owl, northern harrier, white-tailed kite, American peregrine falcon, American kestrel, California horned lark, and loggerhead shrike could forage in the vicinity of the alignment. Common passerine birds such as northern rough-winded swallow (*Stelgidopteryx serripennis*) could nest in the riparian vegetation bordering the Salinas River or beneath the road crossings along the alignment. Special-status bat species could roost in trees and beneath bridge crossings along the alignment.

Brine Discharge Pipeline and Pipeline to CSIP Pond

The 1-mile-long Brine Discharge Pipeline and 1.2-mile-long Pipeline to CSIP Pond alignments extend between the MPWSP Desalination Plant site and the existing MRWPCA Regional Wastewater Treatment Plant. The pipelines would be installed along access roads and through mostly ruderal and developed areas within the MRWPCA Regional Wastewater Treatment Plant, although some patches of non-native grassland are present. These pipeline alignments are located adjacent to ornamental Monterey cypress stands present along the access roads. The construction footprint for both of these pipelines combined is approximately 6.6 acres.

There are no potentially jurisdictional waters of the U.S. or waters of the state within the Brine Discharge and Pipeline to CSIP Pond alignment study areas, although a formal wetland delineation has not been prepared. However, one potentially jurisdictional pond feature is located adjacent to the pipeline alignment study area.

Table 4.6-2 lists all potential special-status species with potential to occur along the Brine Discharge and Pipeline to CSIP alignments. California red-legged frog, California tiger salamander, and Coast Range newt have potential to occur in grassland and grazed grassland/agricultural areas within the pipeline alignment during dispersal. The mature Monterey cypress trees along Charles Benson Road and the access road to the MRWPCA Regional Wastewater Treatment Plant could provide roosting, foraging, and/or nesting habitat for loggerhead shrike, a variety of raptors such as red-tailed hawk and red-shouldered hawk, and provide roosting habitat for special-status bats. Additionally, passerines such as California horned lark may occasionally forage and nest within the grazing lands. Non-native grassland within the MRWPCA Regional Wastewater Treatment Plant site may provide nesting habitat for common passerines but does not generally provide suitable habitat for other special-status species due to its isolation from large expanses of non-native grassland.

Improvements to ASR System (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline)

The proposed ASR facilities include two new ASR injection/extraction wells (ASR-5 and ASR-6 Wells) and three parallel 0.9-mile-long, 30-inch-diameter ASR pipelines (ASR Recirculation Pipeline, ASR Conveyance Pipeline, and ASR Pump-to-Waste Pipeline). The pipelines would be located within General Jim Moore Boulevard between Ardennes Circle and Coe Avenue. The construction footprint for all three ASR pipelines is approximately 8.8 acres. A portion of the construction footprint for the ASR pipelines overlaps with a portion of the construction footprints for the new Transmission Main and the new Transmission Main using the optional alignment. The ASR-5 and ASR-6 Wells would be located east of General Jim Moore Boulevard near Ardennes Circle. Each ASR well would be housed in a permanent 900-square foot concrete pump house. Chain-link fencing would encompass an approximately 0.4-acre and 0.5-acre area around the ASR-5 and ASR-6 Wells, respectively. Therefore, the construction footprint for both of the ASR Wells is expected to be approximately 0.9 acre. Additionally, water produced during development of the ASR-5 and ASR-6 Wells would be conveyed to a natural depression located east of General Jim Moore Boulevard near San Pablo Avenue. The construction footprint of the area where water would be conveyed is approximately 7.0 acres.

The ASR-5 and ASR-6 Well sites are located between General Jim Moore Boulevard and single family residences. The sites contain a mix of coast live oak woodland, coyote brush scrub, and ruderal areas. The pipelines would be installed within developed General Jim Moore Boulevard. The northern end of the pipeline alignments are bordered by a mix of single family residences and moderately disturbed coast live oak woodland, coyote brush scrub, ice plant mats, and ruderal areas, while the southern end of the alignments are bordered by relatively undisturbed northern coastal scrub and coast live oak woodland on former Fort Ord lands. The area where water produced during development of the ASR-5 and ASR-6 wells would be conveyed is located on former Fort Ord lands and contains a mix of central maritime chaparral and ruderal areas.

There are no potentially jurisdictional waters of the U.S. or waters of the state within the ASR Facilities study areas, although a formal wetland delineation has not been prepared.

Table 4.6-2 lists all potential special-status species with potential to occur at the ASR facilities. Kellogg's horkelia has been observed within the development water infiltration area that will be used during development of the ASR-5 and ASR-6 Wells (CDFW, 2016). Monterey spineflower, sandmat manzanita, Kellogg's horkelia, and Monterey ceanothus were observed along the pipeline alignment during reconnaissance surveys and focused botanical surveys of the project area along General Jim Moore Boulevard (ESA, 2016; AECOM, 2016). Additionally, a variety of special-status plant species known to occur in scrub communities with sandy soils could potentially occur along this stretch of General Jim Moore Boulevard including Monterey spineflower, robust spineflower, seaside birds-beak, sand gilia, Yadon's rein orchid, Hooker's manzanita, Toro manzanita, Pajaro manzanita, ocean bluff milkvetch, Monterey Coast paintbrush, Monterey ceanothus, Eastwood's goldenbush, sand-loving wallflower, Kellogg's horkelia, Carmel Valley bush-mallow, northern curly-leaved monardella, south coast branching phacelia, and Michael's rein orchid.

Silvery legless lizard, black legless lizard, and coast horned lizard could potentially occur within central dune scrub, northern coastal scrub, and coyote brush scrub, in sandy soils within the grassland, or on edges of the coast live oak woodland habitat. Coast Range newt could occur in woodland areas. Raptors such as red-tailed hawk, red-shouldered hawk, northern harrier, white-tailed kite, American kestrel, and loggerhead shrike have potential to nest and forage within or adjacent to the project area. Special-status bats have potential to roost in trees within the project area. Northern coastal scrub and coast live oak woodland also provide potential habitat for Monterey dusky-footed woodrat, Monterey shrew, and American badger.

Pipelines and Other Conveyance Facilities South of Reservation Road

Facilities and improvements south of Reservation Road include the new Transmission Main, new Transmission Main Optional alignment, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, and Main System-Hidden Hills Interconnection Improvements.

New Transmission Main and New Transmission Main Optional Alignment

The new 6-mile-long, 36-inch-diameter Transmission Main pipeline alignment begins at Reservation Road and continues south along the west side of Del Monte Boulevard between the Monterey Peninsula Recreational Trail and TAMC right-of-way to a point approximately 750 feet north of the Highway 1/ Lightfighter Drive interchange. From the interchange it travels east through undeveloped areas, then along Lightfighter Drive to General Jim Moore Boulevard. It then travels south along General Jim Moore Boulevard to the existing Phase I ASR Facilities near the intersection of General Jim Moore Boulevard and Coe Avenue. The construction footprint is approximately 27.1 acres. A portion of the new Transmission Main construction footprint overlaps with a portion of the ASR pipelines construction footprint. The optional alignment for the new Transmission Main would be identical to the alignment described above, except that it would turn southeast toward Lightfighter Drive in a slightly different location than the new Transmission Main alignment. The construction footprint for the new Transmission Main using the optional alignment is 26.8 acres. A portion of the construction footprint for the new Transmission Main using the optional alignment overlaps with a portion of the construction footprint for the ASR pipelines.

The pipeline segment between Reservation Road and the Highway 1 overcrossing is fairly disturbed and includes ice plant mats and ruderal areas with a few Monterey cypress stands and eucalyptus groves. South of the Highway 1 overcrossing the alignment follows the back of the dunes associated with Fort Ord Dunes State Park. These back dune areas contain low to moderately disturbed central dune scrub (including silver dune lupine-mock heather scrub, sandmat manzanita, and island buckwheat scrub alliances), ice plant mats, coyote brush scrub, and some ruderal and developed areas. Once the segment heads east along Lightfighter Drive it runs within the developed Lightfighter Drive and General Jim Moore Boulevard. These roadways are surrounded by a mix of single family residences coast live oak woodland, coyote brush scrub, ice plant mats, and ruderal areas, with some areas of northern coastal scrub.

The pipeline segment between the Highway 1 overcrossing and the Highway 1/Lightfighter Driver interchange is located within the coastal zone. Central dune scrub within the coastal zone may be considered primary and secondary habitat under the City of Marina LCLUP, and may be designated as ESHA by the City of Seaside Local Coastal Program Land Use Plan and by the CCC.

There is one potentially jurisdictional water of the U.S. and/or water of the state within the new Transmission Main study area; an ephemeral drainage located adjacent to the project boundary south of the 8th Street overpass.

Table 4.6-2 lists the special-status species that could potentially occur along the new Transmission Main alignment. Sandmat manzanita was observed in scattered stands through this segment during reconnaissance level surveys conducted for the proposed project in 2013 (ESA, 2013). Monterey spineflower and Kellogg's horkelia have also been observed along this pipeline alignment (USACE, 1997; Fort Ord Reuse Authority, 2012; CDFW, 2016; and Denise Duffy & Associates, 2013, respectively). Menzies' wallflower, branching beach aster, Monterey Coast paintbrush, Monterey ceanothus, south coast branching phacelia, and Michael's rein orchid were observed within the new Transmission Main alignment during protocol level plant surveys conducted for the proposed project in 2014 (URS, 2014b). Sandmat manzanita was observed in central dune scrub along General Jim Moore Boulevard during botanical surveys in 2016 (AECOM, 2016).

A variety of special-status plant species associated with central dune scrub could occur along this pipeline corridor including robust spineflower, seaside bird's-beak, sand gilia, Hooker's manzanita, Toro manzanita, Pajaro manzanita, ocean bluff milkvetch, Eastwood's goldenbush, northern curly-leaved monardella, and sand-loving wallflower. Coast buckwheat was observed in high densities within the proposed Transmission Main alignment during reconnaissance level surveys conducted in 2013 for the proposed project (ESA, 2013). Therefore, for the purposes of this analysis, it is assumed Smith's blue butterfly could occur along the new Transmission Main alignment.

Black legless lizard, silvery legless lizard, and coast horned lizard could potentially occur within central dune scrub along this alignment. Coast Range newt could occur in oak woodland. Ground squirrels and their burrows were observed in central dune scrub and grassland communities throughout the alignment and western burrowing owl and American badger could occur in these areas. Additionally, raptors such as red-shouldered hawk, red-tailed hawk, white-tailed kite, short-eared owl, northern harrier, American peregrine falcon, and loggerhead shrike could nest and forage within this area. Tricolored blackbird could nest at Locke-Paddon Park in the vicinity of the alignment. Pallid bat has some potential to roost within crevices underneath the Highway 1 overpasses and pallid bat and red bat have potential to roost in trees within the alignment. Northern coastal scrub and coast live oak woodland also provide potential habitat for Monterey dusky-footed woodrat and Monterey shrew.

Terminal Reservoir

The Terminal Reservoir site is located east of General Jim Moore Boulevard in the former Fort Ord military base. The construction footprint for the Terminal Reservoir is approximately 6 acres. Central maritime chaparral occurs throughout the site with a few patches of coast live oak woodland and ice plant mats. The site is located at the eastern edge of a large expanse of

relatively intact maritime chaparral, also within the former Fort Ord lands. Portions of maritime chaparral within the project area are somewhat disturbed from the use of access roads, but the Terminal Reservoir site is largely undisturbed.

One potentially jurisdictional water of the U.S. and/or water of the state, a wetland mapped by the NWI, occurs within the Terminal Reservoir site.

Table 4.6-2 lists all potential special-status species with potential to occur at the Terminal Reservoir site. Many special-status plants species have been observed within the Terminal Reservoir site including Monterey spineflower, sand gilia, seaside bird's beak, sandmat manzanita, and Eastwood's goldenbush (Denise Duffy & Associates, 2010a), sand-loving wallflower (Denise Duffy & Associates, 2013), Monterey ceanothus (Fort Ord Reuse Authority, 2012; AECOM, 2016), south coast branching phacelia, and Michael's rein orchid (URS, 2014a). Other special-status plant species with potential to occur onsite include robust spineflower, Yadon's rein orchid, Toro manzanita, Pajaro manzanita, Hooker's manzanita, ocean bluff milkvetch, Monterey Coast paintbrush, Kellogg's horkelia, Carmel Valley bush-mallow, northern curly-leaved monardella, and native stands of Monterey pine.

California tiger salamander, California red-legged frog, and Coast Range newt have potential to occur in upland areas at this site. Black legless lizard, silvery legless lizard, and coast horned lizard have potential to occur within maritime chaparral. Coast horned lizard has been observed during focused surveys of the Terminal Reservoir site (AECOM, 2016). Monterey dusky-footed woodrat, Monterey shrew, and American badger may also occur onsite in dense chaparral. Monterey dusky-footed wood rat middens were observed during surveys at the Terminal Reservoir site (AECOM, 2016). Western burrowing owls has potential to occur in chaparral where ground squirrel burrows are present. Raptors such as American kestrel may nest within the site and others such as red-tailed hawk, white-tailed kite, and northern harrier may forage onsite. Special-status bats have potential to roost in trees at the site.

Carmel Valley Pump Station

The Carmel Valley Pump Station is located near the intersection of Carmel Valley Road and Rancho San Carlos Road. The site includes the proposed pump station, which would be enclosed within a 500-square-foot single-story building, a 100-square-foot electrical control building, as well as the proposed inlet and outlet pipelines that would connect to existing facilities at Carmel Valley Road. The construction footprint for the pump station and associated pipelines is approximately 0.2 acre. The site includes non-native annual grassland, landscaped, and developed areas bordered by coast live oak woodland.

There is a potentially jurisdictional wetland mapped by the NWI within the Carmel Valley Pump Station study area.

Table 4.6-2 lists all potential special-status species with potential to occur at the Carmel Valley Pump Station site. Native stands of Monterey pine may occur in the vicinity of this site. California red-legged frog are known to breed in the Carmel River and small tributaries and backpools in the vicinity of the proposed Carmel Valley Pump Station (CDFW, 2016). This

species could use non-native grassland at the site as upland habitat. Coast Range newt could occur in non-native grassland or surrounding woodland. Raptors such as red-tailed hawk, red-shouldered hawk and American kestrel may nest in trees surrounding the site. Loggerhead shrike and common passerines may also nest in trees or shrubs in the site vicinity. Special-status bats have potential to roost in trees surrounding the site and Monterey dusky-footed woodrat may occur in the coast live oak woodland understory.

Ryan Ranch-Bishop Interconnection Improvements

The Ryan Ranch–Bishop Interconnection Improvements site is located along Ragsdale Drive, Lower Ragsdale Drive, and Wilson Road just north of Highway 68. The site is located within an existing road within a business park with existing stands of coast live oak woodland, northern coastal scrub, and non-native grassland interspersed throughout the buildings, roads, parking lots, and landscaping located adjacent to the roadway. The 1.1-mile-long, 8-inch-diameter Ryan Ranch–Bishop Interconnection Improvements pipeline would extend between an existing interconnection at Highway 68 and Ragsdale Avenue and a new connection to the Bishop system. The construction footprint is approximately 7.3 acres. Although the proposed improvements would be constructed within the existing paved roadway, there is one area of non-native grassland adjacent to the road within the project area.

The NWI has mapped a wetland drainage that appears to pass through a culvert underneath Lower Ragsdale Drive near the intersection of Lower Ragsdale Drive and Ryan Court within the Ryan Ranch-Bishop Interconnection Improvements site. This drainage may be considered a water of the U.S./waters of the state.

Table 4.6-2 lists all potential special-status species with potential to occur in the vicinity of the Ryan Ranch-Bishop Interconnection Improvements site. Although most of construction would include work within existing developed roadways, some work would occur in non-native grassland. Furthermore, special-status plant species could occur in coast live oak woodland or non-native grassland adjacent to the roadway including Hickman's onion, Toro manzanita, Pajaro manzanita, Congdon's tarplant, Carmel Valley bush-mallow, marsh microseris, Michael's rein orchid, Santa Cruz microseris, Santa Cruz clover, Pacific Grove clover, and native stands of Monterey pine. Coast Range newt, Monterey dusky-footed woodrat, Monterey shrew, American badger, and special-status bats may also occur in suitable habitat within or adjacent to the Ryan Ranch-Bishop Interconnection Improvements site. Raptors such as red-tailed hawk, red-shouldered hawk, white-tailed kite, American peregrine falcon and American kestrel may forage in the site vicinity and/or nest in nearby oak woodland. California horned lark and common passerines may also forage and/or nest in the non-native grassland, northern coastal scrub, and coyote brush scrub in site vicinity.

Although California tiger salamander breeding habitat is absent from the Ryan Ranch-Bishop Interconnection Improvements site, California tiger salamander breeding ponds exist within 1.2 miles of the Ryan Ranch–Bishop Interconnection Improvements (CDFW, 2016) and this species has potential to occur onsite in the upland grassland. California red-legged frog aquatic habitat is absent from the site. This frog is known to breed within the Carmel River (CDFW,

2016) and could utilize other aquatic sites between the Carmel River and the Ryan Ranch-Bishop Interconnection Improvements site if suitable habitat is present. Due to the presence of several drainages between the Carmel River and the Ryan Ranch-Bishop Interconnection Improvements site, there is a potential for California red-legged frog to occur in the grassland while dispersing.

Main System-Hidden Hills Interconnection Improvements

The Main System-Hidden Hills Interconnection Improvements site is located along Tierra Grande Drive in a low-density residential area north of Carmel Valley Road. The existing interconnection between the main CalAm distribution system and the Hidden Hills system would be improved by installing approximately 1,200 feet of 6-inch-diameter pipeline along the northern extent of Tierra Grande Drive. Additionally, the existing pump capacity at the Upper Tierra Grande Booster Station and the Middle Tierra Grande Booster Station would be upgraded. The construction footprint for the Main System-Hidden Hills Interconnection Improvements is 1.1 acre. The improvements would be constructed within the developed roadway and within the existing Middle Tierra Grande Booster Station, but coast live oak woodland, Monterey pine woodland, and northern coastal scrub are located adjacent to the road edges.

A wetland drainage, mapped by the NWI, is located approximately 600 feet downslope of the majority of the Main System-Hills Interconnection Improvements study area, but appears to run either beneath or adjacent to the Middle Tierra Grande Booster Station. This wetland feature could be considered a water of the U.S./water of the state.

Table 4.6-2 lists all potential special-status species with potential to occur in the vicinity of the Main System-Hidden Hills Interconnection Improvements site. Although most of construction would include work within existing developed roadways, some special-status plant species could occur in coast live oak woodland, non-native grassland, or scrub communities adjacent to the roadway including Yadon's rein orchid, Hickman's onion, Hooker's manzanita, Toro manzanita, Pajaro manzanita, sandmat manzanita, Congdon's tarplant, Eastwood's golden bush, Carmel Valley bush-mallow, marsh microseris, Santa Cruz microseris, Michael's rein orchid, Santa Cruz clover, Pacific Grove clover, and native stands of Monterey pine. Raptors such as red-tailed hawk, red-shouldered hawk and loggerhead shrike may forage and nest in the vicinity of the interconnection improvement site. Coast Range newt, Monterey dusky-footed woodrat, Monterey shrew, American badger, and special-status bats may also occur in suitable habitat adjacent to this Interconnection Improvements site.

California red-legged frog aquatic habitat is absent from the Main System-Hidden Hills Interconnection Improvements site. This frog is known from the Carmel River, approximately 1 mile south of the site, and from artificial ponds located within the Tehama Golf Course approximately 2 miles northwest of the site (CDFW, 2016). Due to the presence of several drainages between the Carmel River and the Main System-Hidden Hills Interconnection Improvements site, there is a potential for California red-legged frog to occur in upland areas adjacent to the site, but would not be expected to utilize the facility site as it is developed. Stock ponds that could potentially support California tiger salamander are located within 1.2 miles of the site. If California tiger salamander are present in these ponds, they have potential to disperse through upland areas adjacent to the site.

Staging Areas

There are eight staging areas located throughout the project area. **Table 4.6-3** below lists the location of each staging area, a description of the site, size of the site, habitat types present, and the special-status species that occur or have potential to occur within or adjacent to the staging areas. **Table 4.6-2** lists all of the special-status species with potential to occur within the staging areas. The majority of the staging areas are located within developed or highly disturbed areas; however some are located adjacent to undisturbed habitat. Additionally, the proposed staging area on the west side of General Jim Moore Boulevard, near Seaside Middle School, in Seaside, does contain northern coastal scrub and coyote brush scrub communities. None of the staging areas contain potentially jurisdictional waters of the U.S./waters of the state within or adjacent to the study area.

The staging area at Beach Road in Marina is within the Coastal Zone and areas within the staging area may be considered Primary and/or Secondary Habitat under the City of Marina LCLUP.

4.6.2 Regulatory Framework

This section provides an overview of notable federal, state, and local environmental laws, policies, plans, regulations, and/or guidelines (hereafter referred to generally as "regulatory requirements") relevant to terrestrial biological resources. A brief summary of each is provided, along with a finding regarding the project's consistency with those regulatory requirements. The consistency findings concern the project as proposed, without mitigation. Where the proposed project would be consistent with the applicable regulatory requirement, no further discussion of consistency with that regulatory requirement is provided. Where the proposed project would be potentially inconsistent with the applicable regulatory requirement, the reader is referred to a specific impact discussion in Section 4.6.5, Direct and Indirect Effects of the Proposed Project, below, where the potential inconsistency is addressed in more detail. The regulatory framework for surface water hydrology and water quality and marine biological resources are described in Sections 4.3.2 and 4.5.2, respectively.

4.6.2.1 Federal Regulations

Federal Endangered Species Act (FESA)

The USFWS (jurisdiction over terrestrial and freshwater aquatic species) and National Marine Fisheries Service (NMFS; jurisdiction over most anadromous and marine fish, and mammals) oversee the FESA. The FESA prohibits the "take"[13] of any fish or wildlife species listed as threatened or endangered, including the destruction of habitat that could hinder species recovery. Section 7 of the Act mandates that all federal agencies consult with the USFWS and NMFS to ensure that federal agencies actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species. The federal agency is required to consult with the USFWS and NMFS if it determines the proposed project "may affect" listed

[13] The definition of "take" pursuant to the FESA is to "harass, harm, pursue, hunt, shoot, wound, trap, capture, or collect, or to attempt to engage in any such conduct. The USFWS has also interpreted "harm" to include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.

TABLE 4.6-3
CONSTRUCTION STAGING AREAS, HABITAT TYPES, AND SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR

Location	Site Description	Staging Area Footprint (acre)	Habitat Types Present in Study Area	Special-Status Species with Potential to Occur within or Adjacent to the Staging Areas
Monte Road/ Neponset Road in unincorporated Monterey County	Paved parking lot (semi-trucks) at Dole Vegetable Processing Plant	0.7	Developed/ Landscaped, Ice Plant Mats, Ruderal	Habitat for California tiger salamander, California red-legged frog, Coast Range newt, black legless lizard, and silvery legless lizard occurs in the staging area vicinity. Nesting birds and roosting bats may occur in adjacent buildings and trees. Branching beach aster and Monterey spineflower documented nearby.
Beach Road in Marina	Paved parking lot at Walmart	0.4	Developed/ Landscaped, Ruderal, Ice Plant Mats, Non-native Annual Grassland	Habitat for black legless lizard, silvery legless lizard, coast horned lizard, and Coast Range newt occurs in the staging area vicinity. Nesting birds and roosting bats may occur in adjacent trees.
Highway 1/1st Street in Marina	Gated paved parking lot	1.2	Developed/ Landscaped, Ice Plant Mats	Habitat for black legless lizard, silvery legless lizard, and coast horned lizard occurs in the staging area vicinity. Nesting birds and roosting bats may occur in adjacent trees. Monterey spineflower, coast buckwheat and branching beach aster documented in nearby central dune scrub. Smith's blue butterfly may occur in vicinity.
2nd Avenue, between Lightfighter Drive and Divarty Street, in Seaside	Paved parking lot at the Cal State University at Monterey Bay Athletic Fields	3.2	Developed/ Landscaped, Ruderal, Ice Plant Mats	Habitat for black legless lizard, silvery legless lizard, and coast horned lizard occurs in the staging area vicinity. Nesting birds and roosting bats may occur in adjacent trees. Landscaped manzanita observed at the site during ESA's reconnaissance survey.
2nd Avenue/ Lightfighter Drive in Seaside	Paved parking lot.	0.5	Developed/ Landscaped, Ruderal, Central Dune Scrub	Habitat for black legless lizard, silvery legless lizard, coast horned lizard, and other special-status species with potential to occur in central dune scrub occurs in the staging area vicinity. Nesting birds and roosting bats may occur in adjacent trees
West side of General Jim Moore Boulevard, near Gigling Road, in Seaside	Paved parking lot	0.3	Developed/ Landscaped, Coast Live Oak Woodland	Habitat for black legless lizard, silvery legless lizard, coast horned lizard, and Coast Range newt occurs in the staging area vicinity. Nesting birds and roosting bats may occur in adjacent trees.
East side of General Jim Moore Boulevard, near Gigling Road, in Seaside	Paved parking lot	0.2	Developed/ Landscaped, Ice Plant Mats, Ruderal, Coast Live Oak Woodland	Habitat for black legless lizard, silvery legless lizard, coast horned lizard, and Coast Range newt occurs in the staging area vicinity. Nesting birds and roosting bats may occur in adjacent trees and buildings. Monterey spineflower documented in nearby central dune scrub (AECOM, 2016).
West side of General Jim Moore Boulevard, near Seaside Middle School, in Seaside	Sandy area	0.1	Northern Coastal Scrub, Ice Plant Mats, Coyote Brush Scrub, Developed/ Landscaped	Habitat for black legless lizard, silvery legless lizard, coast horned lizard, and Monterey shrew occurs in the staging area vicinity. Nesting birds and roosting bats may occur in adjacent trees and buildings. Monterey spineflower and branching beach aster (AECOM, 2016) documented in nearby central dune scrub. Monterey ceanothus documented within survey area (AECOM, 2016) and confirmed to be located on vegetated shoulder of paved area by ESA during reconnaissance surveys.

species or critical habitat. During consultation, the potential for take would be determined and, if take is expected to occur, the necessary conditions to allow the issuance of an incidental take permit would be imposed. As indicated in **Table 3-8** in Chapter 3, Description of the Proposed Project, consultation with the USFWS and NMFS is required for regulatory permits and approvals.

The proposed project has potential to result in take of federally threatened or endangered species, which would be inconsistent with FESA. This inconsistency is addressed under Impact 4.6-1 (*Result in substantial adverse effects on species identified as candidate, sensitive, or special-status, either directly or through habitat modification, during construction*) and Impact 4.6-6 (*Result in substantial adverse effects on candidate, sensitive, or special-status species during project operations*).

Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) affirms, or implements, a commitment by the United States to four international conventions (with Canada, Mexico, Japan, and Russia) for the protection of a shared migratory bird resource. The MBTA makes it unlawful to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, . . . or any part, nest, or egg of any such bird" (16 USC § 703) anywhere in the United States.

The proposed project has potential to result in the removal of nests occupied by migratory birds or in other impacts on migratory birds, which would be inconsistent with the MBTA. This inconsistency is addressed under Impact 4.6-1 (*Result in substantial adverse effects on species identified as candidate, sensitive, or special-status, either directly or through habitat modification, during construction*) and Impact 4.6-6 (*Result in substantial adverse effects on candidate, sensitive, or special-status species during project operations*).

U.S. Army Corps of Engineers and U.S. Environmental Protection Agency

Wetlands and other waters (e.g., rivers, streams, and natural ponds) are a subset of "waters of the U.S.," and receive protection under Section 404 of the Clean Water Act (CWA). The USACE has primary federal responsibility for administering regulations that concern waters of the United States. In this regard, the USACE acts under two statutory authorities: the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in "navigable waters,"[14] and the Clean Water Act (Section 404), which governs specified activities in waters of the United States, including wetlands. The construction of structures, such as tidegates, bridges, and piers, as well as construction activities that could interfere with navigation, such as dredging and stream channelization, may require a Section 10 permit. A Section 404 permit is required if the activity involves the discharge of fill into waters of the U.S. The United States Environmental Protection Agency (USEPA) has the ultimate authority for designating dredge and fill material disposal sites and can veto the Corp's issuance of a permit to fill jurisdictional waters of the United States.

[14] Navigable waters are defined as those waters that are subject to the ebb and flow of the tide or that are presently used, have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

The USACE requires a permit if a project proposes placement of structures within navigable waters and/or alteration of waters of the U.S. Some classes of fill activities may be authorized under Regional General or Nationwide permits if specific conditions are met. Nationwide permits do not authorize activities that are likely to jeopardize the existence of a threatened or endangered species (listed or proposed for listing under the FESA). The Nationwide permit outlines general conditions and may specify project-specific conditions as required by the USACE during the Section 404 permitting process. When a project's activities do not meet the conditions for a Nationwide Permit, an Individual Permit may be issued by the USACE.

The federal government also supports a policy of minimizing "the destruction, loss, or degradation of wetlands." Executive Order 11990 (May 24, 1977) requires that each federal agency take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

Several Supreme Court cases have challenged the scope and extent of the USACE's jurisdiction over waters of the United States and have led to several reinterpretations of that authority. The most recent of these decisions are the case of Solid Waste Agency of Northern Cook County (SWANCC) v. the Army Corps of Engineers (January 9, 2001) and Rapanos v. United States (June 2006). The SWANCC decision found that jurisdiction over non-navigable, isolated, intrastate waters could not be based solely on the use of such waters by migratory birds. The reasoning behind the SWANCC decision could be extended to suggest that waters need a demonstrable connection with a navigable water to be protected under the CWA. The introduction of the term "isolated" has led to the consideration of the relative connectivity between waters and wetlands as a jurisdictionally relevant factor. The Rapanos case further questioned the definition of "waters of the United States" and the scope of federal regulatory jurisdiction over such waters but resulted in a split decision which did not provide definitive answers but expanded on the concept that a "significant nexus" with traditional navigable waters was needed for certain waters to be considered within the jurisdiction of the USACE.

On June 5, 2007 the USEPA and the USACE released guidance on CWA jurisdiction in response to the Rapanos Supreme Court decision, which can be used to support a finding of CWA coverage for a particular water body when either a) there is a significant nexus between the stream or wetland in question and navigable waters in the traditional sense; or b) a relatively permanent water body is hydrologically connected to traditional navigable waters and/or a wetland has a surface connection with that water. According to this guidance the USACE and the USEPA will take jurisdiction over the following waters:

1. Traditional navigable waters, which are defined as all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

2. Wetlands adjacent to traditional navigable waters; including adjacent wetlands that do not have a continuous surface connection to traditional navigable waters;

3. Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months);

4. Wetlands adjacent to non-navigable tributaries as defined above; that have a continuous surface connection to such tributaries (e.g. they are not separated by uplands, a berm, dike, or similar feature).

The USEPA and the USACE retain jurisdiction over the following waters, based on a fact-specific determination of significant nexus, as defined below, to a traditional navigable water: non-navigable tributaries that are not relatively permanent; wetlands adjacent to non-navigable tributaries that are not relatively permanent; and wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

The USEPA and the USACE *generally* do not assert jurisdiction over the following features: swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The USEPA and the USACE have defined the significant nexus standard as follows:

1. A significant nexus analysis assesses the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters;
2. Significant nexus analysis includes consideration of hydrologic and ecologic factors including:
    a. volume, duration, and frequency of flow, including consideration of certain physical characteristics of the tributary;
    b. proximity to a traditional navigable water;
    c. size of the watershed;
    d. average annual rainfall;
    e. average annual winter snow pack;
    f. potential of tributaries to carry pollutants and flood waters to traditional navigable waters;
    g. provision of aquatic habitat that supports a traditional navigable water;
    h. potential of wetlands to trap and filter pollutants or store flood waters; and
    i. maintenance of water quality in traditional navigable waters.

The proposed project has potential to result in fill of wetlands or other waters regulated under Section 404 of the CWA or activities in, over, or under navigable waters regulated under Section 10 of the Rivers and Harbors Act, which would be inconsistent with each of these regulations. This inconsistency is addressed under Impact 4.6-3 (*Result in substantial adverse effects on federal wetlands, federal other waters, and/or waters of the state during construction*) and Impact 4.6-8 (*Result in substantial adverse effects on federal wetlands, federal other waters, and waters of the state during project operations*).

Federal Policies on Riparian Communities in California

Riparian communities are associated with water and have a variety of functions, including providing high-quality habitat for resident and migrant wildlife, streambank stabilization, and runoff water filtration. Throughout the United States, riparian habitats have declined substantially in extent and quality compared with their historical distribution and condition. These declines have increased concerns about dependent plant and wildlife species, leading federal agencies to adopt policies to arrest further loss. USFWS Mitigation Policy identifies California's riparian habitats as belonging to resource Category 2, for which "no net loss" of existing habitat value is recommended (USFWS, 1981).

The proposed project has potential to result in loss of riparian habitat, which would be inconsistent with the USFWS Mitigation Policy. This inconsistency is addressed under Impact 4.6-2 (*Result in substantial adverse effects on riparian habitat, critical habitat, or other sensitive natural communities during construction*) and Impact 4.6-7 (*Result in substantial adverse effects on riparian habitat, critical habitat, or other sensitive natural communities during project operations*).

Executive Order 13112: Prevention and Control of Invasive Species

Enacted in February 1999, Executive Order (EO) 13112 calls for federal agencies to prevent and control the introduction of invasive species in a cost-effective and environmentally sound manner. This includes consideration of the potential effects of invasive species in NEPA analyses. The EO established an Invasive Species Council comprised of federal agencies and headed by the Secretary of the Interior with the responsibility to oversee implementation of the executive order.

The proposed project has potential to result in the introduction and spread of invasive species, which would be inconsistent with the EO. This inconsistency is addressed under Impact 4.6-5 (*Introduce or spread an invasive non-native species during construction*) and Impact 4.6-9 (*Introduce or spread an invasive non-native species during operations*).

4.6.2.2 State Regulations

California Coastal Act

The California Coastal Act (Public Resources Code Section 30000 et seq.) provides for the long-term management of lands within California's coastal zone boundary, as established by the Legislature and defined in Coastal Act. Of primary relevance to terrestrial biological resources are Coastal Act policies concerning environmentally sensitive habitat areas (ESHAs) and adjacent developments, and diking, filling, or dredging and continued movement of sediment and nutrients. A preliminary assessment of project consistency with these priorities is provided here. Final determinations regarding project consistency are reserved for the Coastal Commission.

With respect to Coastal Act policies related to ESHA and the diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes, the proposed project would be potentially inconsistent. These potential conflicts are addressed in Impact 4.6-2 (*Result in substantial adverse effects on riparian habitat, critical habitat, or other sensitive natural communities during*

construction), Impact 4.6-3 (*Result in substantial adverse effects on federal wetlands, federal other waters, and/or waters of the state during construction*), Impact 4.6-7 (*Result in substantial adverse effects on riparian habitat, critical habitat, or other sensitive natural communities during project operations*), and Impact 4.6-8 (*Result in substantial adverse effects on federal wetlands, federal other waters, and waters of the state during project operations*).

California Endangered Species Act

California implemented its own Endangered Species Act (CESA) in 1984. The state act prohibits the take[15] of state listed endangered and threatened species; however, habitat destruction is not included in the state's definition of take. Section 2090 of CESA requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. The CDFW administers the act and authorizes take through Section 2081 agreements (except for designated fully-protected species, as described below). Under CCR Title 14, Section 786.9(b), CDFW can also approve the take of state rare plants under Section 2081.

The proposed project has potential to result in take of state threatened or endangered species, or a rare plant, which would be inconsistent with CESA. This inconsistency is addressed under Impact 4.6-1 (*Result in substantial adverse effects on species identified as candidate, sensitive, or special-status, either directly or through habitat modification, during construction*) and Impact 4.6-6 (*Result in substantial adverse effects on candidate, sensitive, or special-status species during project operations*).

California Fish and Game Code

Section 2080 of the California Fish and Game Code states that "No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission [State Fish and Game Commission] determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act." Pursuant to Section 2081 of the code, CDFW may authorize individuals or public agencies to import, export, take, or possess state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or Memoranda of Understanding if the take is incidental to an otherwise lawful activity, impacts of the authorized take are minimized and fully mitigated, the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and the project operator ensures adequate funding to implement the measures required by CDFW, which makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

Under Section 3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 of the California Fish and Game Code prohibits

[15] Take, under the CESA, is defined as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

take, possession, or destruction of any birds in the orders Falconiformes (hawks)[16] or Strigiformes (owls), or of their nests and eggs.

California Fish and Game Code Sections 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians] and 5515 [fish] allows the designation of a species as Fully Protected. This is a greater level of protection than is afforded by the CESA, since such a "Fully Protected" designation means the listed species cannot be taken at any time.

Under the California Fish and Game Code Sections 1900-1913 the California Native Plant Protection Act (NPPA) requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of the NPPA prohibit the taking of listed plants from the wild and require notification of CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. The project operator is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

The proposed project has potential to result in take or other impacts on plants or wildlife protected under California Fish and Game Code, which would be inconsistent with California Fish and Game Code. This inconsistency is addressed under Impact 4.6-1 (*Result in substantial adverse effects on species identified as candidate, sensitive, or special-status, either directly or through habitat modification, during construction*) and Impact 4.6-6 (*Result in substantial adverse effects on candidate, sensitive, or special-status species during project operations*).

CEQA Guidelines Section 15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines section 15380 provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the FESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals. This section was included in the Guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on, for example, a "candidate species" that has not yet been listed by either the USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

As described in Section 4.6.1.8 Special-Status Species, for the purposes of this EIR/EIS "special-status species" includes those that may be considered rare or endangered pursuant to Section 15380 of the CEQA Guidelines (these include plant species with CRPR of 1, 2, 3, or 4 and candidate species).

[16] At the time Section 3503.5 was written, the order Falconiformes included diurnal birds of prey in the families Accipitridae (eagles, hawks, kites, harriers and others) and Falconidae (falcons and caracaras). In 2010, Accipitridae was placed in a new order, Acciptriformes, by the North American Classification Committee (NACC). However, for the purposes of this report, we interpret the reference to the order Falconiformes in Section 3503.5 to also include diurnal birds of prey in the order Accipitriformes.

As Section 15380 provides a definition of special-status species, the project would be consistent with this guideline. As described in other regulatory discussions for FESA, MBTA, CESA, and California Fish and Game Code, the project would be inconsistent with these other regulations that protect special-status species. These inconsistencies are addressed under Impact 4.6-1 (*Result in substantial adverse effects on species identified as candidate, sensitive, or special-status, either directly or through habitat modification, during construction*) and Impact 4.6-6 (*Result in substantial adverse effects on candidate, sensitive, or special-status species during project operations*).

State Regulation of Waters Including Wetlands

Regional Water Quality Control Board

Under Section 401 of the CWA, the RWQCB must certify that actions receiving authorization under Section 404 of the CWA also meet state water quality standards. The RWQCB also regulates waters of the state under the Porter-Cologne Act Water Quality Control Act (Porter-Cologne Act). Under the Porter-Cologne Act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters of the state must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under Section 401 of the CWA.

The RWQCB requires projects to avoid impacts on wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. In addition California defines wetlands by presence of one or more of the following three attributes in addition to wetland hydrology:

- At least periodically, the land supports predominantly hydrophytes (at least 50 percent of the aerial vegetative cover);
- The substrate is predominantly undrained hydric soil; and
- The substrate is not soil (such as a rocky shore) and is saturated with water or covered by shallow water at some time during the growing season of each year.

Under normal circumstances, the federal definition of wetlands requires all three wetland identification parameters to be met, whereas the California definition requires the presence of at least one of these parameters. For this reason, identification of wetlands by state agencies consists of the union of all areas with a non-soil substrate that are periodically inundated or saturated, or in which at least seasonal dominance by hydrophytes may be documented, or in which hydric soils are present.

The state issued the California Wetlands Conservation Policy (Executive Order W-59-93), commonly referred to as the “No Net Loss Policy” for wetlands. The Order aims to ensure no overall net loss, and long-term net gain in the quality, quantity, and performance of wetlands in California.

The proposed project has potential to result in fill of waters or wetlands regulated under Section 401 of the CWA and waters regulated under the Porter-Cologne Act, which would be inconsistent with each of these regulations. This inconsistency is addressed under Impact 4.6-3 (*Result in substantial adverse effects on federal wetlands, federal other waters, and/or waters of the state during construction*) and Impact 4.6-8 (*Result in substantial adverse effects on federal wetlands, federal other waters, and waters of the state during project operations*).

California Department of Fish and Wildlife

Under Sections 1600-1616 of the California Fish and Game Code, the CDFW regulates activities that would substantially divert, obstruct the natural flow of, or substantially change rivers, streams and lakes. CDFW's jurisdictional limits are defined in Section 1602 of the California Fish and Game Code as, "bed, channel, or bank of any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake…." The CDFW requires a Streambed Alteration Agreement for activities within its jurisdictional area. If CDFW determines that a project would result in substantial adverse effects on an existing fish or wildlife resource, CDFW would prepare a Lake or Streambed Alteration Agreement that includes reasonable measures to protect the resources.

The proposed project has potential to result in impacts on rivers or streams, which would be inconsistent with Sections 1600-1616 of the California Fish and Game Code. This inconsistency is addressed under Impact 4.6-3 (*Result in substantial adverse effects on federal wetlands, federal other waters, and/or waters of the state during construction*), Impact 4.6-2 (*Result in substantial adverse effects on riparian habitat, critical habitat, or other sensitive natural communities during construction*), Impact 4.6-7 (*Result in substantial adverse effects on riparian habitat, critical habitat, or other sensitive natural communities during project operations*), and Impact 4.6-8 (*Result in substantial adverse effects on federal wetlands, federal other waters, and waters of the state during project operations*).

Provisions and Policies Applying to Sensitive Communities in both Wetlands and Uplands

California Coastal Commission

The California Coastal Commission (CCC), in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone under the California Coastal Act (Coastal Act). On land the coastal zone varies in width from several hundred feet in highly urbanized areas to five miles in certain rural areas. Offshore the coastal zone encompasses a 3-mile-wide band of ocean. Development activities are broadly defined by the Coastal Act to include: the construction of buildings and structures, divisions of land, and activities that change the intensity of use of land or public access to coastal waters. A development activity within the coastal zone generally requires a coastal development permit from either the CCC, or from a local government with a certified Local Coastal Program (LCP), to ensure that the activity complies with the Coastal Act. The Coastal Act includes goals and policies that constitute the statutory standards that are applied to planning and regulatory decisions made by the CCC and by local governments.

The Coastal Act defines "environmentally sensitive habitat areas" (ESHAs) as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments" (Pub. Res. Code §30107.5). The CCC generally treats wetlands, streams, riparian habitats, and open coastal waters as ESHAs, although exceptions may exist where the definition of ESHA is not satisfied. Because the CCC typically defines wetlands based on a "one-parameter approach" CCC jurisdictional wetlands are typically greater in extent than those regulated by the USACE under the CWA. An ESHA may also be found in upland areas, for example stands of large, mature trees in an area otherwise lacking such habitat.

The principal Coastal Act policy pertaining to ESHAs is PRC Section 30240, which provides: "Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas."

As discussed in connection with wetlands, above, the ESHA policy is applied by the CCC or by local agencies with approved LCPs. LCPs within the project area utilize the Coastal Act definition for ESHAs and some LCPs include additional guidance to determine ESHA boundaries within their respective LCP area.

The proposed project has potential to result in impacts on wetlands or ESHA regulated by the CCC, which would be inconsistent with the Coastal Act. This inconsistency is addressed under Impact 4.6-2 (*Result in substantial adverse effects on riparian habitat, critical habitat, or other sensitive natural communities during construction*), Impact 4.6-3 (*Result in substantial adverse effects on federal wetlands, federal other waters, and/or waters of the state during construction,* Impact 4.6-7 (*Result in substantial adverse effects on riparian habitat, critical habitat, or other sensitive natural communities during project operations*), and Impact 4.6-8 (*Result in substantial adverse effects on federal wetlands, federal other waters, and waters of the state during project operations*).

Habitat Management and Conservation Plans

1997 Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord, California

The USACE developed a multispecies Habitat Management Plan for the former Fort Ord as a mitigation measure for impacts on vegetation and wildlife resources resulting from pre-disposal, disposal, and reuse actions, such as hazardous materials remediation. The 1997 Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord, California (HMP; USACE, 1997) addresses those potential impacts and promotes preservation, enhancement, and restoration of habitat and populations of HMP covered species, while allowing development on selected properties.

For the most part, the proposed project will not occur in lands covered under the HMP. The exception to this would be the construction of the Terminal Reservoir, new Transmission Main, and Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline).

2012 Draft Installation-Wide Multispecies Habitat Conservation Plan for Former Fort Ord

FORA is preparing a Draft Habitat Conservation Plan for the former Fort Ord military base entitled *Draft Installation-Wide Multispecies Habitat Conservation Plan* (Draft HCP; Fort Ord Reuse Authority, 2012). The Draft HCP provides a framework for ensuring conservation and enhancement of 19 special-status plant and animal species and the natural communities that support them on the former Fort Ord military base that would contribute to species recovery and is based on the HMP described above. Once finalized, the HCP will serve as the basis for issuance of a base-wide Section 2081 (CESA) incidental take permit by CDFW and also as the basis for issuance of a base-wide Section 10(a)(1)(B) (FESA) incidental take permit by the USFWS. The Draft HCP incorporates all relevant information from the HMP described above issued by the USACE in April 1997, and, once finalized, will supersede it as the primary conservation planning document for non-federal recipients of the former Fort Ord lands.

Once finalized, the HCP will accompany applications to CDFW and USFWS for incidental take of species addressed in the HCP. USFWS will consider issuance of permits for all HCP species but CDFW can only issue permits for state-listed or candidate species. Upon approval of the applications, including the HCP and other supporting documentation, permits will be issued for a term of 50 years. The HCP is expected to be complete in late 2016.

Similar to the HMP, the majority of the proposed project will not occur in lands covered under the HCP. The exception to this would be the construction of the Terminal Reservoir, new Transmission Main, and proposed ASR facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline).

4.6.2.3 Applicable Regional and Local Land Use Plans and Policies

Table 4.6-4 identifies the regional and local land use plans, policies, and regulations pertaining to inland biological resources that are relevant to the MPWSP and that were adopted for the purpose of avoiding or minimizing an adverse environmental effect. Also included in Table 4.6-4 is an analysis of project consistency with such plans, policies, and regulations. Where the analysis concludes the proposed project would be consistent with the applicable plan, policy, or regulation, the finding is noted and no further discussion is provided. Where the analysis concludes the proposed project would be potentially inconsistent with the applicable plan, policy, or regulation, the reader is referred to Section 4.6.5, Direct and Indirect Effects of the Proposed Project. In that subsection, the significance of the potential conflict is evaluated. Where the effect of the potential conflict would be significant, feasible mitigation is identified to resolve or minimize that conflict.

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TABLE 4.6-4
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
City of Marina (coastal zone and inland areas)	City of Marina General Plan	Community Land Use – Primary Policies	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 2.4.4:*** Wherever possible, lands with significant agricultural, natural habitat, or scenic value shall be retained and protected from degradation.	This policy is intended to preserve and protect sensitive natural communities.	Potentially Inconsistent: Installation of the subsurface slant wells, New Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main, and maintenance of the subsurface slant wells would occur within sensitive natural communities. This issue is addressed further in Impacts 4.6-2 and 4.6-7 and mitigation measures are provided to reduce or avoid any impacts.
City of Marina (coastal zone and inland areas)	City of Marina General Plan	Community Design and Development	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 4.112***: The policies of the Community Land Use Element are designed to protect areas with significant agricultural or natural-habitat value from being displaced by development, and they are designed to protect and conserve air, water and energy resources.	This policy is intended to protect important agricultural, biological, air, water, and energy resources from impacts of development.	Potentially Inconsistent: Installation of the subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main, and maintenance of the subsurface slant wells would occur within and could disrupt sensitive natural communities (which may include wetlands and waters) and sites supporting special-status species. This issue is addressed further in Impacts 4.6-1, 4.6-2, 4.6-3, 4.6-6, 4.6-7, and 4.6-8 and mitigation measures are provided to reduce or avoid any impacts.
City of Marina (coastal zone and inland areas)	City of Marina General Plan	Community Design and Development	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 4.114:*** Within areas identified as supporting sensitive habitat(s), the following requirements shall apply: 1. With the exceptions of areas where an approved Habitat Management Program (HMP) or Habitat Conservation Program (HCP) allows development without restrictions, and for structures erected to maintain, restore or enhance sensitive habitat and species, require discretionary approval for all new structural and road development proposed within sensitive habitat areas or on sites supporting sensitive species and habitat. 2. Site and design those new structures or roads which may be allowed within designated Habitat Reserves or other identified sensitive habitat areas so as to minimize adverse impacts upon habitat areas. This may entail site plan modification and/or the inclusion of appropriate mitigation measures developed by biologists, soils engineers, or hydrologists (e.g., erosion and storm-drainage controls, wildlife culverts, and grading limitations). (2006-243)	This policy is intended to protect sensitive natural communities (which may include wetlands and waters) and sites supporting special-status species.	Potentially Inconsistent: Installation of the subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main, and maintenance of the subsurface slant wells would occur within, and could disrupt, sensitive natural communities (which may include wetlands and waters) and sites supporting special-status species. This issue is addressed further in Impacts 4.6-1, 4.6-2, 4.6-3, 4.6-6, 4.6-7, and 4.6-8 and mitigation measures are provided to reduce or avoid any impacts.
City of Marina (coastal zone and inland areas)	City of Marina General Plan	Community Design and Development	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 4.115:*** Within areas for which there is an approved (HMP) or (HCP) and where avoidance of significant impacts is not feasible as determined through discretionary review, a seasonal avoidance and/or salvage/relocation program for certain species and habitat areas should be established or undertaken, as appropriate, prior to site development.	This policy is intended to protect special-status species and sensitive natural communities within areas where there is an approved HMP or HCP.	Potentially Inconsistent: There are no approved HMPs or HCPs that cover the sites of the proposed subsurface slant wells, Source Water Pipeline, and new Desalinated Water Pipeline. However, the new Transmission Main is located within an approved HMP. Installation of the Transmission Main could disrupt special-status species and sensitive natural communities in an approved HMP area. This issue is further addressed in Impacts 4.6-1, 4.6-2, and 4.6-10.
City of Marina (coastal zone and inland areas)	City of Marina General Plan	Community Design and Development	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 4.116:*** Where new development may remove all or a portion of identified sensitive habitat in an area not subject to an approved HMP or HCP, and where no less environmentally damaging alternative can be feasibly implemented, comparable habitat should be restored either onsite or offsite on a two-to-one basis (e.g., two acres of habitat shall be restored for every acre of habitat removed).	This policy is intended to protect sensitive natural communities (which may include wetlands and waters) in areas not subject to an approved HMP or HCP.	Potentially Inconsistent: Installation of the subsurface slant wells, Source Water Pipeline, and new Desalinated Water Pipeline, and maintenance of the subsurface slant wells would occur within, and could disrupt, sensitive natural communities (which may include wetlands and waters) outside of an approved HMP. This issue is addressed further in Impacts 4.6-2, 4.6-3, 4.6-7, and 4.6-8 and mitigation measures are provided to reduce or avoid any impacts.
City of Marina (coastal zone and inland areas)	City of Marina General Plan	Community Design and Development	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 4.118:*** Where development sites are adjacent to areas designated as "Habitat Reserves" or other identified sensitive areas, site improvements and buildings shall be located and designed so as to avoid adverse impacts on the biological resource in question. Development shall be conditioned upon the incorporation of adequate mitigation measures in terms of site design. Such measures might include the following: a) providing an adequate buffer between new development and identified sensitive habitat; b) minimizing the need for grading that would substantially alter the existing topography; c) incorporating erosion- and sediment-control techniques during and after construction; d) establishing appropriate native landscaping between new development and sensitive habitat; and e) providing wildlife corridors or connections between the sensitive habitat and other natural open space areas.	This policy is intended to protect areas designated as Habitat Reserves" or other sensitive natural communities (which may include wetlands and waters).	Potentially Inconsistent: The subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main are proposed for sites in or adjacent to areas designated as "Habitat Reserves and Other Open Space." These Habitat Reserves are comprised of sensitive natural communities (which may include wetlands and waters). Installation of these facilities and maintenance of the subsurface slant wells could disrupt such communities. This issue is addressed further in Impacts 4.6-1, 4.6-2, 4.6-3, 4.6-6, 4.6-7, and 4.6-8 and mitigation measures are provided to reduce or avoid any impacts.

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
City of Marina (coastal zone and inland areas)	City of Marina General Plan	Community Design and Development	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 4.119:*** As part of any application package for development proposed on undeveloped lands in former Fort Ord or on the Armstrong Ranch, seasonally timed surveys for known or suspected sensitive or unique species and habitats shall be undertaken by a qualified biologist approved by the City Community Development Director (except in those areas where such species have already been addressed by approved habitat conservation/management plans or similar plans or agreements). This information shall be provided as part of a preliminary site and development review, and, for development on former Fort Ord, should be submitted to CRMP for review and recommendations. Where such species are found to occur, mitigation plans (or Habitat Management Plans) shall be prepared in coordination with the USFWS and CDFW unless approved habitat management plans are already in place.	This policy is intended to identify and protect special-status species and sensitive natural communities (which may include wetlands and waters) on undeveloped lands in former Fort Ord and on the Armstrong Ranch.	Potentially Inconsistent: Installation of the new Transmission Main would occur on undeveloped lands within the former Fort Ord that potentially support special-status species and sensitive natural communities (which may include wetlands and waters). Surveys to identify presence of these species, and then avoid impacts on these species, are not included as part of the proposed project. This issue is addressed further in Impacts 4.6-1, 4.6-2 and 4.6-3 and mitigation measures are provided to reduce or avoid any impacts.
City of Marina (coastal zone and inland areas)	City of Marina General Plan	Community Design and Development	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 4.120:*** Oak woodland shall be protected to the greatest extent possible in recognition both of its relatively high biological and aesthetic resource value and its important role in California's and Monterey County's natural heritage. In areas supporting oak woodland, a site survey of this resource should be completed for all new subdivisions and commercial projects as part of a preliminary site and development review. All stands of oak woodland and individual specimens with a diameter of 6 inches or more when measured 4.5 feet from ground level should be identified on a base map. To the greatest extent possible, development plans shall then attempt to incorporate the oak woodland or individual specimens into the plan as an integral feature of the natural and built environment. All oak trees shall be replaced and maintained with new trees of the same stock as those found onsite or in the site vicinity according to the following replacement formula: a minimum one-for-one (one replacement tree for each tree removed) where replacement trees are proposed to be the same diameter or greater than those to be removed; a minimum three-to-one (three replacement trees for each tree removed) for replacement trees of lesser diameter than those proposed for removal, unless, as determined by arborist, the site's specific environmental conditions would not sufficiently support a healthy oak habitat. All diameter measurements shall be taken at 4.5 feet from ground level. Replacement trees shall be a mixture of sizes.	This policy is intended to protect oak woodlands and individual oak trees.	Potentially Inconsistent: Oak woodlands do not occur within the sites of the proposed subsurface slant wells, Source Water Pipeline, or new Transmission Main within the City of Marina. However, a tree survey has not been conducted at these sites and individual oak trees could occur within the Source Water Pipeline and new Transmission Main and be removed during construction. This issue is addressed further in Impact 4.6-4 and a mitigation measure is provided to reduce or avoid any impacts. Oak woodland occurs within the new Desalinated Water Pipeline. Oak woodlands and individual oak trees could be removed during construction of these facilities. This issue is addressed further in Impacts 4.6-2 and 4.6-4 and mitigation measures are provided to reduce or avoid any impacts.
City of Marina (coastal zone and inland areas)	City of Marina General Plan	Community Design and Development	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 4.121:*** In those areas where the potential for vernal pools exists, a site survey shall be conducted by a qualified biologist. Any development or grading of a site found to have one or more vernal pools shall provide a wetland buffer of sufficient width and size, as determined by a qualified biologist, between the vernal pond habitat, including associated wetland vegetation, and the proposed or existing development to both protect those species most sensitive to development disturbances and complement the habitat value of the wetland resource. Structures allowed within the wetland buffer shall be limited to those required for providing public access and nature observation. Grading within identified vernal ponds shall be limited to that necessary for habitat restoration, enhancement and protection or as may otherwise be recommended by a qualified biologist. No soil disturbance shall occur during the rainy season within the designated vernal pond and buffer area. Grading within the drainage area of vernal ponds but outside the designated wetland buffer may be allowed in accordance with the provisions of an approved erosion control and landscape plan pursuant to Policy 4.125.1 of this plan with appropriate measures employed as needed to protect the wetland habitat.	This policy is intended to protect wetlands classified as vernal pools and/or vernal ponds.	Potentially Inconsistent: Vernal ponds (including the pond associated with Locke-Paddon Park) occur in the vicinity of the proposed new Desalinated Water Pipeline alignment and could be adversely affected by pipeline construction. This issue is addressed further in Impacts 4.6-3 and mitigation measures are provided to reduce or avoid any impacts.
City of Marina (coastal zone and inland areas)	City of Marina General Plan	Community Design and Development	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 4.122:*** The City shall require that lighting of streets and other public areas in proximity to areas of natural open space be shielded and as unobtrusive as possible so as to direct light away from habitat reserve areas and other areas of natural open space. The same requirements shall follow for outdoor lighting on private development sites adjacent to such lands.	This policy is intended to protect sensitive natural habitats and species from impacts of nighttime lighting.	*MPWSP consistency with plans, policies, and ordinances related to nighttime lighting is presented Section 4.14, Aesthetic Resources.*
City of Marina (coastal zone and inland areas)	City of Marina General Plan	Community Land Use	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 2.10:*** Lands designated as "Habitat Reserve and Other Open Space" are intended for permanent retention in open space to protect significant plants and wildlife inhabiting these areas. These lands consist of the following natural areas: 1. ***Riparian Habitat.*** Land occupied by riparian vegetation along the banks of the Salinas River shall be retained and the scarce riparian habitat preserved. Use of these lands for development purposes is further restricted by the potential for flooding. 2. ***Coastal Strand and Dunes.*** These lands adjacent to Monterey Bay provide habitat for rare, threatened wildlife and plant species. Approximately 1,600 acres west of Highway One are designated as habitat reserve for this purpose. Except for a limited number of areas where visitor-serving facilities and public park use is to be permitted, this entire area shall be retained as open space. As part of the "Habitat Reserve"	This policy is intended to protect significant plants and wildlife from impacts of development.	Potentially Inconsistent: The subsurface slant wells, Source Water Pipeline, and new Transmission Main are proposed for sites in or around areas designated as "Habitat Reserves and Other Open Space." These Habitat Reserves are comprised of sensitive natural communities (which may include wetlands and waters). Installation of the facilities and maintenance of the subsurface slant wells could disrupt such communities. This issue is addressed further under Impacts 4.6-1, 4.6-2, 4.6-3, 4.6-6, 4.6-7, and 4.6-8 and mitigation measures are provided to reduce or avoid any impacts.

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
City of Marina (coastal zone and inland areas) (cont.)				designation, a stand-alone State Park designation is recognized as an appropriate use by this plan for the 370 acre Lonestar property, with the condition that most of this site be provided with an implementing funding source for protection of its habitat values, and recreational uses be limited and subordinated to the habitat requirements of sensitive plant and wildlife species occurring here. On both public and privately owned lands, dune habitat shall be restored to a healthy condition. 3. ***Maritime Chaparral.*** Coastal Scrub, and Coast Live Oak Woodland. Approximately 1,160 acres of land within the Marina Planning Area is designated for permanent retention in open space so as to protect maritime chaparral, coastal scrub, and coast live oak woodlands and other plant and wildlife species that inhabit these areas. The designated lands include approximately 600 acres in the University of California Natural Reserve System located next to the Monterey Bay Educational, Science, and Technology Center; an adjoining 124-acre site occupying a combination of lands conveyed to the City as part of the transfer of the airport and adjacent land on Armstrong Ranch and 160 acres located within the larger East Garrison Reserve. Another 227-acre reserve is located south of Imjin Road. This area is a former landfill site that has been capped, and which will be restored as a natural habitat area. An additional 50 acres located along the east side of Highway One in the vicinity of the planned extension of Del Monte Boulevard is also a designated reserve. 4. ***Wetlands.*** An area of 80 acres on the Armstrong Ranch property between Del Monte Boulevard and Highway One is designated as Habitat Reserve due to the presence of vernal ponds. Additional small areas where vernal ponds occur may exist elsewhere on the Armstrong property. Prior to approval of development plans for this property, biological field surveys shall be conducted to determine if additional vernal ponds exist. If such surveys document the existence of such ponds, development plans must provide either for the preservation or replacement of this habitat.		
City of Marina (coastal zone)	City of Marina Local Coastal Land Use Plan	Policies	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 8:*** To prohibit further degradation of the beach environment and conserve its unique qualities.	This policy is intended to protect beach habitat.	Potentially Inconsistent: Installation of the subsurface slant wells and a portion of the Source Water Pipeline and maintenance of the subsurface slant wells may occur adjacent to, and could disrupt, beaches. This issue is addressed further in Impacts 4.6-2 and 4.6-8 and mitigation measures are provided to reduce or avoid any impacts.
City of Marina (coastal zone)	City of Marina Local Coastal Land Use Plan	Policies	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 19:*** To promote reclamation and protection of native dune habitat and vegetation except in areas presently being mined.	This policy is intended to protect native dune habitat, including vegetation.	Potentially Inconsistent: Installation of the subsurface slant wells and portions of the Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main, and maintenance of the subsurface slant wells would occur within, and could disrupt, native central dune scrub. This issue is addressed further in Impacts 4.6-2 and 4.6-7 and mitigation measures are provided to reduce or avoid any impacts.
City of Marina (coastal zone)	City of Marina Local Coastal Land Use Plan	Policies	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 23:*** To support continuation of the coastal-dependent sand mining operations as long as they are economically feasible and their operations are managed with sensitivity to the adjacent dune environment.	This policy is intended to ensure that continued coastal-dependent sand mining operations are protective of nearby dune environments.	Consistent: The proposed project does not include coastal-dependent sand mining operations.
City of Marina (coastal zone)	City of Marina Local Coastal Land Use Plan	Policies	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 24:*** To protect and encourage the restoration of the vernal ponds to their original state and allow only those uses adjacent which will reinforce and conserve the unique habitat qualities of these ponds.	This policy is intended to protect vernal ponds.	Potentially Inconsistent: Vernal ponds (including the pond associated with Locke-Paddon Park) occur in the vicinity of the proposed new Desalinated Water Pipeline alignment and could be adversely affected by pipeline construction. This issue is addressed further in Impact 4.6-3 and mitigation measures are provided to reduce or avoid any impacts.

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
City of Marina (coastal zone)	City of Marina Local Coastal Land Use Plan	Policies	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 25:*** To protect the habitat of recognized rare and endangered species found in the Coastal dune area.	This policy is intended to protect special-status species habitat found in coastal dunes.	Potentially Inconsistent: Installation of the subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main, and maintenance of the subsurface slant wells would occur within, and could disrupt native central dune scrub, where special-status species are either known to occur or have potential to occur. This issue is addressed further in Impacts 4.6-1, 4.6-2, 4.6-6, and 4.6-7 and mitigation measures are provided to reduce or avoid any impacts.
City of Marina (coastal zone)	City of Marina Local Coastal Land Use Plan	Policies	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Policy 26:*** To regulate development in areas adjacent to recognized rare and endangered species or their habitats so that they will not threaten continuation of the species or its habitat.	This policy is intended to protect areas of rare and endangered species habitat (including wetlands) from impacts of development.	Potentially Inconsistent: Installation of the subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main, and maintenance of the subsurface slant wells would occur adjacent to, and could indirectly disrupt, special-status species habitat (including wetlands). This issue is addressed further in Impacts 4.6-1, 4.6-2, 4.6-3, 4.6-6, 4.6-7, and 4.6-8 and mitigation measures are provided to reduce or avoid any impacts.
City of Marina (coastal zone)	City of Marina Local Coastal Land Use Plan	Planning Guidelines	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	**Rare and Endangered Species: Habitat Protection.** In Marina's Coastal Zone, the foredune, dune and grassy inland areas all contain potential habitat for rare and endangered plants and animals. The precise range for each plant and animal is not known because intensive site-specific study throughout the area was not financially possible. However, the potential for various rare and endangered habitats has been identified and mapped (see Environmental Capability section) to provide a guide to the locations where more intensive study is required. Because a site-specific study is needed in many areas before any development can take place, the following policies apply to all of the areas indicated on the map[1] or meeting the definitions of Exhibit "A" as being potential habitats for rare and endangered plants and animals. • Before any use or change in use, areas identified as potential habitat for rare and endangered plant or animal species shall be investigated by a qualified biologist to determine the physical extent of the primary habitat areas for the specific rare and endangered plants and animals on that site. • Primary habitat areas shall be protected and preserved against any disruption of habitat values and only uses dependent on those resources shall be allowed within those areas. All development must be sited and designed so as not to interfere with the natural functions of such habitat areas. Management and enhancement opportunities should be incorporated into use or development proposals; potential impacts shall be fully mitigated, including the assurance of long-term mitigation and maintenance of habitat through the use of appropriate acreage replacement/restoration ratios for any unavoidable direct impacts on habitat areas. • Potential secondary or support habitat areas to the primary habitats identified on the site should also be defined. Secondary habitat investigation should include identification of the role and importance of the secondary area to the primary habitat area and should stress the impact of use or development in the secondary area on the primary habitat. All development in this area must be designed to prevent significant adverse impacts on the primary habitat areas. In concert with State law, City Ordinances shall require environmental review and appropriate mitigation of identified impacts for all development in the Coastal Zone, including the assurance of long term mitigation and maintenance of habitat through the use of appropriate acreage replacement/restoration ratios for any unavoidable direct impacts on habitat areas. • Development in wetlands shall be prohibited. Access for nature observation shall be the only exception; and this access should not be permitted unless a qualified biologist determines that the impacts of construction and human observation can be sufficiently mitigated to insure continuation of the rare and endangered species and/or its habitat. • Available evidence indicates that dune vegetation is more resilient than previously thought, and areas damaged by illegal use or negligence shall be considered restorable and eligible for restoration.	This policy is intended to protect special-status species habitat (including wetlands), which includes primary habitat (defined as all of the environmentally sensitive habitat areas in Marina) and secondary habitat (defined as areas adjacent to primary habitat areas within which development must be sited and designed to prevent impacts which would significantly degrade the primary habitat).	Potentially Inconsistent: Installation of the subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main, and maintenance of the subsurface slant wells would occur within special-status species habitats (including wetlands and including those defined as primary and secondary habitat in the City of Marina LCLUP). This issue is addressed further in Impacts 4.6-1, 4.6-2, 4.6-3 4.6-4, 4.6-6, 4.6-7, and 4.6-8. Mitigation measures are provided to reduce or avoid impacts on special-status species habitats. However, as described in Impact 4.6-4, construction of these facilities, and maintenance of the subsurface slant wells, would be inconsistent with the City of Marina LCLUP, a significant and unavoidable impact.

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
City of Marina (coastal zone) (cont.)				• Where habitats of rare and endangered species are located on any parcel, owners and/or operators shall, at such time that development is proposed, develop and execute a Management Plan which will protect identified rare and endangered plant and animal communities. Each plan should be drawn up by a qualified biologist in cooperation with the property owner developer. [1] Presumably this refers to the maps entitled "Natural Habitats" and "Potential Wildlife Habitats." [2] Exhibit 'A' Habitat Definitions: *Primary habitat*. This term includes all of the environmentally sensitive areas in Marina. These are as follows: 1. Habitat for all identified plant and animal species which are rare, endangered, threatened, or are necessary for the survival of an endangered species. These species will be collectively referred to as "rare and endangered". 2. Vernal ponds and their associated wetland vegetation. The Statewide Interpretive Guideline for Wetlands and Other Wet Environmentally Sensitive Habitat Areas (California Coastal Commission, February 14, 1981) contains technical criteria for establishing the inland boundary of wetland vegetation. 3. All native dune vegetation, where such vegetation is extensive enough to perform the special role of stabilizing Marina's natural sand dune formations. 4. Areas otherwise defined as secondary habitat that have an especially valuable role in an ecosystem for sensitive plant or animal life., as determined by a qualified biologist approved by the City. *Secondary habitat*. This term refers to areas adjacent to primary habitat areas within which development must be sited and designed to prevent impacts which would significantly degrade the primary habitat. The secondary habitat area will be presumed to include the following, subject to more precise determination upon individual site investigation: 1. The potential/known localities of rare and endangered plant species as shown on LUP page 71 ("Disturbed Vegetation" map). 2. The potential wildlife habitats as shown on LUP page 75 ("Potential Wildlife" map). 3. Any area within 100 feet of the landward boundary of a wetland primary habitat area. *Rare and endangered species*. In Marina, this term will apply to those plant and animal species which are rare, endangered, threatened or are necessary for the survival of such species. The Environmental Analysis Report prepared for this LUP identified such species in the dune habitat areas. While future scientific studies may result in addition or deletion of species, the list presently includes: 1. Smith's Blue Butterfly (Shijimiaeoides enoptes smithi) 2. Globose Dune Beetle (Coelus globosus) 3. Black Legless Lizard (Anniella pulchra nigra) 4. Salinas Kangaroo Ray (Dipodomys Heermanni Goldmani) 5. Seaside Painted Cup (Castilleja latifolia ssp. latifolia) 6. Monterey Spine Flower (Chorizanthe pungens var. pungens) 7. Eastwood's Ericameria (Ericameria fasciculata) 8. Coast Wallfower (Erysimum ammophilum) 9. Menzies' Wallflower (Erysimum menziesii) 10. Coastal Dunes Milk Vetch (Astragalus tener var. titi) 11. Dune Gilia (Gilia tenuiflora var. arenaria) 12. Wild Buckwheat (Erigonum latifolium)* 13. Wild Buckwheat (Erigonum parvifolium)* 14. Bush Lupine (Lupinus ssp.)+ *only within the range of Smith's Blue Butterfly. + only within the range of the Black Legless Lizard.		

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
City of Marina (coastal zone)	City of Marina Local Coastal Land Use Plan	Planning Guidelines	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	**Wetlands Protection.** Despite their seasonal nature, the vernal ponds are considered to be coastal wetlands. There are several vernal ponds remaining in Marina's Coastal Zone; all but one supports a marsh. Most of the ponds are brackish and, except in the very wettest years, most are dry for some part of the year. The following shall be applied when planning in or near the vernal ponds: ● Because of their fragile geology, no new structures shall be allowed within the vernal pond itself. The only new structure allowed in the wetland area should be those designed for public access for nature observation. No access structure should be allowed without thorough investigation by a qualified biologist and geologist. Design should include mitigation for all impacts identified by these specialists. ● New development within the drainage areas of the natural Vernal Ponds shall be regulated to protect the vernal pond and its water quality. No development within the drainage area of a vernal pond should be approved without investigation by a qualified biologist as well as other necessary specialists. Grading setbacks, reduction of impervious surface coverage, siltation basins, and other appropriate measures shall be employed to protect the ponds and their wetlands. ● A 100 foot riparian setback shall be established from the edge of all wetlands. ● The City should encourage State participation in the preservation and restoration of the historic vernal ponds and their wetlands.	This policy is intended to protect vernal pools and their associated wetlands.	Potentially Inconsistent: Vernal ponds (including the pond associated with Locke-Paddon Park) occur in the vicinity of the proposed new Desalinated Water Pipeline alignment. Construction could occur within the 100-foot riparian setback of the edge of the vernal ponds and water quality within the vernal ponds could be adversely affected by pipeline construction. This issue is addressed further in Impact 4.6-3 and mitigation measures are provided to reduce or avoid any impacts.
City of Marina (coastal zone and inland areas)	Marina Municipal Code	Chapter 17.51 – Tree Removal, Preservation and Protection	Subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	***Chapter 17.51 –*** Tree Removal, Preservation and Protection includes measures to preserve and maintain existing trees. This ordinance requires that a tree removal permit be obtained from the City for any tree that shall be removed or relocated.	This policy is intended to protect trees.	Potentially Inconsistent: Installation of the Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main could result in tree removal. This issue is addressed further in Impact 4.6-4 and a mitigation measure is provided to reduce or avoid any impacts. No trees occur at the subsurface slant well site.
Fort Ord Dunes State Park	Fort Ord Dunes State Park General Plan and Environmental Impact Report	Physical Resources	New Transmission Main	**BIO-8:** Preserve large areas of coastal dune habitat. Restore land that is in degraded condition, but includes some remaining native species, and is located adjacent to intact areas of coastal dune habitat in order to create large areas of connected, viable habitat of native plants and animals. Areas that serve to connect existing and potentially restored habitat areas should be considered as a very high priority, as these corridors will re-connect remnant habitats, creating what could become an extensive network of natural habitats within the park.	This policy is intended to preserve and restore coastal dune habitat.	Potentially Inconsistent: Installation of the new Transmission Main would occur within central dune scrub. This issue is addressed further in Impact 4.6-2 and mitigation measures are provided to reduce or avoid any impacts.
City of Monterey (inland areas)	Monterey City Code	Chapter 37 – Preservation of Trees and Shrubs	Ryan Ranch-Bishop Interconnection Improvements	***Chapter 37 –*** Preservation of Trees and Shrubs is intended to assure preservation of trees and replacement of trees when removal is unavoidable. A tree permit is required to be obtained from the City for removal or excessive pruning of any protected tree. Protected trees are defined as a) trees located on a vacant private parcel that are more than two inches (2") in diameter when measured at a point four feet six inches (4'6") above the tree's natural grade; and, b) trees located on a private, developed parcel that are more than six inches (6") when measured at a point four feet six inches (4'6") above the tree's natural grade. The City can also designate Local Landmark Trees, which is an outstanding, healthy, and prominent tree that is designated landmark in accordance to procedures established in the Municipal Code.	This policy is intended to preserve and mitigate for the loss of protected trees and Local Landmark Trees.	Potentially Inconsistent: Installation of the Ryan Ranch-Bishop Interconnection Improvements may require tree removal or tree trimming. This issue is addressed further in Impact 4.6-4 and mitigation measures are provided to reduce or avoid any impacts.
City of Seaside (coastal zone and inland areas)	Seaside General Plan	Conservation/Open Space	New Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, Terminal Reservoir	***Policy COS-4.1:*** Preserve ecological and biological resources by maintaining these resources as open space.	This policy is intended to protect sensitive natural communities (which may include wetlands and waters).	Potentially Inconsistent: Installation of the new Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Terminal Reservoir could occur within and disturb sensitive natural communities (which may include wetlands and waters) as listed in **Table 4.6-6**. This issue is addressed further in Impacts 4.6-2 and 4.6-3 and mitigation measures are provided to reduce or avoid any impacts.
City of Seaside (coastal zone and inland areas)	Seaside General Plan	Conservation/Open Space	New Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, Terminal Reservoir	***Policy COS-4.2:*** Protect and enhance the creeks, lakes, and adjacent wetlands for their value in providing visual amenity, habitat for wildlife, and recreational opportunities.	This policy is intended to protect wetlands and waters.	Potentially Inconsistent: Installation of the Terminal Reservoir could occur within, and/or disturb, wetlands or waters. This issue is addressed further in Impact 4.6-3 and mitigation measures are provided to reduce or avoid any impacts.

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
City of Seaside (coastal zone and inland areas) (cont.)						Potential wetlands or waters were not observed within the new Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, and ASR Recirculation Pipeline alignment within the City of Seaside.
City of Seaside (coastal zone and inland areas)	Seaside General Plan	Conservation/Open Space	New Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Terminal Reservoir	***Policy COS-4.3:*** Encourage the preservation and enhancement of oak woodland elements in the natural and built environments.	This policy is intended to protect oak woodlands.	Potentially Inconsistent: Installation of the new Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Terminal Reservoir could occur within and disturb oak woodlands. This issue is addressed further in Impact 4.6-2 and mitigation measures are provided to reduce or avoid any impacts.
City of Seaside (coastal zone and inland areas)	Seaside Municipal Code	Chapter 8.54 – Trees	New Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Terminal Reservoir	***Chapter 8.54 –***Regulates and controls the planting, removal, protection and preservation of trees within the city. A permit is required for the removal or alteration of any tree on private property in the city without a permit issued as provided in this chapter. A permit is also required to plant any Coast Redwood, Blue Gum Eucalyptus, Willow, Cottonwood or Poplar within the city.	This policy is intended to protect trees.	Potentially Inconsistent: Installation of the new Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Terminal Reservoir could result in removal or alteration of trees. This issue is addressed further in Impacts 4.6-1 and 4.6-4 and mitigation measures are provided to reduce or avoid any impacts.
County of Monterey (inland areas)	Carmel Valley Master Plan	Natural Resources	Carmel Valley Pump Station and Main System-Hidden Hills Interconnection Improvements	***Policy CV-3.7:*** Areas of biological significance shall be identified and preserved as open space. These include, but are not limited to: a. The redwood community of Robinson Canyon; b. The riparian community and redwood community of Garzas Creek; c. All wetlands, including marshes, seeps, and springs (restricted occurrence, sensitivity, outstanding wildlife value). d. Native bunchgrass stands and natural meadows (restricted occurrence and sensitivity). e. Cliffs, rock outcrops, and unusual geologic substrates (restricted occurrence). f. Ridgelines and wildlife migration routes (wildlife value).	This policy is intended to protect sensitive natural communities (which may include wetlands and waters) and wildlife corridors.	Potentially Inconsistent: Installation of the Carmel Valley Pump Station and Main System-Hidden Hills Interconnection Improvements could disturb sensitive natural communities (which may include wetlands and waters). This issue is addressed further in Impacts 4.6-2 and 4.6-3 and mitigation measures are provided to reduce or avoid any impacts.
County of Monterey (inland areas)	Carmel Valley Master Plan	Natural Resources	Carmel Valley Pump Station and Main System-Hidden Hills Interconnection Improvements	***Policy CV-3.8:*** Development shall be sited to protect riparian vegetation, minimize erosion, and preserve the visual aspects of the Carmel River. In places where the riparian vegetation no longer exists, it should be planted to a width of 150 feet from the river bank, or the face of adjacent bluffs, whichever is less. Density may be transferred from this area to other areas within a lot.	This policy is intended to protect sensitive natural communities and wetlands and waters of the Carmel River.	Consistent: The Carmel Valley Pump Station would not impact the Carmel River or associated riparian vegetation. The Main System- Hidden Hills Interconnection Improvements would not occur in the vicinity of the Carmel River.
County of Monterey (inland areas)	Carmel Valley Master Plan	Natural Resources	Carmel Valley Pump Station and Main System-Hidden Hills Interconnection Improvements	***Policy CV-4.1(b):*** Motorized vehicles shall be prohibited on the banks or in the bed of the Carmel River, except by permit from the Water Management District or Monterey County.	This policy is intended to protect sensitive natural communities and wetlands and waters of the Carmel River.	Consistent: Construction of the Carmel Valley Pump Station would not require use of motorized vehicles within the Carmel River. The Main System-Hidden Hills Interconnection Improvements would not occur in the vicinity of the Carmel River and therefore no motorized vehicles would be used within the Carmel River
County of Monterey (inland areas)	Carmel Valley Master Plan	Natural Resources	Carmel Valley Pump Station and Main System-Hidden Hills Interconnection Improvements	***Policy CV-3.10:*** b. Valley oaks should be incorporated on floodplain terraces. c. Weedy species such as pampas grass and genista shall not be planted in the Valley. e. The chaparral community shall be maintained in its natural state to the maximum extent feasible in order to preserve soil stability and wildlife habitat and also be consistent with fire safety standards.	This policy is intended to protect sensitive natural communities.	Consistent: Sensitive natural communities do not occur at the proposed Carmel Valley Pump Station and the Carmel Valley Pump Station does not include restoration of a floodplain terrace or planting weedy species. Installation of the Main System-Hidden Hills Interconnection Improvements is not located on a floodplain, does not including planting weedy species, and chaparral does not occur at the site.
County of Monterey (inland areas)	Carmel Valley Master Plan	Natural Resources	Carmel Valley Pump Station and Main System-Hidden Hills Interconnection Improvements	***Policy CV-3.11:*** The County shall discourage the removal of healthy native oak and madrone and redwood trees in the Carmel Valley Master Plan Area. A permit shall be required for the removal of any of these trees with a trunk diameter in excess of six inches, measured two feet above ground level. Where feasible, trees removed will be replaced by nursery-grown trees of the same species and not less than one gallon in size. A minimum fine, equivalent to the retail value of the wood removed, shall be imposed for each violation. In the case of	This policy is intended to protect native oak, madrone, and redwood trees.	Potentially Inconsistent: Installation of the Carmel Valley Pump Station and Main System-Hidden Hills Interconnection Improvements could result in the removal of native oak, madrone, and redwood trees. This issue is addressed further in Impact 4.6-4 and a mitigation measure is provided to reduce or avoid any impacts.

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

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County of Monterey (inland areas) (cont.)				emergency caused by the hazardous or dangerous condition of a tree and requiring immediate action for the safety of life or property, a tree may be removed without the above permit, provided the County is notified of the action within ten working days. Exemptions to the above permit requirement shall include tree removal by public utilities, as specified in the California Public Utility Commission's General Order 95, and by governmental agencies.		
County of Monterey (coastal zone and inland areas)	Greater Monterey Peninsula Area Plan	Conservation/Open space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy GMP-3.5:*** Removal of healthy, native oak, Monterey pine, and redwood trees in the Greater Monterey Peninsula Planning Area shall be discouraged. An ordinance shall be developed to identify required procedures for removal of these trees. Said ordinance shall take into account fuel modification needed for fire prevention in the vicinity of structures and shall include: a. Permit requirements. b. Replacement criteria c. Exceptions for emergencies and governmental agencies	This policy is intended to protect native oak, madrone, and redwood trees.	Potentially Inconsistent: Installation of the of the MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station could result in the removal of native oak, madrone, and redwood trees. This issue is addressed further in Impact 4.6-4 and a mitigation measure is provided to reduce or avoid any impacts.
County of Monterey (coastal zone and inland areas)	Greater Monterey Peninsula Area Plan	Conservation/Open space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy GMP-3.6:*** A 100-foot setback from all wetlands, as identified by a County-approved biologist, shall be provided and maintained in open space use. No new development shall be allowed in this setback area. No landscape alterations will be allowed in this setback area unless accomplished in conjunction with a restoration and enhancement plan prepared by a County-approved biologist and approved by the California Department of Fish and Wildlife.	This policy is intended to protect wetlands and waters.	Potentially Inconsistent t: Installation of the Brine Discharge Pipeline and Pipeline to CSIP Pond would occur within 100-feet of a potential wetland. The impact would be temporary and there would be no permanent aboveground facilities. After project construction, a 100-foot setback from the potential would remain. This issue is addressed further in Impact 4.6-3 and mitigation measures are provided to reduce or avoid any impacts. Installation of the MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station within the Greater Monterey Peninsula Area Plan area would not occur within 100-feet of potential wetland.
County of Monterey (coastal zone and inland areas)	Greater Monterey Peninsula Area Plan	Conservation/Open space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy GMP-3.9:*** Critical habitat areas should be preserved as open space. When an entire parcel cannot be developed because of this policy, a low intensity, clustered development may be approved. However, the development should be located on those portions of the land least biologically significant so that the development will not upset the natural function of the surrounding ecosystem.	This policy is intended to protect critical habitat, sensitive natural communities, and habitat for special-status species.	Potentially Inconsistent: Installation of the MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station could occur in or around critical habitat, sensitive natural communities, and/or habitat for special-status species. This issue is discussed in Impacts 4.6-1 and 4.6-2 and mitigation measures are provided to reduce or avoid any impacts.
County of Monterey (coastal zone and inland areas)	Monterey County Code	Chapter 21.64 – Special Regulations	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Section 21.64.260*** – Preservation of Oak and Other Protected Trees. In Monterey County oak trees within areas designated as Resource Conservation, Residential, Commercial, or Industrial cannot be removed without the approval of necessary permits. Exceptions include removal of oak trees pursuant to the purpose and standards required in areas designated as Agriculture, Industrial, and or Mineral Extraction. In addition, Title 20, Parts 2-5, addresses native tree removal and protection in the Coastal Zone and Title 21 outside the Coastal Zone. Chapter 16 of the Monterey County Municipal Code also addresses oak and other native tree protection. Native trees in Monterey County, as defined in the ordinance, include Santa Lucia fir, black cottonwood, Fremont cottonwood, box elder, willows, California laurel, sycamores, oaks and madrones. Trees must be at least six inches in diameter two feet above the ground level in order to be subject to these regulations. A landmark oak tree is defined as an oak tree that is 24 inches or more in diameter when measured two feet above ground level or one that is visually significant, historically significant, or exemplary of its species. Removal of any landmark tree is prohibited unless approved by the County Director of Planning and Building Inspection.	This policy is intended to protect oak and other native trees.	Potentially Inconsistent: Installation of the MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station could result in the removal of oak and other native trees. This issue is addressed further in Impacts 4.6-4 and a mitigation measure is provided to reduce or avoid any impacts.

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy OS-4.1:*** Federal and State listed native marine and fresh water species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant shall be protected. Species designated in Area Plans shall also be protected.	This policy is intended to protect special-status species.	Potentially Inconsistent: As detailed in **Table 4.6-6**, special-status species could occur within the MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station sites. Construction of these facilities could result in impacts on special-status species. This issue is addressed further in Impact 4.6-1 and mitigation measures are provided to reduce or avoid any impacts.
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy OS-5.1:*** The extent and acreages of critical habitat shall be inventoried to the extent feasible and mapped in GIS. Conservation of listed species shall be promoted.	This policy is intended to protect listed species and critical habitat.	Potentially Inconsistent: As detailed in **Table 4.6-6**, listed species and/or critical habitat occur or have potential to occur within the MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station sites. Construction of these project components may disrupt such species and/or critical habitat. This issue is addressed further in Impacts 4.6-1 and 4.6-2and mitigation measures are provided to reduce or avoid any impacts.
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy OS-5.2:*** The extent and acreages of the potentially suitable habitat for listed species shall be inventoried to the extent feasible and mapped in GIS. Conservation of species shall be promoted as provided in the Area Plans.	This policy is intended to protect listed species and critical habitat.	Potentially Inconsistent: As detailed in **Table 4.6-6**, listed species and/or critical habitat occur or have potential to occur within the MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station sites. Construction of these project components may disrupt such species and/or critical habitat. This issue is addressed further in Impacts 4.6-1 and 4.6-2and mitigation measures are provided to reduce or avoid any impacts.
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy OS-5.4:*** Development shall avoid, minimize, and mitigate impacts on listed species and critical habitat to the extent feasible. Measures may include but are not limited to: a. clustering lots for development to avoid critical habitat areas, b. dedications of permanent conservation easements; or c. other appropriate means. If development may affect listed species, consultation with USFWS and CDFW may be required and impacts may be mitigated by expanding the resource elsewhere onsite or within close proximity offsite. Final mitigation requirements would be determined as required by law.	This policy is intended to protect listed species and critical habitat.	Potentially Inconsistent: As detailed in **Table 4.6-6**, listed species and/or critical habitat occur or have potential to occur within the MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station sites. Construction of these project components may disrupt such species and/or critical habitat. This issue is addressed further in Impacts 4.6-1 and 4.6-2and mitigation measures are provided to reduce or avoid any impacts.
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy OS-5.5:*** Landowners and developers shall be encouraged to preserve the integrity of existing terrain and native vegetation in visually sensitive areas such as hillsides, ridges, and watersheds. Routine and Ongoing Agricultural Activities shall be exempt from this policy.	This policy is intended to protect sensitive natural communities.	Potentially Inconsistent: As detailed in **Table 4.6-6**, sensitive natural communities occur or have potential to occur at the proposed MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Castroville Pipeline, Main System-Hidden Hills Interconnection Improvements sites. Construction of these facilities could affect sensitive natural communities. This issue is addressed further in Impact 4.6-2 and mitigation measures are provided to reduce or avoid any impacts. Sensitive natural communities do not occur at the Brine Discharge Pipeline, Pipeline to CSIP Pond, Ryan Ranch-Bishop Interconnection Improvements and Carmel Valley Pump Station sites in unincorporated Monterey County.

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy OS-5.6:*** Native and native compatible species, especially drought resistant species, shall be utilized in fulfilling landscaping requirements.	This policy is intended to protect native plant species and prevent the introduction and spread of non-native and invasive plant species used in landscaping.	Potentially Inconsistent: Upon completion of construction, disturbed areas would be restored to their approximate pre-construction condition. Site restoration could involve the use of non-native plant species. This issue is addressed further in Impact 4.6-2 and mitigation measures are provided to reduce or avoid any impacts.
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy OS-5.11:*** Conservation of large, continuous expanses of native trees and vegetation shall be promoted as the most suitable habitat for maintaining abundant and diverse wildlife.	This policy is intended to protect sensitive natural communities, trees, and wildlife corridors.	Potentially Inconsistent: As detailed in **Table 4.6-6**, sensitive natural communities and/or trees occur or have potential to occur at the proposed MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station. Construction of these facilities could affect sensitive natural communities and/or trees. This issue is addressed further in Impacts 4.6-2 and 4.6-4 and mitigation measures are provided to reduce or avoid any impacts. Construction of all of these facilities would not affect wildlife corridors.
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy OS-5.13:*** Efforts to obtain and preserve natural areas of particular biologic, scientific, or educational interest, and restrict incompatible uses from encroaching upon them, shall be encouraged.	This policy is intended to protect sensitive natural communities.	Potentially Inconsistent: As detailed in **Table 4.6-6**, sensitive natural communities occur or have potential to occur at the proposed MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Castroville Pipeline, Main System-Hidden Hills Interconnection Improvements sites. Construction of these facilities could affect sensitive natural communities. This issue is addressed further in Impact 4.6-2 and mitigation measures are provided to reduce or avoid any impacts. Sensitive natural communities do not occur at the Brine Discharge Pipeline, Pipeline to CSIP Pond, Ryan Ranch-Bishop Interconnection Improvements and Carmel Valley Pump Station sites in unincorporated Monterey County.
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy OS-5.16:*** A biological study shall be required for any development project requiring a discretionary permit and having the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of an endangered, rare, or threatened species. An ordinance establishing minimum standards for a biological study and biological surveys shall be enacted. A biological study shall include a field reconnaissance performed at the appropriate time of year. Based on the results of the biological study, biological surveys may be necessary to identify, describe, and delineate the habitats or species that are potentially impacted. Feasible measures to reduce significant impacts to a less than significant level shall be adopted as conditions of approval.	This policy is intended to protect sensitive natural communities, wetlands and waters, and special-status species.	Potentially Inconsistent: As detailed in **Table 4.6-6**, special-status species, sensitive natural communities, and/or wetlands and waters occur or have the potential to occur within, or in the vicinity of, the MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements and Carmel Valley Pump Station sites. Construction of these facilities could affect special-status species, sensitive natural communities, and/or wetlands and waters. These issues are addressed further in Impacts 4.6-1, 4.6-2, and 4.6-3 and mitigation measures are provided to reduce or avoid any impacts.

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy OS-5.17:*** The County shall prepare, adopt, and implement a program that allows projects to mitigate the loss of critical habitat. The program may include ratios, payment of fees, or some other mechanisms in consultation with responsible state and/or federal regulatory agencies. Until such time as the program has been established, projects shall mitigate the loss of critical habitat on an individual basis in consultation with responsible state and/or federal regulatory agencies. A Community Plan or Rural Center Plan that includes a mitigation program shall not be subject to this policy.	This policy is intended to protect critical habitat.	Potentially Inconsistent: Critical habitat occurs within the vicinity of the Source Water Pipeline, Castroville Pipeline, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station sites and could be indirectly affected by these facilities. This issue is discussed in Impact 4.6-2 and mitigation measures are provided to reduce or avoid any impacts.
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy OS-5.18:*** Prior to disturbing any federal or state jurisdictional areas, all applicable federal and state permitting requirements shall be met, including all mitigation measures for development of jurisdictional areas and associated riparian habitats.	This policy is intended to protect wetlands and waters.	Potentially Inconsistent: Installation of the Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, and Carmel Valley Pump Station could disturb wetlands and waters. This issue is addressed further in Impact 4.6-3 and mitigation measures are provided to reduce or avoid any impacts. Construction of the MPWSP Desalination Plant and the Main System-Hidden Hills Interconnection Improvements are not expected to impact waters or waters.
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy OS-5.22:*** In order to preserve riparian habitat, conserve the value of streams and rivers as wildlife corridors and reduce sediment and other water quality impacts of new development, the county shall develop and adopt a Stream Setback Ordinance. The ordinance shall establish minimum standards for the avoidance and setbacks for new development relative to streams. The ordinance shall identify specific setbacks relative to the following rivers and creeks so they can be implemented in the Area Plans: Salinas, Carmel River, Arroyo Seco, Pajaro River, Nacimiento, San Antonio, Gabilan Creek, and Toro Creek. The ordinance may identify specific setbacks for other creeks or may apply generic setbacks based on the stream classification developed for the ordinance. The ordinance shall delineate appropriate uses within the setback area that shall not cause removal of riparian habitat, compromise identified riparian wildlife corridors, or compromise water quality of the relevant stream while also taking into consideration uses that serve health and safety purposes. The Stream Setback Ordinance shall apply to all discretionary development, County public projects, and to conversion of lands uncultivated for the previous 30 years, on normal soil slopes over 15% or on highly erodible soils on slopes over 10%.	This policy is intended to protect streams and associated riparian habitat.	Potentially Inconsistent: Installation of the Castroville Pipeline would occur approximately 150 feet of the Salinas River. Construction activities could indirectly impact this features. This issue is addressed further in Impact 4.6-3 and mitigation measures are provided to reduce or avoid any impacts. Installation of the Carmel Valley Pump Station would occur approximately 280 feet from the Carmel River. Project compliance with the NPDES project would ensure construction would not degrade water quality in the Rivers. Streams and associated riparian habitat do not occur in or around the MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Ryan Ranch-Bishop Interconnection Improvements, and Main System-Hidden Hills Interconnection Improvements sites.
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy OS-5.23:*** The County shall prepare, adopt and implement a program that allows projects to mitigate the loss of oak woodlands, while also taking into consideration wildfire prevention/protection. Consistent with California Public Resources Code Section 21083.4, the program shall identify a combination of the following mitigation alternatives: a. Ratios for replacement, b. Payment of fees to mitigate the loss or direct replacement for the loss of oak woodlands and monitoring for compliance; and c. Conservation easements. The program shall identify criteria for suitable donor sites. Mitigation for the loss of oak woodlands may be either onsite or offsite. The program shall allow payment of fees to either a local fund established by the County or a state fund. Until such time as the County program is implemented consistent with Public Resources Code Section 21083.4(b), projects shall pay a fee to the state Oak Woodlands Conservation Fund (OWCF). Replacement of oak woodlands shall provide for equivalent acreage and ecological value at a minimum of 1:1 ratio. The program shall prioritize the conservation of oak woodlands that are within known wildlife corridors as a high priority. The oak woodlands mitigation program shall be adopted within 5 years of adoption of the General Plan.	This policy is intended to protect oak woodlands.	Potentially Inconsistent: Installation of the Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, and Main System-Hidden Hills Interconnection Improvements could disturb oak woodlands. This issue is addressed further in Impact 4.6-2 and mitigation measures are provided to reduce or avoid any impacts. Oak woodlands do not occur at the MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, and Carmel Valley Pump Station sites within unincorporated Monterey County.

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy OS-5.24:*** The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat. The County shall require that expansion of its roadways and public infrastructure projects provide movement opportunities for terrestrial wildlife and ensure that existing stream channels and riparian corridors continue to provide for wildlife movement and access.	This policy is intended to protect wildlife movement corridors.	Consistent: Installation of the MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements and Carmel Valley Pump Station would not substantially disrupt wildlife movement through wildlife corridors
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Carmel Valley Pump Station	***Policy OS-5.25:*** Occupied nests of statutorily protected migratory birds and raptors shall not be disturbed during the breeding season (generally February 1 to September 15). The County shall: a. Consult, or require the developer to consult, with a qualified biologist prior to any site preparation or construction work in order to: 1. Determine whether work is proposed during nesting season for migratory birds or raptors, 2. Determine whether site vegetation is suitable to nesting migratory birds or raptors, 3. Identify any regulatory requirements for setbacks or other avoidance measures for migratory birds and raptors which could nest on the site, and 4. Establish project-specific requirements for setbacks, lock-out periods, or other methods of avoidance of disruption of nesting birds. b. Require the development to follow the recommendations of the biologist. This measure may be implemented in one of two ways: 1. Preconstruction surveys may be conducted to identify active nests and, if found, adequate buffers shall be provided to avoid active nest disruption until after the young have fledged; or 2. Vegetation removal may be conducted during the non-breeding season (generally September 16 to January 31); however, removal of vegetation along waterways shall require approval of all appropriate local, state, and federal agencies. This policy shall not apply in the case of an emergency fire event requiring tree removal. This policy shall apply for tree removal that addresses fire safety planning, since removal can be scheduled to reduce impacts on migratory birds and raptors.	This policy is intended to protect migratory birds and raptors during the breeding season.	Potentially Inconsistent: Installation of the MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements and Carmel Valley Pump Station could disturb migratory birds and raptors during the breeding season. This issue is addressed further in Impact 4.6-1 and mitigation measures are provided to reduce or avoid any impacts.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.2.1:*** With the exception of resource dependent uses, all development, including vegetation removal, excavation, grading, filling, and the construction of roads and structures, shall be prohibited in the following environmentally sensitive habitat areas: riparian corridors, wetlands, dunes, sites of known rare and endangered species of plants and animals, rookeries, major roosting and haulout sites, and other wildlife breeding or nursery areas identified as environmentally sensitive. Resource dependent uses, including nature education and research hunting, fishing and aquaculture, where allowed by the plan, shall be allowed within environmentally sensitive habitats only if such uses will not cause significant disruption of habitat values.	This policy is intended to protect environmentally sensitive habitats, wetlands and waters, and special-status species.	Potentially Inconsistent: Installation of the Source Water Pipeline and new Desalinated Water Pipeline would occur within central dune scrub. Central dune scrub would likely be considered an environmentally sensitive habitat. Additionally, several special-status species, as listed in **Table 4.6-6**, occur or have the potential to occur within these alignments. Construction of the above-referenced project components could disrupt these sensitive habitats and species. These issues are addressed further in Impacts 4.6-1 and 4.6-2 and mitigation measures are provided to reduce or avoid any impacts. No potential wetlands or waters were observed in or around the proposed Source Water Pipeline and new Desalinated Water Pipeline within the North County Land Use Plan area.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.2.2:*** Land uses adjacent to locations of environmentally sensitive habitats shall be compatible with the long-term maintenance of the resource. New land uses shall be considered compatible only where they incorporate all site planning and design features needed to prevent habitat impacts, upon habitat values and where they do not establish a precedent for continued land development which, on a cumulative basis, could degrade the resource.	This policy is intended to protect environmentally sensitive habitats (which may include wetlands and waters).	Potentially Inconsistent: Installation of the Source Water Pipeline and new Desalinated Water Pipeline would occur within and adjacent to central dune scrub. Central dune scrub would likely be considered an environmentally sensitive habitat. Construction of the above-referenced project components could disrupt this sensitive habitat. This

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
County of Monterey (coastal zone) (cont.)						issue is addressed further in Impact 4.6-2 and mitigation measures are provided to reduce or avoid any impacts. No potential wetlands or waters were observed in or around the proposed Source Water Pipeline and new Desalinated Water Pipeline within the North County Land Use Plan are
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.2.3:*** New development adjacent to locations of environmentally sensitive habitats shall be compatible with the long-term maintenance of the resource. New subdivisions shall be approved only where significant impacts on environmentally sensitive habitats from development of proposed parcels will not occur.	This policy is intended to protect environmentally sensitive habitats (which may include wetlands and waters).	Potentially Inconsistent: Installation of the Source Water Pipeline and new Desalinated Water Pipeline would occur within and adjacent to central dune scrub. Central dune scrub would likely be considered an environmentally sensitive habitat. Construction of the above-referenced project components could disrupt this sensitive habitat. This issue is addressed further in Impact 4.6-2 and mitigation measures are provided to reduce or avoid any impacts. No potential wetlands or waters were observed in or around the proposed Source Water Pipeline and new Desalinated Water Pipeline within the North County Land Use Plan area.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.2.4:*** To protect environmentally sensitive habitats and the high wildlife values associated with large areas of undisturbed habitat, the County shall maintain significant and, where possible, contiguous areas of undisturbed land for low intensity recreation, education, or resource conservation use. To this end, parcels of land totally within sensitive habitat areas shall not be further subdivided. On parcels adjacent to sensitive habitats, or containing sensitive habitats as part of their acreage, development shall be clustered to prevent habitat impacts.	This policy is intended to protect environmentally sensitive habitats (which may include wetlands and waters).	Potentially Inconsistent: Installation of the Source Water Pipeline and new Desalinated Water Pipeline would occur within and adjacent to central dune scrub. Central dune scrub would likely be considered an environmentally sensitive habitat. Construction of the above-referenced project components could disrupt this sensitive habitat. This issue is addressed further in Impact 4.6-2 and mitigation measures are provided to reduce or avoid any impacts. No potential wetlands or waters were observed in or around the proposed Source Water Pipeline and new Desalinated Water Pipeline within the North County Land Use Plan area.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.2.5:*** Where private or public development is proposed in documented or potential locations of environmentally sensitive habitats – particularly those habitats identified in General Policy No. 1- field surveys by qualified individuals or agencies shall be required in order to determine precise locations and to recommend mitigating measures to ensure protection of any sensitive habitat present. The required survey shall document that the proposed development complies with all applicable environmentally sensitive habitat policies.	This policy is intended to protect environmentally sensitive habitats (which may include wetlands and waters).	Potentially Inconsistent: Installation of the Source Water Pipeline and new Desalinated Water Pipeline would occur within and adjacent to central dune scrub. Central dune scrub would likely be considered an environmentally sensitive habitat. Construction of the above-referenced project components could disrupt this sensitive habitat. This issue is addressed further in Impact 4.6-2 and mitigation measures are provided to reduce or avoid any impacts. No potential wetlands or waters were observed in or around the proposed Source Water Pipeline and new Desalinated Water Pipeline within the North County Land Use Plan area.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.2.6:*** The County shall ensure the protection of environmentally sensitive habitats through deed restrictions or dedications of permanent conservation easements. Where land divisions or development are proposed in areas containing environmentally sensitive habitats, such restrictions or easements shall be established through the development review process.	This policy is intended to protect environmentally sensitive habitats (which may include wetlands and waters).	Potentially Inconsistent: Installation of the Source Water Pipeline and new Desalinated Water Pipeline would occur within and adjacent to central dune scrub. Central dune scrub would likely be considered an environmentally sensitive habitat. Construction of the above-referenced project components could disrupt this sensitive habitat. This issue is addressed further in Impact 4.6-2 and mitigation measures are provided to reduce or avoid any impacts. No potential wetlands or waters were observed in or around the proposed Source Water Pipeline and new Desalinated Water Pipeline within the North County Land Use Plan area.

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.2.8:*** Where development is permitted in or adjacent to environmentally sensitive habitat areas (consistent with all other resource protection policies), the County, through the development review process, shall restrict the removal of indigenous vegetation and land disturbance (grading, excavation, paving, etc.) to the minimum amount necessary for structural improvements.	This policy is intended to protect environmentally sensitive habitats (which may include wetlands and waters).	Potentially Inconsistent: Installation of the Source Water Pipeline and new Desalinated Water Pipeline would occur within and adjacent to central dune scrub. Central dune scrub would likely be considered an environmentally sensitive habitat. Construction of the above-referenced project components could disrupt this sensitive habitat. This issue is addressed further in Impact 4.6-2 and mitigation measures are provided to reduce or avoid any impacts. No potential wetlands or waters were observed in or around the proposed Source Water Pipeline and new Desalinated Water Pipeline within the North County Land Use Plan area.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.2.9:*** The County shall require the use of non-invasive plant species in proposed landscaping and should encourage the use of appropriate native species or species that are compatible with native plants.	This policy is intended to protect native plant species and prevent the introduction and spread of non-native and invasive plant species used in landscaping.	Potentially Inconsistent: Upon completion of construction, disturbed areas would be restored to their approximate pre-construction condition. Site restoration could involve the use of non-native plant species. This issue is addressed further in Impact 4.6-2 and mitigation measures are provided to reduce or avoid any impacts.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.2.10:*** Construction activities, industrial, and public and commercial recreational uses which would affect rare and endangered birds shall be regulated to protect habitats of rare, endangered, and threatened birds during breeding and nesting seasons. Regulations may include restriction of access, noise abatement, and restriction of hours of operation of public or private facilities. Regulations shall not prohibit emergency operation of service and public utility equipment. Access in such locations shall be confined to appropriate areas on designated trails and paths. No access shall be approved which results in significant disruption of habitat.	This policy is intended to protect breeding rare and endangered birds.	Potentially Inconsistent: Installation of the Source Water Pipeline and new Desalinated Water Pipeline could affect breeding rare birds. This issue is addressed further in Impact 4.6-1 and mitigation measures are provided to reduce or avoid any impacts. The Source Water Pipeline and new Desalinated Water Pipeline within the North County Land Use Plan area do not contain habitat for endangered birds.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.3.A2:*** Maritime chaparral is an uncommon, highly localized and variable plant community that has been reduced in North County by residential and agricultural development. Further conversion of maritime chaparral habitat to agricultural uses is highly discouraged. Where new residential development is proposed in chaparral areas, it shall be sited and designed to protect the maximum amount of maritime chaparral. All chaparral on land exceeding 25 percent slope should be left undisturbed to prevent potential erosion impacts as well as to protect the habitat itself.	This policy is intended to protect maritime chaparral.	Consistent: Maritime chaparral does not occur within the Source Water Pipeline and new Desalinated Water Pipeline.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.3.A4:*** Oak woodland on land exceeding 25 percent slope should be left in its native state to protect this plant community and animal habitat from the impacts of development and erosion. Development within oak woodland on 25 percent slope or less shall be sited to minimize disruption of vegetation and habitat loss.	This policy is intended to protect oak woodland	Consistent: Oak woodland does not occur within Source Water Pipeline and new Desalinated Water Pipeline.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.3.A6:*** Coastal dune habitats in areas shown as Resource Conservation or as Scenic and Natural Resource Recreation on the plan map shall be preserved and protected. Appropriate uses in such areas shall be limited to scientific, education and low intensity recreational uses, and within the Moss Landing area, essential utility pipelines where no feasible alternative exists. Disturbance or destruction of dune vegetation shall be prohibited, unless no feasible alternative exists, and then only if re-vegetation with similar species is made a condition of project approval. Any resulting dune disturbance shall be restored to the natural condition.	This policy is intended to protect coastal dune habitat within areas mapped as Resource Conservation or as Scenic and Natural Resource Recreation.	Consistent: The Source Water Pipeline and new Desalinated Water Pipeline are not proposed for areas mapped as Resource Conservation or as Scenic and Natural Resource Recreation.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.3.A9:*** Where major access routes are available or desirable through the dunes to the coast, boardwalks or other appropriate pathways constructed of permeable materials should be provided to protect the vegetation stabilizing the dunes. Other access routes through the dunes should be controlled and only allowed in limited circumstances.	This policy is intended to protect coastal dune habitat where access routes would pass through the dunes to the coast.	Consistent: Installation of the Source Water Pipeline and new Desalinated Water Pipeline within the North County Land Use Plan area would not include installation of an access route through the dunes to the coast.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.3.B1:*** Riparian plant communities shall be protected by establishing setback requirements consisting of 150 feet on each side of the bank of perennial streams, and 50 feet on each side of the bank of intermittent streams, or the extent of riparian vegetation, whichever is greater. In all cases, the setback must be sufficient to prevent significant degradation of the habitat area. The setback requirement may be modified if it can be conclusively demonstrated by a qualified biologist that a narrower corridor is sufficient or a wider corridor is necessary to protect existing riparian vegetation from the impacts of adjacent use.	This policy is intended to protect riparian plant communities associated with streams.	Consistent: Riparian plant communities associated with streams do not occur within or adjacent to the Source Water Pipeline and new Desalinated Water Pipeline within the North County Land Use Plan area.

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.3.B2:*** All development, including dredging, filling, and grading within stream corridors, shall be limited to activities necessary for flood control purposes, water supply projects, improvement of fish and wildlife habitat, or laying of pipelines when no alternative route is feasible, and continued and future use of utility lines and appurtenant facilities. These activities shall be carried out in such a manner as to minimize impacts from increased runoff, sedimentation, biochemical degradation, or thermal pollution. When such activities require removal of riparian plant species, re-vegetation with native plants shall be required.	This policy is intended to protect stream corridors and associated riparian vegetation.	Consistent: Streams do not occur within or adjacent to the Source Water Pipeline and new Desalinated Water Pipeline within the North County Land Use Plan area.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.3.B3:*** The following activities shall be prohibited within intermittent and perennial stream channels: cultivated agriculture, pesticide applications, and installation of septic systems would not destroy vegetative ground cover of the stream channel.	This policy is intended to protect intermittent and perennial stream channels.	Consistent: Streams do not occur within or adjacent to the Source Water Pipeline and new Desalinated Water Pipeline within the North County Land Use Plan area.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.3.B4:*** A setback of 100 feet from the landward edge of vegetation of all coastal wetlands shall be provided and maintained in open space use. No permanent structures except for those necessary for resource-dependent use which cannot be located elsewhere shall be constructed in the setback area. Prior to approval of all proposed structures in the setback area, it must be demonstrated that the development does not significantly disrupt the habitat resource.	This policy is intended to protect coastal wetlands.	Consistent: Potential wetlands or waters do not occur in or around the proposed Source Water within the North County Land Use Plan area.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.3.B5:*** All wetland areas of the North County Coastal Zone shall be protected and preserved for their plant and wildlife values, including but not limited to McClusky Slough, Pajaro River, Salinas River, Salinas River Lagoon, Elkhorn Slough, Bennett Slough, and Moro Cojo Slough. The County's existing Non Pointsource Pollution Program shall be implemented.	This policy is intended to protect wetlands.	Consistent: Potential wetlands or waters do not occur in or around the proposed Source Water Pipeline within the North County Land Use Plan area.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.3.B6:*** Dredging or other major construction activities shall be conducted so as to avoid breeding seasons and other critical phases in the life cycles of commercial species of fish and shellfish and other rare, endangered, and threatened indigenous species.	This policy is intended to protect commercial species of fish and shellfish and other special-status species.	Potentially Inconsistent: Installation of the Source Water Pipeline and new Desalinated Water Pipeline could occur during the breeding season and other critical phases of special-status species as listed in **Table 4.6-6**. This issue is addressed further in Impact 4.6-1 and mitigation measures are provided to reduce or avoid any impacts. Impacts related to commercial species of fish and shellfish are discussed in EIR/EIS Section 4.5 Marine Resources.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.3.C1:*** Wildlife management considerations should be included in the evaluation of development proposals, particularly land division proposals. Large, and where feasible, contiguous areas or corridors of native vegetation should be retained in order to meet the various needs of those wildlife species requiring large areas of undisturbed habitat.	This policy is intended to protect wildlife corridors.	Consistent: Installation and maintenance of the Source Water Pipeline and new Desalinated Water Pipeline would not result in the loss of large contiguous areas or wildlife corridors.
County of Monterey (coastal zone)	North County Land Use Plan	Resource Management	Source Water Pipeline and new Desalinated Water Pipeline	***Policy 2.3.3.C2:*** Critical wildlife habitat areas (refer to General Policy 2) shall be protected and an adequate distance based on a site-by-site analysis between such habitat and disturbed areas (e.g., building sites and roads) shall be maintained.	This policy is intended to protect sensitive natural communities and habitat for special-status species.	Potentially inconsistent: Installation of the Source Water Pipeline and new Desalinated Water Pipeline would occur within sensitive natural communities and known or potential habitat for special-status species as detailed in **Table 4.6-6**. This issue is addressed further in Impacts 4.6-1 and 4.6-2 and mitigation measures are provided to reduce or avoid any impacts.
County of Monterey (coastal zone)	North County Land Use Plan	Land Use and Development	Source Water Pipeline and new Desalinated Water Pipeline	***Key Policy 4.3.4:*** All future development within the North County coastal segment must be clearly consistent with the protection of the area's significant human and cultural resources, agriculture, natural resources, and water quality.	This policy is intended to provide long-term resource management and protection.	Potentially Inconsistent: Construction of the Source Water Pipeline and new Desalinated Water Pipeline could disrupt sensitive natural communities and/or species dependent upon those habitats. These issues are addressed further in Impacts 4.6-1 and 4.6-2 and mitigation measures are provided to reduce or avoid any impacts. Potential wetlands or waters do not occur in or around the proposed Source Water Pipeline within the North County Land Use Plan area.

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
County of Monterey (inland areas)	North County Area Plan	Conservation/Open Space	Castroville Pipeline	***Policy NC-3.3:*** Conservation of North County's native vegetation shall be given high priority to: a. Retain the viability of threatened or limited vegetative communities and animal habitats, b. Promote the area's natural scenic qualities, and c. Preserve rare, endangered, and endemic plants for scientific study. d. Property owners shall be encouraged to cooperate with the County in establishing conservation easements over areas of native vegetation.	This policy is intended to protect special-status species and sensitive natural communities.	Potentially Inconsistent: Construction of the Castroville Pipeline could affect special-status species and sensitive natural communities. These issues are addressed further in Impacts 4.6-1 and 4.6-2 and mitigation measures are provided to reduce or avoid any impacts.
County of Monterey (inland areas)	North County Area Plan	Conservation/Open Space	Castroville Pipeline	***Policy NC-3.4:*** Removal of healthy, native oak and madrone trees in the North Monterey County Area shall be discouraged. An ordinance shall be developed to identify required procedures for removal of these trees. Said ordinance shall take into account fuel modification needed for fire prevention in the vicinity of structures and shall include: a. Permit requirements b. Replacement criteria c. Exceptions for emergencies and governmental agencies	This policy is intended to protect native oak and madrone trees.	Potentially Inconsistent: Construction of the Castroville Pipeline could require the removal of native oak or madrone trees. This issue is addressed further in Impact 4.6-4 and a mitigation measure is provided to reduce or avoid any impacts.
County of Monterey (inland areas)	North County Area Plan	Conservation/Open Space	Castroville Pipeline	***Policy NC-3.5:*** Critical habitat areas should be preserved as open space. When an entire parcel cannot be developed because of this policy, a low intensity, clustered development may be approved. However, the development should be located on those portions of the land least biologically significant so that the development will not upset the natural function of the surrounding ecosystem.	This policy is intended to protect critical habitat, sensitive natural communities, and habitat for special-status species.	Potentially Inconsistent: Construction of the Castroville Pipeline could sensitive natural communities and habitat for special-status species. This issue is addressed further in Impacts 4.6-1 and 4.6-2 and mitigation measures are provided to avoid any impacts. Construction of the Castroville Pipeline would comply with the NPDES program and would not alter critical habitat.
Fort Ord Reuse Authority (Seaside)	Fort Ord Reuse Plan	Conservation	New Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Terminal Reservoir	***Biological Resources Policy A-2:*** The City shall ensure that measures are taken to prevent degradation and siltation of the ephemeral drainage that passes through the Planned Residential Extension District and Community Park in Polygon 24.	This policy is intended to protect a potential wetland.	Potentially Inconsistent: Construction of the Terminal Reservoir could affect the wetland located within Polygon 24. This issue is addressed further in Impact 4.6-3 and mitigation measures are provided to avoid any impacts.
Fort Ord Reuse Authority (Seaside)	Fort Ord Reuse Plan	Conservation	New Transmission Main ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Terminal Reservoir	***Biological Resources Policy A-4:*** The City shall encourage the preservation of small pockets of habitat and populations of HMP species within and around developed areas. ***Program A-4.1:*** The City shall require project applicants who propose development in underdeveloped natural lands to conduct reconnaissance-level surveys to verify the general description of resources for the parcel provided in the biological resource documents prepared for the U.S. Army Corps of Engineers. The information gathered through these reconnaissance-level surveys shall be submitted as a component of the project application package. ***Program A-4.3:*** Where development will replace existing habitat which supports sensitive biological resources, the City shall encourage attempts to salvage some of those resources by collecting seed or cuttings of plants, transplanting vegetation, or capturing and relocating sensitive wildlife species.	This policy is intended to protect sensitive natural communities and special-status species.	Potentially Inconsistent: Installation of the new Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Terminal Reservoir could occur within or adjacent to sensitive natural communities and/or habitat for special-status species as detailed in **Table 4.6-6**. These issues are further addressed in Impacts 4.6-1 and 4.6-2 and mitigation measures are provided to reduce or avoid any impacts.
Fort Ord Reuse Authority (Seaside)	Fort Ord Reuse Plan	Conservation	New Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Terminal Reservoir	***Biological Resources Policy A-9:*** The County shall encourage the preservation of small pockets of habitat and populations of HMP species within and around developed areas. ***Program A-9.1:*** The County shall require project applicants who propose development in undeveloped natural lands to conduct reconnaissance-level surveys to verify the general description of resources for the parcel provided in the biological resource documents prepared for the U.S. Army Corps of Engineers. The information gathered through these reconnaissance-level surveys shall be submitted as a component of the project application package. ***Program A-9.3:*** Where development will replace existing habitat which supports sensitive biological resources, the County shall encourage attempts to salvage some of those resources by collecting seed or cuttings of plants, transplanting vegetation, or capturing and relocating sensitive wildlife species.	This policy is intended to protect special-status species.	Potentially Inconsistent: Installation of the new Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Terminal Reservoir could occur within or adjacent to habitat for special-status species as detailed in **Table 4.6-6**. This issue is further addressed in Impact 4.6-1 and mitigation measures are provided to reduce or avoid any impacts.

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
Fort Ord Reuse Authority (Seaside)	Fort Ord Reuse Plan	Conservation	New Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Terminal Reservoir	***Biological Resources Policy B-1:*** The City shall strive to avoid or minimize loss of sensitive species listed in Table 4.4-2 that are known or expected to occur in areas planned for development. ***Program B-1.2:*** If any sensitive species listed in Table 4.4-2 are found in areas proposed for development, all reasonable efforts should be made to avoid habitat occupied by these species while still meeting project goals and objectives. If permanent avoidance is infeasible, a seasonal avoidance and/or salvage/ relocation program shall be prepared. The seasonal avoidance and/or salvage/ relocation program for these species should be coordinated through the CRMP.	This policy is intended to protect special-status species.	Potentially Inconsistent: Installation of the new Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Terminal Reservoir could occur within or adjacent to habitat for special-status species as detailed in **Table 4.6-6**. This issue is further addressed in Impact 4.6-1 and mitigation measures are provided to reduce or avoid any impacts.
Fort Ord Reuse Authority (Seaside)	Fort Ord Reuse Plan	Conservation	New Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Terminal Reservoir	***Biological Resources Policy C-1:*** The City shall encourage that grading for projects in undeveloped lands be planned to complement surrounding topography and minimize habitat disturbance.	This policy is intended to protect sensitive natural communities.	Potentially Inconsistent: Installation of the new Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Terminal Reservoir could occur within or adjacent to sensitive natural communities. This issue is further addressed in Impact 4.6-2 and mitigation measures are provided to reduce or avoid any impacts.
Fort Ord Reuse Authority (Seaside)	Fort Ord Reuse Plan	Conservation	New Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, Terminal Reservoir	***Biological Resources Policy C-3:*** Lighting of outdoor areas shall be minimized and carefully controlled to maintain habitat quality for wildlife in undeveloped natural lands. Street lighting shall be as unobtrusive as practicable and shall be consistent in intensity throughout development areas adjacent to undeveloped natural lands.	This policy is intended to protect wildlife and their habitats from nighttime lighting.	Potentially Inconsistent: Operation of the Terminal Reservoir includes the use of outdoor lighting in undeveloped natural lands, which could disrupt wildlife in these areas. This issue is further addressed in Impacts 4.6-1 and 4.6-6 and mitigation measures are provided to reduce or avoid any impacts.
Fort Ord Reuse Authority (Seaside)	Fort Ord Reuse Plan	Conservation	New Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Terminal Reservoir	***Biological Resources Policy D-1:*** The City shall require project applicants to implement a contractor education program that instructs construction workers on the sensitivity of biological resources in the vicinity and provides specifics for certain species that may be recovered and relocated from particular development areas.	This policy is intended to protect special-status species.	Potentially Inconsistent: Installation of the new Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Terminal Reservoir could occur within or adjacent to habitat for special-status species as detailed in **Table 4.6-6**. This issue is further addressed in Impact 4.6-1 and mitigation measures are provided to reduce or avoid any impacts.
Fort Ord Reuse Authority (Monterey County)	Fort Ord Reuse Plan	Conservation	Ryan Ranch–Bishop Interconnection Improvements	***Biological Resources Policy A-9:*** The County shall encourage the preservation of small pockets of habitat and populations of HMP species within and around developed areas. ***Program A-9.1:*** The County shall require project applicants who propose development in undeveloped natural lands to conduct reconnaissance-level surveys to verify the general description of resources for the parcel provided in the biological resource documents prepared for the U.S. Army Corps of Engineers. The information gathered through these reconnaissance-level surveys shall be submitted as a component of the project application package. ***Program A-9.3:*** Where development will replace existing habitat which supports sensitive biological resources, the County shall encourage attempts to salvage some of those resources by collecting seed or cuttings of plants, transplanting vegetation, or capturing and relocating sensitive wildlife species.	This policy is intended to protect sensitive natural communities and special-status species.	Potentially Inconsistent: Installation of the Ryan Ranch-Bishop Interconnection Improvements could affect sensitive natural communities and special-status species. This issue is further addressed in Impacts 4.6-1 and 4.6-2 and mitigation measures are provided to reduce or avoid any impacts.
Fort Ord Reuse Authority (Monterey County)	Fort Ord Reuse Plan	Conservation	Ryan Ranch–Bishop Interconnection Improvements	**Biological Resources Policy B-1:** The County shall strive to avoid or minimize loss of sensitive species listed in Table 4.4-2 that are known or expected to occur in areas planned for development. ***Program B-1.2:*** If any sensitive species listed in Table 4.4-2 are found in areas proposed for development, all reasonable efforts should be made to avoid habitat occupied by these species while still meeting project goals and objectives. If permanent avoidance is infeasible, a seasonal avoidance and/or salvage/ relocation program shall be prepared. The seasonal avoidance and/or salvage/ relocation program for these species should be coordinated through the CRMP.	This policy is intended to protect special-status species.	Potentially Inconsistent: Installation of the Ryan Ranch-Bishop Interconnection Improvements could affect special-status species. This issue is further addressed in Impact 4.6-1 and mitigation measures are provided to reduce or avoid any impacts.

TABLE 4.6-4 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TERRESTRIAL BIOLOGICAL RESOURCES

Project Planning Region	Applicable Plan	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
Fort Ord Reuse Authority (Monterey County)	Fort Ord Reuse Plan	Conservation	Ryan Ranch–Bishop Interconnection Improvements	**Biological Resources Policy C-1:** The County of Monterey shall encourage that grading for projects be designed to complement surrounding topography, minimize habitat disturbance.	This policy is intended to protect sensitive natural communities.	Potentially Inconsistent: Installation of the Ryan Ranch-Bishop Interconnection Improvements could affect sensitive natural communities. This issue is further addressed in Impact 4.6-2 and mitigation measures are provided to reduce or avoid any impacts.
Fort Ord Reuse Authority (Monterey County)	Fort Ord Reuse Plan	Conservation	Ryan Ranch–Bishop Interconnection Improvements	***Biological Resources Policy C-3:*** Lighting of outdoor areas shall be minimized and carefully controlled to maintain habitat quality for wildlife in undeveloped natural lands. Street lighting shall be as unobtrusive as practicable and shall be consistent in intensity throughout development areas adjacent to undeveloped natural lands.	This policy is intended to protect wildlife and their habitats from nighttime lighting.	Consistent: Installation and operations of the Ryan Ranch-Bishop Interconnections Improvements facility would not include night lighting.
Fort Ord Reuse Authority (Monterey County)	Fort Ord Reuse Plan	Conservation	Ryan Ranch–Bishop Interconnection Improvements	***Biological Resources Policy D-1:*** The County shall require project applicants to implement a contractor education program that instructs construction workers on the sensitivity of biological resources in the vicinity and provides specifics for certain species that may be recovered and relocated from particular development areas. 1. In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities. 2. Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines. 3. Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas. 4. Restoration purposes. 5. Nature study, aquaculture, or similar resource dependent activities.	This policy is intended to protect special-status species.	Potentially Inconsistent: Installation of the Ryan Ranch-Bishop Interconnection Improvements could affect special-status species. This issue is further addressed in Impact 4.6-1 and mitigation measures are provided to reduce or avoid any impacts.

SOURCES: California State Parks, 2004; City of Marina, 2000, 2013; City of Seaside, 2004; FORA, 1997; Monterey County 1982, 1985, 2010.

4.6.3 Evaluation Criteria

Implementation of the proposed project would have a significant impact related to terrestrial biological resources if it would:

- 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 CDFW, USFWS, or NMFS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in federal, state, local, or regional plans, policies, regulations, or by the CDFW, USFWS, or NMFS;
- Result in a substantial adverse effect on critical habitat;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Result in a substantial adverse effect on federal "other waters" as defined in the Code of Federal Regulations (40 CFR 122.2);
- Result in a substantial adverse effect on waters of the state, as defined by the California Water Code Section 13050 [e], through direct removal, filling, hydrological interruption, or other means;
- 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;
- Be inconsistent with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Introduce or spread an invasive non-native species; or
- Be inconsistent with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Based on the location and nature of the proposed project, the following criteria are not considered in the impact analyses in Sections 4.6.5.1 and 4.6.5.2 for the reasons described below.

> ***Interfere substantially with the movement of native fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*** As discussed in Section 4.6.1.7, Wildlife Movement Corridors, the majority of the site is located within or adjacent to developed areas, which do not serve as wildlife movement corridors. Although some wildlife move through these roadways and trails, they would likely travel in undisturbed areas located adjacent to these features and outside of the project area. Terrestrial wildlife habitat in the project area is fragmented by agricultural fields, residential developments, commercial/industrial developments, and roads. The majority of the construction disturbance involves temporary construction of pipelines in developed or disturbed areas, which would not substantially impede wildlife movement in undisturbed wildlife corridors. Although some wildlife may be deterred from movement through the construction site during construction, construction would largely

occur in areas that are subject to current development or disturbance. Additionally, project construction would be implemented in segments so only portions of the project site would be under construction at any one time. The proposed project does not include the permanent placement of structures within creeks, rivers, or other waterways and would not substantially impede the movement of native resident or migratory fish or wildlife corridors or impede the use of native wildlife nursery sites. Implementation of the proposed project would result in no impact relative to this criterion.

Impacts to special-status species are addressed in Impact 4.6-1 and 4.6-6 below.

No work would occur within the Carmel River so it was not included as part of this analysis. Implementation of the proposed project would comply with California State Water Resources Control Board (SWRCB) Order 95-10 as described in Section 1.3 in Chapter 1, Introduction and Background, and the proposed project would not increase the quantity of Carmel River water in CalAm's water supply portfolio for the Monterey District service area (Monterey District). As described in Section 3.2.4 in Chapter 3, Description of the Proposed Project, the proposed improvements to the Seaside Groundwater Basin ASR system would not affect CalAm's maximum allowable surface water diversions from the Carmel River for injection into the Seaside Groundwater Basin. Rather, project implementation would secure replacement water supplies for the Monterey District, enabling CalAm to reduce its current diversions from the Carmel River system to its legal right to 3,376 afy (equivalent to about 3 mgd). Therefore, implementation of the proposed project would have a beneficial effect on stream flows in the Carmel River and the river's aquatic and riparian biological resources.

4.6.4 Approach to Analysis

The following is a discussion of the approaches to, and definitions of, significance of impacts on terrestrial biological resources. General CEQA and NEPA guidance regarding significance of impacts is provided in Section 4.1.

In addition to the general guidance provided in Section 4.1, CEQA Guidelines Section 15065 includes specific references to biological resources and directs lead agencies to find that a project may have a significant effect on the environment if it has the potential to substantially degrade 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, or reduce the number or restrict the range of an endangered, rare, or threatened species. NEPA requires consideration of both context and intensity in assessing impacts, as outlined in detail in Section 4.1.

The potential impacts of the project on special-status species were assessed based on literature review, professional judgment, and the following considerations:

1. A determination of species occurrence. The determination of species occurrence was presented in Section 4.6.1, Setting, above. This determination evaluated each species: (a) potential occurrence within the project area (i.e., the area within which all construction-related disturbance would occur, includes facility footprints); (b) potential occurrence in the project vicinity (generally defined as the terrestrial and aquatic habitats of the areas adjacent to the project area); or (c) absence from the project area and project vicinity. This

determination was based on an analysis of life history and habitat requirements, as well as the suitability of habitat for the species found within and adjacent to the project area. If a species was determined unlikely to occur in the project area or project vicinity, or had a low potential to occur in the project area or project vicinity (for example, if no potential habitat exists for the species in the vicinity), then the species was given no further consideration. The impact analyses presented in Sections 4.6.5.1 and 4.6.5.2, below, consider only those species actually observed or with a moderate to high potential to occur in the project area and/or vicinity.

The results of this determination for each species for the project as a whole are provided in the "Potential for Species Occurrence" column of **Table F-1** located in **Appendix F** of this EIR/EIS. **Table 4.6-2**, above, provides the potential for each species considered to occur in habitat within, or adjacent to, each project facility.

2. A determination of impact. The determination of impact is presented under Section 4.6.5, Direct and Indirect Effects of the Proposed Project, within Section 4.6.5.1, Construction Impacts and Section 4.6.5.2, Operational and Facility Siting Impacts. If suitable habitat was determined to be present within the project area and the species has been documented in the project vicinity or has at least a moderate potential to occur, the analysis then considered whether project implementation would result in a substantial adverse effect on the species. Both direct effects (e.g., mortality attributable to construction activities, or displacement of habitat) and indirect effects (e.g., construction-related noise and dust emissions) were considered. In evaluating the likelihood and severity of an impact, the life history and habitat requirements of a species also were considered.

   For the purposes of this EIR/EIS, the definition of the word "substantial" as used in the significance criteria above has three principal factors:

   - Magnitude[17] or intensity and duration of the impact;
   - Rarity and context of the affected resource; and
   - Susceptibility of the affected resource to disturbance.

   The evaluation of significance must also consider the interrelationship of these three factors. For example, a relatively small-magnitude impact on a state- or federally listed species could be considered significant if the species is rare and highly susceptible to disturbance. Conversely, for a natural community such as California annual grassland, which is not necessarily considered rare or highly sensitive to disturbance, a much larger magnitude of impact might be required to result in a significant impact.

This project would require authorization from various regulatory agencies including the USACE, USFWS, NMFS, RWQCB, CDFW, and CCC. The mitigation measures prescribed below reflect the anticipated terms and conditions in the authorizations. Based on the professional judgment and experience of the biologists that conducted this analysis, the mitigation measures in this section (and their constituent requirements and performance standards) would minimize and avoid impacts to a less-than-significant level.

[17] Magnitude may include the aerial extent of impact, number of species affected, length of time, or intensity of impact.

4.6.5 Direct and Indirect Effects of the Proposed Project

TABLE 4.6-5
SUMMARY OF IMPACTS – TERRESTRIAL BIOLOGICAL RESOURCES

Impacts	Significance Determinations
Impact 4.6-1: Result in substantial adverse effects on species identified as candidate, sensitive, or special-status, either directly or through habitat modification, during construction.	LSM
Impact 4.6-2: Result in substantial adverse effects on riparian habitat, critical habitat, or other sensitive natural communities during construction.	LSM
Impact 4.6-3: Result in substantial adverse effects on federal wetlands, federal other waters, and/or waters of the state during construction.	LSM
Impact 4.6-4: Be inconsistent with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	SU
Impact 4.6-5: Introduce or spread an invasive non-native species during construction.	LSM
Impact 4.6-6: Result in substantial adverse effects on candidate, sensitive, or special-status species during project operations.	LSM
Impact 4.6-7: Result in substantial adverse effects on riparian habitat, critical habitat, or other sensitive natural communities during project operations.	LSM
Impact 4.6-8: Result in substantial adverse effects on federal wetlands, federal other waters, and waters of the state during project operations.	LSM
Impact 4.6-9: Introduce or spread an invasive non-native species during project operations.	LSM
Impact 4.6-10: Be inconsistent with the provisions of an adopted Habitat Conservation Plan, natural community conservation plan or other approved local, regional, or state habitat conservation plan.	LSM
Impact 4.6-C: Cumulative impacts related to terrestrial biological resources.	SU

NOTES:
LS = Less than Significant impact, no mitigation required
LSM = Less than Significant impact with Mitigation
SU = Significant and Unavoidable impact for which no mitigation is available

The following impact analysis evaluates impacts of the proposed project as required by CEQA and NEPA. A Biological Assessment, which would evaluate the project's impacts on federally listed species, would be prepared in support of FESA Section 7 consultation between the ONMS and USFWS.

4.6.5.1 Construction Impacts

Impact 4.6-1: Result in substantial adverse effects on species identified as candidate, sensitive, or special-status, either directly or through habitat modification, during construction. (Less than Significant with Mitigation)

This impact addresses impacts on special-status species. As defined above in Section 4.6.1.8, Special-Status Species, special-status species includes listed as well as candidate and sensitive species, and Fully Protected Species.

Special-status plants and animals that could occur at the various proposed facility sites and pipeline alignments are summarized in **Table 4.6-2**, and those species with a moderate to high potential to occur at the project sites and that could be significantly impacted during construction are presented in **Table 4.6-6**. Construction activities could result in both direct and indirect adverse effects on special-status plants and animals. In general, construction in developed areas that have been surfaced, drained, and maintained free of vegetation would have a low potential to result in substantial adverse effects on special-status species. However, if construction were to extend into areas of undeveloped natural vegetation, substantial adverse effects could occur. Construction within or adjacent to natural, high-quality habitat would have a greater potential to result in significant impacts on special-status plants and animals and/or their habitat compared to facilities adjacent to developed or highly disturbed areas.

Impact acreages are provided below for each facility when appropriate and are provided as an approximation based on the current proposed project footprint. Since many of the facilities overlap, the impact acreages provided below may overlap with the impact acreages for other facilities and optional alignments. The final impact acreages for the entire project would be based on whether the proposed project uses the proposed alignments or optional alignments.

Overview of Potential Construction Effects on Plants

Site clearance, grading, excavation, and other earthmoving activities can cause direct mortality of individual special-status plants through soil disturbance and loss of habitat. Earthmoving activities can also eliminate soil seedbanks, potentially reducing the size of local rare plant populations and adversely affecting the viability of the population by reducing reproduction below sustainable levels. Permanent indirect impacts on special-status plant species may arise from population fragmentation and introduction of non-native weeds. Population fragmentation can affect pollinator activity and, hence, reproduction and gene flow. Introduction and establishment of invasive weeds within or adjacent to special-status plant populations can reduce species growth and recruitment. In addition, indirect impacts on special-status plant species located in offsite areas can arise from fugitive dust and increased soil erosion at construction work areas and the migration of sediment into adjacent habitat, or accidental offsite habitat use by construction workers. Fugitive dust and sediment can interfere with metabolic processes such as photosynthesis and respiration.

Overview of Potential Construction Effects on Wildlife

Special-status wildlife can be trampled by construction vehicles and heavy construction equipment or get trapped in trenches or other open excavations. Vegetation and tree removal can result in direct impacts on nesting birds through loss of nests and eggs or nestling mortality, and can reduce or fragment foraging and dispersal habitat. Even at sites that have little or no wildlife habitat, impacts can occur if wildlife from adjacent habitat areas enter or pass through the construction work area. Construction can result in the temporary or permanent loss of habitat for wildlife species. Construction activities can also result in indirect impacts on special-status wildlife related to disturbance or harassment of individuals. For example, construction noise, vibration, and nighttime lighting can cause special-status birds, bats, and other animals to abandon nests, roosts, or other breeding areas. Artificial lighting during nighttime construction

can also increase predation and disrupt reproductive behaviors. Introduced invasive non-native plant species can degrade habitat. Eroded sediment and hazardous construction chemicals from the construction work area can be transported offsite via site runoff and adversely affect receiving downstream water bodies and degrade habitat for both terrestrial and aquatic animals.

Subsurface Slant Wells

The subsurface slant wells include ten subsurface slant wells (the converted test slant well and nine new permanent wells). Site 1 is located along the CEMEX access road, but is situated at the approximate mid-point of the vegetated sand dunes. The remaining nine wells (Sites 2 through 6) would be installed on the eastern side of the vegetated sand dunes and constructed on concrete pads. The components of the proposed subsurface slant wells that would be below the mean high water line would be within the Monterey Bay National Marine Sanctuary (MBNMS). Impacts to marine biological resources from the slant well components that would be located within the MBNMS are described in Section 4.5, Marine Biological Resources. The facility components that are evaluated in this section would be located above the mean high water line and outside of the MBNMS.

Construction of the nine new permanent slant wells and conversion of the test slant well into a permanent well would disturb approximately 9 acres in the CEMEX active mining area. A portion of this construction footprint overlaps with a portion of the construction footprints for the Source Water Pipeline and Source Water Pipeline using the optional alignment. The 9 acres includes staging, materials storage, and stockpiling areas. Existing ground cover at the subsurface slant well site includes relatively undisturbed central dune scrub, formerly disturbed sand dunes that are revegetating with native and non-native dune scrub vegetation, and unvegetated disturbed sandy soil. The areas of relatively intact scrub occur along the western active mining area boundary (just east of the active beach area) and at the west end of the access road in the vicinity of the CEMEX settling ponds. The current and recently disturbed areas occur east of the vegetated sand dunes and south of the CEMEX access road. Slant well construction would take approximately 15 months to complete, and could take place any time throughout the overall 24-month construction duration for the proposed project.

Monterey spineflower, sand-loving wallflower, and ocean bluff milk vetch have been observed at the site (ESA, 2013; 2014; AECOM, 2016). Construction of the subsurface slant wells and associated aboveground facilities in the CEMEX active mining area has the potential to disturb documented populations of Monterey spineflower, sand-loving wallflower, and ocean bluff milkvetch. A variety of other special-status plant species, as listed in **Table 4.6-6**, are either known to occur or have a potential to occur in central dune scrub at the site, including robust spineflower, seaside bird's-beak, Menzies' wallflower, sand gilia, Hooker's manzanita, sandmat manzanita, Monterey Coast paintbrush, Monterey ceanothus, branching beach aster, south coast branching phacelia, Eastwood's goldenbush, Kellogg's horkelia, northern curly-leaved Monardella, and Michael's rein orchid. If these species are present within or adjacent to the construction work area for the subsurface slant wells, electrical control panel, and/or electrical control building, they could be directly or indirectly impacted by construction activities during the 15-month construction period as described above under the heading *Overview of Potential Construction Effects on Plants*. This would be a significant impact.

TABLE 4.6-6
SPECIAL-STATUS SPECIES AND SENSITIVE NATURAL COMMUNITIES THAT COULD BE SIGNIFICANTLY IMPACTED DURING CONSTRUCTION OF THE PROPOSED FACILITIES

			Pipelines North of Reservation Road				Facilities and Improvements South of Reservation Road						
Species or Resource	Subsurface Slant Wells	MPWSP Desalination Plant	Source Water Pipeline	New Desalinated Water Pipeline	Castroville Pipeline	Brine Discharge Pipeline and Pipeline to CSIP Pond	ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Recirculation Pipeline, ASR Pump-to-Waste Pipeline	New Transmission Main	Terminal Reservoir	Carmel Valley Pump Station	Ryan Ranch-Bishop Interconnection Improvements	Main System-Hidden Hills Interconnection Improvements	Staging Areas
Federal or State Listed Species													
Plants													
Monterey spineflower	X	X	X	X	X		X	X	X				X
robust spineflower	X		X	X	X		X	X	X				X
Seaside bird's-beak	X		X	X	X		X	X	X				X
Menzies' wallflower	X		X	X	X			X					X
sand gilia	X		X	X	X		X	X	X				X
Yadon's rein orchid							X		X			X	X
Pacific Grove clover											X	X	
Invertebrates													
Smith's blue butterfly	X		X	X	X			X					X
Fish													
South/central California coast steelhead					X								
Amphibians													
California tiger salamander		X	X	X	X	X			X		X	X	X
California red-legged frog		X	X	X	X	X			X	X	X	X	X
Birds													
Western snowy plover	X		X										
Other Special-Status Species													
Plants													
Hickman's onion											X	X	
Hooker's manzanita	X		X	X			X	X	X			X	X
Toro manzanita							X	X	X		X	X	
Pajaro manzanita							X	X	X		X	X	
sandmat manzanita	X		X	X			X	X	X			X	X
ocean bluff milkvetch	X		X				X		X				
Monterey Coast paintbrush	X		X	X	X		X	X	X				X
Monterey ceanothus	X		X	X			X	X	X				X
Congdon's tarplant		X			X						X	X	
branching beach aster	X		X	X	X			X					X
Eastwood's goldenbush	X		X	X	X		X	X	X			X	X
sand-loving wallflower	X		X	X	X		X	X	X				X
Kellogg's horkelia	X		X	X	X		X	X	X				X
Carmel Valley bush-mallow							X		X		X	X	
marsh microseris											X	X	

TABLE 4.6-6 (Continued)
SPECIAL-STATUS SPECIES AND SENSITIVE NATURAL COMMUNITIES THAT COULD BE SIGNIFICANTLY IMPACTED DURING CONSTRUCTION OF THE PROPOSED FACILITIES

			Pipelines North of Reservation Road				Facilities and Improvements South of Reservation Road						
Species or Resource	**Subsurface Slant Wells**	**MPWSP Desalination Plant**	**Source Water Pipeline**	**New Desalinated Water Pipeline**	**Castroville Pipeline**	**Brine Discharge Pipeline and Pipeline to CSIP Pond**	**ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Recirculation Pipeline, ASR Pump-to-Waste Pipeline**	**New Transmission Main**	**Terminal Reservoir**	**Carmel Valley Pump Station**	**Ryan Ranch-Bishop Interconnection Improvements**	**Main System-Hidden Hills Interconnection Improvements**	**Staging Areas**
Other Special-Status Species (cont.)													
Plants (cont.)													
northern curly-leaved monardella	X		X	X	X		X	X	X				X
south coast branching phacelia	X		X	X	X		X	X	X				X
Monterey pine									X	X	X	X	
Michael's rein orchid	X		X	X	X		X	X	X		X	X	X
Santa Cruz microseris											X	X	
Santa Cruz clover											X	X	
Reptiles													
Western pond turtle				X	X								
black legless lizard	X		X	X	X		X	X	X				X
silvery legless lizard	X		X	X	X		X	X	X				X
coast horned lizard	X		X	X			X	X	X				X
Coast Range newt		X	X	X	X	X	X	X	X	X	X	X	X
Birds													
tricolored blackbird				X				X					
short-eared owl		X	X	X	X			X					X
western burrowing owl			X	X				X	X				X
red-tailed hawk		X	X	X	X	X	X	X	X	X	X	X	X
red-shouldered hawk		X	X	X		X	X	X	X	X	X	X	X
Ferruginous hawk		X	X	X	X			X					
Northern harrier		X	X	X	X		X	X	X				X
White-tailed kite		X	X	X	X	X	X	X	X	X	X	X	X
California horned lark		X	X	X	X			X			X		X
American peregrine falcon		X	X	X	X	X	X	X	X	X	X	X	
American kestrel		X	X	X	X	X	X	X	X	X	X	X	X
loggerhead shrike		X	X	X	X	X	X	X	X	X	X	X	X
Mammals													
pallid bat		X	X	X	X	X	X	X	X	X	X	X	X
western red bat		X	X	X	X	X	X	X	X	X	X	X	X
Monterey dusky-footed woodrat							X	X	X	X	X	X	X
Monterey shrew							X	X	X	X	X	X	X
American badger		X	X	X	X		X	X	X		X	X	X

TABLE 4.6-6 (Continued)
SPECIAL-STATUS SPECIES AND SENSITIVE NATURAL COMMUNITIES THAT COULD BE SIGNIFICANTLY IMPACTED DURING CONSTRUCTION OF THE PROPOSED FACILITIES

			Pipelines North of Reservation Road				Facilities and Improvements South of Reservation Road						
Species or Resource	**Subsurface Slant Wells**	**MPWSP Desalination Plant**	**Source Water Pipeline**	**New Desalinated Water Pipeline**	**Castroville Pipeline**	**Brine Discharge Pipeline and Pipeline to CSIP Pond**	**ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Recirculation Pipeline, ASR Pump-to-Waste Pipeline**	**New Transmission Main**	**Terminal Reservoir**	**Carmel Valley Pump Station**	**Ryan Ranch-Bishop Interconnection Improvements**	**Main System-Hidden Hills Interconnection Improvements**	**Staging Areas**
Natural Communities													
central dune scrub	X		X	X	X			X					X
central maritime chaparral							X		X				
northern coastal scrub		X			X		X	X			X		X
riparian woodland and scrub				X	X								
freshwater marsh					X								
coast live oak woodland				X			X	X	X		X	X	X
Critical Habitat													
Monterey spineflower									X				
western snowy plover	X		X										
south/central California coast steelhead					X								
California red-legged frog										X		X	
Tidewater goby					X								
Potential Wetlands and Waters													
Potentially USACE, RWQCB, and/or CDFW jurisdictional					X	X			X	X	X	X	
Potentially USACE, RWQCB, CDFW, and/or CCC jurisdictional	X		X	X				X					X
Local Tree Policies or Ordinances													
		X	X	X	X	X	X	X	X	X	X	X	

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Coast buckwheat, host plant for Smith's blue butterfly, occurs within the proposed subsurface slant wells site (ESA, 2013; 2014). Smith's blue butterfly was observed in central dune scrub in the vicinity of the proposed subsurface slant wells during 2016 surveys of the CEMEX active mining area (ESA, 2016). Removal or impacts on these plants and associated soil during construction could impact individual adult butterflies, their eggs, or larvae, if present. Impacts to any life form of the Smith's blue butterfly would result in a significant impact. Construction of the subsurface slant wells has potential to temporarily impact approximately 1.6 acre of Smith's blue butterfly habitat, which would be a significant impact. The impact is considered temporary because coast buckwheat is relatively easy to cultivate and reestablish in dune scrub habitat, and would be returned to pre-construction conditions. However, some potential for permanent loss of the host plant remains, which would be a significant impact.

As described in Section 4.6.1.8, above, western snowy plover are known to nest and breed within the beach and foredunes located west of, and within the western portion of, the CEMEX active mining area. The beach and foredunes provide important breeding/nesting and wintering habitat for the western snowy plover. Surveys conducted during the 2015 nesting season identified multiple nests along the stretch of beach in the vicinity of the CEMEX active mining area (Page et al., 2015). Some nests have been found in the vicinity of the CEMEX settling ponds and adjacent to the CEMEX access road (Zander, 2013) and at the location of the northernmost well site. Nesting has also been documented in the backdunes of the CEMEX active mining area where the subsurface slant wells are proposed (Neuman, 2015). Typical wintering habitat in California includes sand spits and dune-backed beaches (USFWS, 2007) and most flocks of wintering plovers would likely occur along the beach, away from the back dunes. However, individual western snowy plovers may also use the entire subsurface slant well construction area for wintering.

Construction of the slant wells in the CEMEX active mining area could occur year-round. The nine-acre construction footprint for the subsurface slant wells is located within potential nesting habitat and construction of the nine subsurface slant wells and conversion of the test well to a permanent production well during the breeding season would result in the temporary loss of 8.0 acres (for temporary construction disturbance to areas that would be restored) and permanent loss of 1.0 acre (for new permanent above-ground facilities) of potential wintering habitat. A portion of this impact area may overlap with the Source Water Pipeline. Construction noise and vibration, earthmoving activities, vegetation clearance, and night lighting associated with installation of the nine subsurface slant wells during the snowy plover nesting season (typically defined as March 1 through September 30) could also impact plovers by causing temporary flight of breeding birds, nest abandonment, or nest failure. The impact to plover habitat and behavior from construction of the nine subsurface slant wells and conversion of the test well to a permanent well would be significant.

With respect to wintering birds, construction activities would be temporary and largely occur within the backdunes, away from the beach and foredunes where flocks of plovers are typically found in this season. However construction activities would be implemented in or around areas where plovers may occur during the winter. Construction activities associated with the conversion of the test slant well to a permanent well has the greatest likelihood of disturbing flocks of

wintering plovers as it is closest to the beach where wintering flocks typically occur. Although not typical habitat, plovers may winter in the backdunes and construction of the nine subsurface slant wells in this area may impact plovers. Construction during the snowy plover wintering season (October 1 through February 28) could directly or indirectly impact individual birds if present within or adjacent to the construction area. Human presence and construction noise and activities can cause roosting plovers to fly and disturb resting or foraging activities. This would be a significant impact.

Construction activities may also displace wintering birds that may utilize the beach in the vicinity of the slant well or in the backdunes. Wintering habitat is not dependent on specific and stationary locations, such as nest sites during breeding season, so there is a much greater availability of suitable habitat. Abundant wintering habitat is present within the extensive dune system along the Monterey Bay shoreline north and south of the subsurface slant wells site. The beach north and south of the site is subject to relatively little disturbance from humans or dogs, and birds can readily use these areas during construction. Although birds may be initially disturbed and temporarily displaced during construction, the majority of the site (8 acres) would be returned to pre-construction conditions and birds would be able to utilize the site following construction. Temporary and permanent impacts to plover habitat were described in the previous paragraph.

Construction and operation of the test slant well has been conducted at the same location of Site 1 of the proposed subsurface slant well and its impact analysis serves as a reference for the type of impact that may result from construction of the proposed subsurface slant wells. The USFWS issued a letter of concurrence for the test slant well as part of the test slant well's FESA Section 7 consultation (USFWS, 2014). With regard to western snowy plover, the letter concurred that although the test slant well project would disturb a small amount of habitat, the test slant well project was not likely to adversely affect western snowy plover with implementation of avoidance measures such as restoring the site, seasonal avoidance, and other avoidance measures. Construction and operation of the test slant well has been monitored and no direct take of western snowy plover has been observed (Jacob Martin, USFWS pers. comm., 2016). The scope of work for the test slant well is smaller than the scope of work for the proposed subsurface slant well. However, the analysis and findings from the test slant well support the conclusion that impacts to plovers can be reduced through implementation of avoidance and minimization measures.

Black legless lizard, silvery legless lizards, and coast horned lizard have potential to occur within the subsurface slant well site, and if present during construction, they could be directly or indirectly impacted by construction activities during the 15-month construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife*. This would be a significant impact.

Other special-status birds protected by the federal MBTA and Section 3503 of the California Fish and Game Code, such as killdeer, may nest within or adjacent to the construction work areas for the slant wells and associated facilities. If nesting birds are present, construction activities could directly or indirectly impact these species during the 15-month construction period as described

above under the heading *Overview of Potential Construction Effects on Wildlife*. This would be a significant impact.

Impacts of subsurface slant well construction on central dune scrub habitat for black legless lizard, silvery legless lizard, coast horned lizard, and the special-status plant species listed above are addressed below under Impact 4.6-2.

A full list of special-status species that could be significantly impacted by subsurface slant well construction is provided in Table 4.6-6. Overall, the impact on special-status species during slant well construction would be significant. However, with implementation of **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1d (Protective Measures for Western Snowy Plover)**, **4.6-1e (Avoidance and Minimization Measures for Special-status Plants)**, **4.6-1f (Avoidance and Minimization Measures for Smith's Blue Butterfly)**, **4.6-1g (Avoidance and Minimization Measures for Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard)**, **4.6-1i (Avoidance and Minimization Measures for Nesting Birds)**, **4.6-1n (Habitat Mitigation and Monitoring Plan)**, **4.6-1p (Control Measures for Spread of Invasive Plants), 4.12-1b (General Noise Controls for Construction Equipment)**, and **4.14-2 (Site-Specific Nighttime Lighting Measures)**, the impacts would be reduced to a less-than-significant level. These measures would reduce impacts on special-status species by designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring worker training regarding special-status species potentially present to ensure that workers are aware of special-status species that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as installation of an exclusion fencing to ensure special-status species do not occur within the construction area, a trash abatement program to ensure special-status species predators are not attracted to the site, and other measures to avoid and minimize impacts on special-status species; requiring specific measures to avoid, minimize, and compensate for impacts on the western snowy plover such as avoiding the breeding season, installing a visual construction barrier for work conducted adjacent to breeding habitat during the breeding season to reduce human disturbance to plovers, conducting pre-construction surveys to determine if plovers are present and implementing minimization measures to minimize construction impacts on plovers, if present, and compensating for habitat loss to mitigate for temporary and permanent loss of habitat; requiring specific measures to avoid and minimize impacts on special-status plants such as avoiding individual plants to the extent feasible and compensating for temporary or permanent loss of special-status plants at a level acceptable to the applicable resource agencies; requiring specific measures to avoid and minimize impacts on Smith's blue butterfly such as avoiding host plants to the extent feasible to avoid impacts to individuals and providing compensatory mitigation for permanent impacts; requiring specific measures to avoid and minimize impacts on black legless lizard, silvery legless lizard, and coast horned lizard such as relocating individuals to areas outside of the construction area to avoid injury or mortality from construction; requiring specific measures to avoid and minimize impacts on nesting birds such as limiting construction to the non-nesting season when feasible to avoid impacts to active nests; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted

sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring implementation of measures to reduce the introduction or spread of invasive species that may degrade habitat for special-status species; requiring implementation of noise controls for construction equipment to reduce noise impacts on special-status wildlife species; and requiring measures to minimize light spillover outside of the construction area to minimize construction lighting impacts on special-status wildlife species.

MPWSP Desalination Plant

The proposed MPWSP Desalination Plant described in Chapter 3, Description of the Proposed Project, Section 3.2.2 would be constructed on the upper terrace (approximately 25 acres) of a 46-acre vacant parcel on Charles Benson Road. This facility would be located outside of the MBNMS. Nighttime construction is anticipated at the MPWSP Desalination Plant site throughout the 24-month construction period. Construction activities would disturb approximately 25 acres and the MPWSP Desalination Plant would create approximately 15 acres of impervious surface within this 25-acre construction area. The 25 acres that would be disturbed during construction is mostly non-native grassland with a small patch of yellow bush lupine scrub. Google Earth aerial photography (Google Earth, 2016) indicates the site was disked and/or mowed regularly prior to 2013, but appears to have recently been left undisturbed. Adjacent land uses include the MRWPCA Regional Wastewater Treatment Plant, crop production, and grazing.

Table 4.6-6 identifies the special-status species that could be significantly impacted by construction at the site. As described in Section 4.6.1.10, Monterey spineflower has been observed at the MPWSP Desalination Plant site and the site could support Congdon's tarplant, a CRPR 1B.1 plant that can occur in disturbed habitats. If Monterey spineflower or Congdon's tarplant are present within the project construction work area, earthwork activities conducted during the 24-month construction period could significantly directly or indirectly impact Monterey spineflower and Congdon's tarplant as described above under the heading *Overview of Potential Construction Effects on Plants*. Additionally, California red-legged frog or California tiger salamander could disperse through the site. If individual California red-legged frogs or California tiger salamanders are present, construction of the MPWSP Desalination Plant could directly or indirectly impact these individuals during the 24-month construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife*, a significant impact. The site does not provide high quality upland refugial habitat for these species. However, there is potential for California red-legged frog and California tiger salamander to breed in a drainage ditch or retention pond located approximately 250 feet from the site. If California red-legged frog and California tiger salamander occur in those aquatic features, then non-native grassland at the MPWSP Desalination Plant could be considered upland habitat for these species. Construction of the MPWSP Desalination Plant would result in the temporary loss of 10 acres and permanent loss of 15 acres of potential California red-legged frog and California tiger salamander upland habitat. The impact on California red-legged frog and California tiger salamander habitat would be a significant impact.

Coast Range newt and American badger could occur in grassland areas and be impacted by construction, a significant impact.

Mature ornamental eucalyptus and Monterey cypress trees planted along Charles Benson Road adjacent to the site may provide nesting and roosting habitat for raptors such as red-tailed hawk, red-shouldered hawk, and American kestrel and special-status bat species. The entire site provides potentially suitable nesting habitat for common passerines protected under the MBTA. Currently the site also provides potential foraging habitat for raptors and other birds. **Table 4.6-2** provides a complete list of special-status species with the potential to occur at the MPWSP Desalination Plant site. Nighttime construction lighting and both daytime and nighttime construction noise have the potential to disturb raptors and special-status passerines actively nesting in the trees along Charles Benson Road during the 24-month construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife*, a significant impact. If nesting birds or roosting special-status bats are present within these trees, they could be harmed if the trees are removed, also a significant impact.

Steelhead are known to occur in the Salinas River (NMFS, 2007), which is located approximately 850 feet north of the MPWSP Desalination Plant site. A drainage ditch that flows into the Salinas River is located approximately 250 feet north and downslope of the MPWSP Desalination Plant site. Construction of the MPWSP Desalination Plant would not directly impact steelhead. However, soil-disturbing activities at the site could result in soil erosion and the migration of eroded soil and sediment downgradient towards the Salinas River. As discussed under Impact 4.3-1 in Section 4.3, Surface Water Hydrology and Water Quality, project construction activities that would disturb more than one acre would be subject to the National Pollutant Discharge Elimination System (NPDES) Construction General Permit requirements. Per the requirements, a Stormwater Pollution Prevention Plan (SWPPP) would be prepared by a Qualified SWPPP Developer and a Qualified SWPPP Practitioner would oversee its implementation. The SWPPP, which would include site-specific erosion and stormwater control measures (such as installing sediment barriers like silt fencing and fiber rolls and maintaining equipment and vehicles used for construction) to be implemented during construction of the MPWSP Desalination Plant, would reduce or eliminate the offsite migration of pollutants and sediment. Mandatory compliance with the NPDES Construction General Permit would avoid substantial adverse effects on the water quality of steelhead habitat along the Salinas River. Thus, the impact on steelhead within the Salinas River would be less than significant and no mitigation is necessary.

The construction-related effects on special-status species described above (Monterey spineflower, Congdon's tarplant, California red-legged frog, California tiger salamander, Coast Range newt, American badger, and special-status bats and nesting birds) would result in a significant impact. Implementation of following mitigation measures would ensure that impacts on sensitive species at this site are reduced to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1e (Avoidance and Minimization Measures for Special-status Plants), 4.6-1i (Avoidance and Minimization Measures for Nesting Birds)**, **4.6-1j (Avoidance and Minimization Measures for American Badger), 4.6-1l (Avoidance and Minimization Measures for Special-status Bats)**, **4.6-1n (Habitat Mitigation and Monitoring Plan)**, **4.6-1o (Avoidance and Minimization Measures for California Red-legged Frog and California Tiger Salamander)**, **4.6-1p (Control Measures for Spread of Invasive Plants)** and **4.14-2 (Site-**

Specific Nighttime Lighting Measures). These measures would reduce impacts on special-status species by designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring worker training regarding special-status species potentially present to ensure that workers are aware of special-status species that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as installation of exclusion fencing to ensure special-status species are prevented from entering the construction area or can safely leave it, a trash abatement program to ensure special-status species predators are not attracted to the site, and other measures to avoid and minimize impacts on special-status species; requiring specific measures to avoid and minimize impacts on special-status plants such as avoiding individual plants to the extent feasible and compensating for temporary or permanent loss of special-status plants at a level acceptable to the applicable resource agencies; requiring specific measures to avoid and minimize impacts on nesting birds such as limiting construction to the non-nesting season when feasible to avoid impacts to active nests; requiring specific measures to avoid and minimize impacts on American badger such as conducting pre-construction surveys to identify whether any badger dens are present and avoiding and/or passively relocating badgers from dens as necessary to avoid and minimize impacts to badgers within active dens; requiring measures to avoid and minimize impacts on special-status bats such as limiting removal of trees or structures with potential bat roosting habitat to the time of year when bats are active to avoid disturbing bats during the maternity roosting season or months of winter torpor; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring measures to avoid and minimize impacts on California red-legged frog and California tiger salamander such as pre-construction surveys to determine if these species are present and implementing minimization measures to minimize construction impacts on these species, if present, and compensating for permanent impacts; requiring implementation of measures to reduce the introduction or spread of invasive species that may degrade habitat for special-status species; and requiring measures to minimize light spillover outside of the construction area to minimize construction lighting impacts on special-status wildlife species.

Pipelines and Other Conveyance Facilities North of Reservation Road

Most pipeline segments would be installed using conventional open-trench technology; however, trenchless methods would be used when open-cut trenching is not feasible or desirable. The construction sequence would typically include clearing and grading the ground surface along the pipeline alignments; excavating the trench; preparing and installing pipeline sections; installing vaults, manhole risers, manifolds, and other pipeline components; backfilling the trench with non-expansive fills; restoring preconstruction contours; and revegetating or paving the pipeline alignments, as appropriate.

Source Water Pipeline

The Source Water Pipeline is described in Section 3.2.1.2 of Chapter 3, Description of the Proposed Project. This facility would be located outside of the MBNMS. Installation of the Source Water Pipeline is anticipated to take 6 months. Although not planned, nighttime installation of the Source Water Pipeline could be required to expedite the construction schedule. The construction footprint

is approximately 16.4 acres. A portion of this footprint overlaps with a portion of the construction footprints for the subsurface slant well, Castroville Pipeline, Castroville Pipeline using the optional alignment 1, Castroville Pipeline using the optional alignment 2, the new Desalinated Water Pipeline, and the new Desalinated Water Pipeline using the optional alignment.

Central dune scrub, coyote brush scrub, ice plant mats, and agricultural and ruderal areas exist along the proposed Source Water Pipeline alignment along the CEMEX access road and Lapis Road. From Lapis Road, the Source Water Pipeline alignment extends through non-native grassland and agricultural fields to the MPWSP Desalination Plant site. Monterey cypress and eucalyptus trees, which border Charles Benson Road, occur south of the pipeline alignment.

Monterey spineflower occurs in high densities along the CEMEX access road and in the surrounding sand dunes in the CEMEX active mining area (Zander Associates, 2013; 2014). Branching beach aster has been observed along Lapis Road and the CEMEX access road (URS, 2016). As indicated in **Table 4.6-2**, a number of other special-status plants may also occur in central dune scrub along this pipeline alignment. Construction of the Source Water Pipeline has potential to disturb Monterey spineflower, branching beach aster, and ocean bluff milkvetch. If other special-status plants, such as Menzies' wallflower, sand gilia, or other special-status plants listed in **Table 4.6-6**, are present within or adjacent to the project area, they could be directly or indirectly impacted by construction during the 6-month construction period as described above under the heading *Overview of Potential Construction Effects on Plants*, a significant impact.

Coast buckwheat (host plant for Smith's blue butterfly) occurs in high densities along the CEMEX access road and in the surrounding sand dunes in the CEMEX active mining area (Zander Associates, 2014), although few individuals were observed within the Source Water Pipeline alignment. If any life form of the butterfly is present on or around these host plants, removal of the plant would be a significant impact on Smith's blue butterfly. Additionally, installation of the Source Water Pipeline has potential to impact approximately 0.2 acre of Smith's blue butterfly habitat, a significant impact. This impact area overlaps with a portion of the new Desalinated Water Pipeline Smith's blue butterfly habitat impact area described below.

Western snowy plover are known to use the western portion of the Source Water Pipeline alignment year-round. This portion of the Source Water Pipeline alignment overlaps a portion of the subsurface slant well installation area, so the type of impact would be similar to impacts described above for the subsurface slant wells. Construction noise or activity associated with installation of the Source Water Pipeline during the western snowy plover breeding season could impact plovers by causing temporary flight of breeding birds and nest abandonment or failure, which would be significant. Construction work within the western end of the proposed Source Water Pipeline would result in the temporary (since the construction area would be returned to pre-construction conditions and birds may breed in the area following construction) loss of approximately 0.2 acre of potential nesting habitat (some of this area may overlap with the impact area for the subsurface slant wells as described above), a significant impact. The remainder of the Source Water Pipeline would be constructed away from the beach and foredunes where plovers typically nest and would not result in the temporary loss of plover breeding habitat. Construction noise or activity during the wintering season could directly or indirectly impact individual birds, a

significant impact. Construction activities may temporarily displace birds that typically winter along the beach near the western portion of the Source Water Pipeline. However, there is abundant, relatively undisturbed habitat, located on the beach and in the dunes north and south of the project that area that is available for wintering use during construction. Although birds may be initially disturbed and temporarily displaced during construction, the site would be returned to pre-construction conditions and birds would be able to utilize the site following construction. However, the net impact on the western snowy plover is anticipated to be significant.

A potential California tiger salamander breeding pond is located within 1.2 miles of the Source Water Pipeline alignment, and non-native grassland within 1.2 miles of a potential breeding pond provides potential California tiger salamander upland habitat. The Salinas River is located within one mile of the Source Water Pipeline and non-native grassland within one mile of the Salinas River provide potential California red-legged frog upland habitat. Construction of the Source Water Pipeline has potential to temporarily impact (the site would be restored following construction) approximately one acre of California tiger salamander and California red-legged frog upland habitat, a significant impact. If individual California red-legged frogs or California tiger salamanders are present, construction of the Source Water Pipeline could result in take of these individuals during the 6-month construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife*, a significant impact. This impact area overlaps with the new Desalinated Water Pipeline and Castroville Pipeline.

Additionally, as described in Section 4.6.1.8, above, and as presented in **Table 4.6-6**, numerous other special-status wildlife species, including western burrowing owl and American badger, may inhabit non-native grassland, and black legless lizard, silver legless lizard, coast horned lizard may inhabit central dune scrub along this pipeline alignment. Coast Range newt may occur in non-native grassland. Special-status bats may roost within crevices underneath the Highway 1 overpass at the CEMEX access road and in trees within the alignment. Raptors such as red-tailed hawk, white-tailed kite, and loggerhead shrike, among others, could nest in trees and/or forage along both of these pipeline alignments. If black legless lizard, silvery legless lizard, coast horned lizard, Coast Range newt, burrowing owl, or American badger are present in suitable habitat in or around the pipeline alignment, special-status bats are roosting in or around the pipeline alignment, or special-status nesting birds are present in or around the pipeline alignment they could be directly or indirectly impacted by construction activities during the 6-month construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife*.

Impacts of Source Water Pipeline construction on central dune scrub, which is habitat for the special-status plant species listed above, black legless lizard, silvery legless lizards, and coast horned lizard, are addressed in Impact 4.6-2. Impacts on special-status species during construction of the Source Water Pipeline as described above and as listed in **Table 4.6-6** would be significant. However, implementation of the following mitigation measures would ensure that impacts on special-status species at this site are reduced to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1d (Protective Measures for Western Snowy Plover)**, **4.6-1e (Avoidance and Minimization**

Measures for Special-status Plants), **4.6-1f (Avoidance and Minimization Measures for Smith's Blue Butterfly), 4.6-1g (Avoidance and Minimization Measures for Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard)**, **4.6-1h (Avoidance and Minimization Measures for Western Burrowing Owl)**, **4.6-1i (Avoidance and Minimization Measures for Nesting Birds)**, **4.6-1j (Avoidance and Minimization Measures for American Badger)**, **4.6-1l (Avoidance and Minimization Measures for Special-status Bats)**, **4.6-1n (Habitat Mitigation and Monitoring Plan)**, **4.6-1o (Avoidance and Minimization Measures for California Red-legged Frog and California Tiger Salamander), 4.6-1p (Control Measures for Spread of Invasive Plants)**, **4.12-1b (General Noise Controls for Construction Equipment)**, and **4.14-2 (Site-Specific Nighttime Lighting Measures)**. These measures would reduce impacts on special-status species by designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring worker training regarding special-status species potentially present to ensure that workers are aware of special-status species that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as installation of an exclusion fencing to ensure special-status species do not occur within the construction area, a trash abatement program to ensure special-status species predators are not attracted to the site, and other measures to avoid and minimize impacts on special-status species; requiring specific measures to avoid, minimize, and compensate for impacts on the western snowy plover such as avoiding the breeding season, installing a visual construction barrier for work conducted adjacent to breeding habitat during the breeding season to reduce human disturbance to plovers, conducting pre-construction surveys to determine if plovers are present and implementing minimization measures to minimize construction impacts on plovers, if present, and compensating for habitat loss to mitigate for temporary and permanent loss of habitat; requiring specific measures to avoid and minimize impacts on special-status plants such as avoiding individual plants to the extent feasible and compensating for temporary or permanent loss of special-status plants at a level acceptable to the applicable resource agencies; requiring specific measures to avoid and minimize impacts on Smith's blue butterfly such as avoiding host plants to the extent feasible to avoid impacts to individuals and providing compensatory mitigation for permanent impacts; requiring specific measures to avoid and minimize impacts on black legless lizard, silvery legless lizard, and coast horned lizard such as relocating individuals to areas outside of the construction area to avoid injury or mortality from construction; requiring measures to avoid and minimize impacts on western burrowing owl such as conducting pre-construction surveys to determine if owls are present and implementing minimization measures to minimize construction impacts on owls, if present, and compensating for loss of habitat; requiring specific measures to avoid and minimize impacts on nesting birds such as limiting construction to the non-nesting season when feasible to avoid impacts to active nests; requiring specific measures to avoid and minimize impacts on American badger such as conducting pre-construction surveys to identify whether any badger dens are present and avoiding and/or passively relocating badgers from dens as necessary to avoid and minimize impacts to badgers within active dens; requiring measures to avoid and minimize impacts on special-status bats such as limiting removal of trees or structures with potential bat roosting habitat to the time of year when bats are active to avoid disturbing bats during the maternity roosting season or months of winter torpor; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that

temporary and permanent losses are fully compensated as required; requiring measures to avoid and minimize impacts on California red-legged frog and California tiger salamander such as pre-construction surveys to determine if these species are present and implementing minimization measures to minimize construction impacts on these species, if present, and compensating for permanent impacts; requiring implementation of measures to reduce the introduction or spread of invasive species that may degrade habitat for special-status species; requiring implementation of noise controls for construction equipment to reduce noise impacts on special-status wildlife species; and requiring measures to minimize light spillover outside of the construction area to minimize construction lighting impacts on special-status wildlife species.

The Source Water Pipeline using the optional alignment would impact approximately 0.2 acre of Smith's blue butterfly habitat, approximately 0.2 acre of western snowy plover nesting habitat, and 0.1 acre of non-native grassland, which provides potential California tiger salamander and California red-legged frog upland habitat. The Source Water Pipeline using the optional alignment would generally result in the same type of impact as described for the Source Water Pipeline. The same impact conclusion and mitigation measures would apply to the Source Water Pipeline using the optional alignment as apply to the Source Water Pipeline.

New Desalinated Water Pipeline

The new Desalinated Water Pipeline is described in Section 3.2.3.3 of Chapter 3, Description of the Proposed Project. This facility would be located outside of the MBNMS. Installation of both the new Desalinated Water Pipeline and new Transmission Main is anticipated to take 15 months. Although not planned, nighttime installation of the new Desalinated Water Pipeline could be required to expedite the construction schedule. The construction footprint is approximately 35.4 acres. A portion of the construction footprint for the new Desalinated Water Pipeline overlaps with a portion of the construction footprints for the Source Water Pipeline, Source Water Pipeline using the optional alignment, Castroville Pipeline, Castroville Pipeline using the optional alignment 1, and Castroville Pipeline using the optional alignment 2.

The segment of the new Desalinated Water Pipeline located between the intersection of Charles Benson Road and Del Monte Boulevard south to Marina Green Drive includes a mix of moderately disturbed central dune scrub, coyote brush scrub, non-native annual grassland, ice plant mats, ruderal, and developed roadways. The segment between Marina Green Drive and Reservation Road is largely dominated by ruderal areas, developed/landscaped areas, and ice plant mats and is surrounded by urban development. Some native communities, such as central dune scrub, coyote brush scrub, and coast live oak woodland, occur within this segment, but they are highly disturbed. Several Monterey cypress stands and eucalyptus groves also occur within the segment between Marina Green Drive and Reservation Road. Riparian woodland and scrub exists along the Desalinated Water Pipeline alignment at Locke-Paddon Park, near the intersection of Del Monte Boulevard and Reservation Road. Non-native grassland and agricultural land occur in the alignment north of Charles Benson Road.

Monterey spineflower and Kellogg's horkelia were observed in central dune scrub along Del Monte Boulevard during surveys conducted for the proposed project (ESA, 2012; 2016).

Branching beach aster was observed along Del Monte Road within the pipeline alignment during protocol level plant surveys conducted for the proposed project in 2014 (URS, 2014b). As indicated in **Table 4.6-2**, a number of other special-status plants may also occur along this pipeline alignment. Construction of the Desalinated Water Pipeline has potential to disturb Monterey spineflower and Kellogg's horkelia, a significant impact. If other special-status plants, such as Menzies' wallflower, sand gilia, or other special-status plants listed in **Table 4.6-6**, are present in suitable habitat within or adjacent to the project area, they could be directly or indirectly impacted by construction activities during the 15-month (in conjunction with the new Transmission Main) construction period as described above under the heading *Overview of Potential Construction Effects on Plants*, a significant impact.

A few small patches (approximately 0.2 acre in extent) of coast buckwheat (host plant for Smith's blue butterfly) occur within the new Desalinated Water Pipeline alignment (AECOM, 2016). If any life form of the butterfly is present on or around these host plants, removal of the plant would be a significant impact on Smith's blue butterfly. Additionally, installation of the new Desalinated Water Pipeline has potential to impact approximately 0.2 acre of Smith's blue butterfly habitat, a significant impact. This impact area overlaps with a portion of the Source Water Pipeline Smith's blue butterfly habitat impact area described above.

Two potential California tiger salamander breeding ponds are located within 1.2 miles of the new Desalinated Water Pipeline alignment and non-native grassland within 1.2 miles of a potential breeding pond provides potential California tiger salamander upland habitat. Additionally, the Salinas River and another potential breeding pond are located within 1.2 miles of the new Desalinated Water Pipeline. Non-native grassland within 1.2 miles of the Salinas River and the potential breeding pond provide potential California red-legged frog upland habitat. Construction of the new Desalinated Water Pipeline has potential to temporarily impact (the site would be restored following construction) approximately 1.4 acre of California tiger salamander and California red-legged frog upland habitat, which is a significant impact. If individual California red-legged frogs or California tiger salamanders are present, construction of the new Desalinated Water Pipeline could directly or indirectly impact these individuals during the 15-month (in conjunction with the new Transmission Main) construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife*, a significant impact. Much of this impact area overlaps with the Source Water Pipeline and Castroville Pipeline.

As presented in **Table 4.6-6**, numerous special-status wildlife species including Coast Range newt, western burrowing owl, and American badger may occur in non-native grassland and black legless lizard, silvery legless lizard, and coast horned lizard may inhabit central dune scrub along the pipeline alignment. Riparian woodland and scrub located adjacent to the pond at Locke-Paddon Park and along the alignment has the potential to support western pond turtle and tricolored blackbird. Raptors such as red-tailed hawk, white-tailed kite, and loggerhead shrike, among others, could nest in trees and/or forage along the pipeline alignment. Special-status bats could roost in trees within the alignment. If burrowing owl, American badger, black legless lizard, silvery legless lizard, coast horned lizard, Coast Range newt, western pond turtle, tricolored blackbird, or special-status nesting birds or bats are present in or around the alignment, they could be directly or indirectly impacted by construction activities during the 15-month (in

conjunction with the new Transmission Main) construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife.*

Impacts of new Desalination Water Pipeline construction on central dune scrub, which is habitat for the special-status plant species listed above, black legless lizard, silvery legless lizard, and coast horned lizard, and on riparian woodland and scrub, which is habitat for tricolored blackbird and western pond turtle, are addressed in Impact 4.6-2.

Impacts on special-status species during construction of the new Desalinated Water Pipeline would be significant. However, implementation of the following mitigation measures would ensure that impacts on special-status species at this site are reduced to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1e (Avoidance and Minimization Measures for Special-status Plants)**, **4.6-1f (Avoidance and Minimization Measures for Smith's Blue Butterfly), 4.6-1g (Avoidance and Minimization Measures for Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard)**, **4.6-1h (Avoidance and Minimization Measures for Western Burrowing Owl)**, **4.6-1i (Avoidance and Minimization Measures for Nesting Birds)**, **4.6-1j (Avoidance and Minimization Measures for American Badger)**, **4.6-1l (Avoidance and Minimization Measures for Special-status Bats)**, **4.6-1n (Habitat Mitigation and Monitoring Plan)**, **4.6-1o (Avoidance and Minimization Measures for California Red-legged Frog and California Tiger Salamander)**, **4.6-1p (Control Measures for Spread of Invasive Plants)**, and **4.14-2 (Site-Specific Nighttime Lighting Measures)**. These measures would reduce impacts on special-status species by designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring worker training regarding special-status species potentially present to ensure that workers are aware of special-status species that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as installation of an exclusion fencing to ensure special-status species do not occur within the construction area, a trash abatement program to ensure special-status species predators are not attracted to the site, and other measures to avoid and minimize impacts on special-status species; requiring specific measures to avoid and minimize impacts on special-status plants such as avoiding individual plants to the extent feasible and compensating for temporary or permanent loss of special-status plants at a level acceptable to the applicable resource agencies; requiring specific measures to avoid and minimize impacts on Smith's blue butterfly such as avoiding host plants to the extent feasible to avoid impacts to individuals and providing compensatory mitigation for permanent impacts; requiring specific measures to avoid and minimize impacts on black legless lizard, silvery legless lizard, and coast horned lizard such as relocating individuals to areas outside of the construction area to avoid injury or mortality from construction; requiring measures to avoid and minimize impacts on western burrowing owl such as conducting pre-construction surveys to determine if owls are present and implementing minimization measures to minimize construction impacts on owls, if present, and compensating for loss of habitat; requiring specific measures to avoid and minimize impacts on nesting birds such as limiting construction to the non-nesting season when feasible to avoid impacts to active nests; requiring specific measures to avoid and minimize impacts on American badger such as conducting pre-construction surveys

to identify whether any badger dens are present and avoiding and/or passively relocating badgers from dens as necessary to avoid and minimize impacts to badgers within active dens; requiring measures to avoid and minimize impacts on special-status bats such as limiting removal of trees or structures with potential bat roosting habitat to the time of year when bats are active to avoid disturbing bats during the maternity roosting season or months of winter torpor; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring measures to avoid and minimize impacts on California red-legged frog and California tiger salamander such as pre-construction surveys to determine if these species are present and implementing minimization measures to minimize construction impacts on these species, if present, and compensating for permanent impacts; requiring implementation of measures to reduce the introduction or spread of invasive species that may degrade habitat for special-status species; and requiring measures to minimize light spillover outside of the construction area to minimize construction lighting impacts on special-status wildlife species.

The new Desalinated Water using the optional alignment would impact approximately 0.2 acre of Smith's blue butterfly habitat and approximately 0.5 acre of non-native grassland, which provides potential California tiger salamander and California red-legged frog upland habitat. The new Desalinated Water Pipeline using the optional alignment would result in the same type of impact as described for the new Desalinated Water Pipeline. The same impact conclusion and mitigation measures would apply to the new Desalinated Water Pipeline using the optional alignment as apply to the new Desalinated Water Pipeline.

Castroville Pipeline

Construction of the 4.5-mile-long Castroville Pipeline would take approximately 4 months. This facility would be located outside of the MBNMS. Nighttime installation of the Castroville Pipeline could be required to meet the construction schedule. The construction footprint is approximately 15.0 acres. A portion of the Castroville Pipeline construction footprint overlaps with a portion of the construction footprints for the Source Water Pipeline, Source Water Pipeline using the optional alignment, new Desalinated Water Pipeline, and new Desalinated Water Pipeline using the optional alignment.

The alignment north of and parallel to, Charles Benson Road includes non-native annual grassland and agricultural land bordered on the south by Monterey cypress and eucalyptus trees. North of Charles Benson Road the alignment traverses developed areas, ruderal areas, coyote brush scrub, and ice plant mats with a few isolated patches of central dune scrub and non-native grassland before crossing through agricultural, ruderal, and developed areas until it reaches the Salinas River. The Salinas River includes open water and adjacent riparian woodland and scrub, coyote brush scrub, and northern coastal scrub communities. North of the Salinas River the alignment includes mostly agricultural, developed, and ruderal areas until it crosses over Tembladero Slough. North of Tembladero Slough, the alignment passes through a mix of agricultural, developed, ruderal, coyote brush scrub, riparian woodland and scrub and freshwater marsh communities before continuing back to developed and ruderal areas.

Monterey spineflower and branching beach aster were observed in and around central dune scrub north of the intersection of Del Monte Boulevard and Charles Benson Road during surveys conducted for the proposed project (AECOM, 2016). As indicated in **Table 4.6-2**, a number of other special-status plants may also occur along this pipeline alignment. Construction of the Castroville Pipeline has potential to disturb Monterey spineflower and branching beach aster, a significant impact. If other special-status plants, such as Menzies' wallflower, sand gilia, or other special-status plants listed in **Table 4.6-6**, are present in suitable habitat within or adjacent to the project area, they could be directly or indirectly impacted by construction activities during the 4-month construction period as described above under the heading *Overview of Potential Construction Effects on Plants*, a significant impact.

The Salinas River, Tembladero Slough, and freshwater marsh and riparian woodland and scrub located north of Tembladero Slough provide potential California red-legged frog aquatic habitat. Construction of the Castroville Pipeline would be installed beneath the Salinas River and Tembladero Slough and would not directly impact these areas. Pipeline construction would temporarily impact 0.06 acre of riparian woodland and scrub, which is potential aquatic habitat. Non-native grassland in the southern end of the Castroville Pipeline alignment is located within 1.2 miles of potential California tiger salamander and California red-legged frog breeding areas. This non-native grassland would provide upland habitat for California tiger salamander and California red-legged frog. Construction of the Castroville Pipeline has potential to temporarily impact approximately 1.1 acres of California tiger salamander and California red-legged frog upland habitat, which is a significant impact. Much of this impact area overlaps with the Source Water Pipeline and new Desalinated Water Pipeline. Temporary impacts on California tiger salamander and California red-legged frog habitat would be significant. If individual California red-legged frog or California tiger salamander are present, construction of the Castroville Pipeline could directly or indirectly impact these individuals during the 4-month construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife*, a significant impact. As discussed under Impact 4.3-1 in Section 4.3, Surface Water Hydrology and Water Quality, project construction activities that disturb more than 1 acre are subject to the NPDES Construction General Permit requirements. Per the requirements, a SWPPP would be prepared by a Qualified SWPPP Developer and a Qualified SWPPP Practitioner would oversee its implementation. The SWPPP, which would include site-specific erosion and stormwater control measures to be implemented during construction of the Castroville Pipeline, would reduce or eliminate the offsite migration of pollutants and sediment. Mandatory compliance with the NPDES Construction General Permit would avoid substantial adverse effects on water quality in the Salinas River and Tembladero Slough. Thus, the indirect impacts on California red-legged frog habitat in the Salinas River and Tembladero Slough would be less than significant and no mitigation is necessary.

Steelhead are known from the Salinas River and have potential to occur in Tembladero Slough. The proposed Castroville Pipeline would be installed beneath the Salinas River and Tembladero Slough using HDD. There would be no direct impacts on the Salinas River or Tembladero Slough from construction and therefore, no direct impacts on steelhead from construction. The entry and exit pits would be located at least 150 feet from the main channel of the Salinas River and 40 feet from Tembladero Slough. Soil disturbing activities from installation of the Castroville Pipeline in the vicinity of the Salinas River and Tembladero Slough could result in soil erosion and the migration

of eroded soil and sediment downgradient towards the water features. Mandatory compliance with the NPDES Construction General Permit and implementation of the SWPPP would prevent indirect impact on steelhead habitat in the Salinas River and Tembladero Slough from upland soil erosion. Although not anticipated, there is potential for frac-outs[18] to occur using HDD. If a frac-out occurs, bentonite slurry could be released into the Salinas River and/or Tembladero Slough, which could degrade water quality and adversely impact steelhead habitat and/or individual fish by increasing suspended sediments that may inhibit fish respiration and degrade habitat, a significant impact.

As presented in **Table 4.6-6**, numerous special-status wildlife species including American badger may occur in non-native grassland and black legless lizard, silver legless lizard, and coast horned lizard may inhabit central dune scrub along the pipeline alignment. Coast Range newt may occur in aquatic habitat and adjacent upland and grassland areas. Riparian woodland and scrub located north of Tembladero Slough has the potential to support western pond turtle. Special-status raptors such as red-tailed hawk, white-tailed kite, and loggerhead shrike, among others, could potentially nest in trees and/or forage along the pipeline alignment. Special-status bats could roost in trees within the alignment. If black legless lizard, silvery legless lizard, coast horned lizard, Coast Range newt, American badger, western pond turtle, or special-status nesting birds or bats are present in or around the alignment, they could be directly or indirectly impacted by construction activities during the 4-month construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife*.

Impacts of Castroville Pipeline construction on central dune scrub, which is habitat for black legless lizard, silvery legless lizard, and coast horned lizard, and on riparian woodland and scrub, which is habitat for western pond turtle, are addressed in Impact 4.6-2.

Impacts on special-status species during construction of the Castroville Pipeline would be significant. However, implementation of the following mitigation measures would ensure that impacts on special-status species at this site are reduced to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1e (Avoidance and Minimization Measures for Special-status Plants)**, **4.6-1g (Avoidance and Minimization Measures for Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard)**, **4.6-1i (Avoidance and Minimization Measures for Nesting Birds)**, **4.6-1j (Avoidance and Minimization Measures for American Badger)**, **4.6-1l (Avoidance and Minimization Measures for Special-status Bats)**, **4.6-1n (Habitat Mitigation and Monitoring Plan)**, **4.6-1o (Avoidance and Minimization Measures for California Red-legged Frog and California Tiger Salamander)**, **4.6-1p (Control Measures for Spread of Invasive Plants)**, **4.6-1q (Frac-out Contingency Plan)**, and **4.14-2 (Site-Specific Nighttime Lighting Measures)**.

These measures would reduce impacts on special-status species by designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring worker training regarding special-status species potentially present to ensure that workers are

[18] A frac-out, or hydrofracture, is the inadvertent loss of drilling fluid from the borehole to the surrounding soil, surface, or waterbody, as a result of excess fluid pressure during directional drilling.

aware of special-status species that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as installation of an exclusion fencing to ensure special-status species do not occur within the construction area, a trash abatement program to ensure special-status species predators are not attracted to the site, and other measures to avoid and minimize impacts on special-status species; requiring specific measures to avoid and minimize impacts on special-status plants such as avoiding individual plants to the extent feasible and compensating for temporary or permanent loss of special-status plants at a level acceptable to the applicable resource agencies; requiring specific measures to avoid and minimize impacts on black legless lizard, silvery legless lizard, and coast horned lizard such as relocating individuals to areas outside of the construction area to avoid injury or mortality from construction; requiring specific measures to avoid and minimize impacts on nesting birds such as limiting construction to the non-nesting season when feasible to avoid impacts to active nests; requiring specific measures to avoid and minimize impacts on American badger such as conducting pre-construction surveys to identify whether any badger dens are present and avoiding and/or passively relocating badgers from dens as necessary to avoid and minimize impacts to badgers within active dens; requiring measures to avoid and minimize impacts on special-status bats such as limiting removal of trees or structures with potential bat roosting habitat to the time of year when bats are active to avoid disturbing bats during the maternity roosting season or months of winter torpor; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring measures to avoid and minimize impacts on California red-legged frog and California tiger salamander such as pre-construction surveys to determine if these species are present and implementing minimization measures to minimize construction impacts on these species, if present, and compensating for permanent impacts; requiring implementation of measures to reduce the introduction or spread of invasive species that may degrade habitat for special-status species; requiring preparation of a Frac-out Contingency Plan and implementation of measures in the Plan to contain and clean-up any frac-outs in waterways to minimize impacts of frac-outs on special-status species and their habitat; and requiring measures to minimize light spillover outside of the construction area to minimize construction lighting impacts on special-status wildlife species.

The Castroville Pipeline using the optional alignment 1 would temporarily impact (the site would be returned to pre-construction conditions following construction) approximately 0.06 acre of riparian woodland and scrub and 0.01 acre of freshwater marsh and between approximately 1 and 2 acres of non-native grassland, which provides potential California tiger salamander and California red-legged frog upland habitat. The Castroville Pipeline using the optional alignment 2 would temporarily impact approximately 0.06 acre of riparian woodland and scrub and 0.1 acre of non-native grassland. However, the same impact conclusion and mitigation measures would apply to the Castroville Pipeline using both optional alignments as the Castroville Pipeline.

Brine Discharge Pipeline and Pipeline to CSIP Pond

Construction of the 1-mile-long Brine Discharge Pipeline would be completed in approximately 3 months and construction of the 1.2-mile-long Pipeline to CSIP Pond would be completed in approximately 2 months. These facilities would be located outside of the MBNMS. Nighttime

construction may be required to expedite construction. The construction footprint for both of these pipelines combined is approximately 6.6 acres.

The Brine Discharge Pipeline and Pipeline to CSIP Pond would be installed in paved access roads and ruderal areas with patches of non-native grassland. These pipeline alignments are located adjacent to ornamental Monterey cypress stands present along the access roads.

Table 4.6-2 presents the potential for special-status plant and wildlife species to occur along the Brine Discharge Pipeline and Pipeline to CSIP Pond alignments, and **Table 4.6-6** identifies the special-status plant and wildlife species that could be significantly impacted by project-related construction activities. As indicated in **Table 4.6-2**, special-status plants are not expected to occur along these pipeline alignments; therefore, no impact on special-status plants would result.

A potential California tiger salamander breeding pond is located within 1.2 miles of the Brine Discharge Pipeline and Pipeline to CSIP Pond alignments and non-native grassland within 1.2 miles of a potential breeding pond provides potential California tiger salamander upland habitat. The Salinas River is located within 1 mile of the Brine Discharge Pipeline and Pipeline to CSIP Pond and non-native grassland within 1 mile of the Salinas River provide potential California red-legged frog upland habitat. Construction of the Brine Discharge Pipeline and Pipeline to CSIP Pond has potential to temporarily impact approximately 0.2 acre each of California tiger salamander and California red-legged frog upland habitat, which is a significant impact. Coast Range newt also has potential to occur in grassland areas. If individual California red-legged frogs, California tiger salamanders, or Coast Range newt are present, construction of the Brine Discharge Pipeline and Pipeline to CSIP Pond could directly or indirectly impact these individuals during the 2-month construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife*, a significant impact.

Planted Monterey cypress trees on the west side of the MRWPCA's access road provide roosting, foraging, and/or nesting opportunities for a variety of raptors and other birds and roosting habitat for special-status bats. Although these trees are not expected to be removed during pipeline installation activities, due to the proximity of construction, if raptors or special-status nesting passerines or roosting special-status bats are present during construction in or around the project area, construction activities could result in direct or indirect impacts on these species during the 2-month construction period as described under the heading *Overview of Potential Construction Effects on Wildlife*, which would result in a significant impact. Non-native grassland within the MRWPCA Regional Wastewater Treatment Plant site may provide nesting habitat for common passerines protected by the MBTA. If nesting birds are present within the grassland, they could be directly or indirectly impacted by construction activities, which would be a significant impact.

Implementation of the following mitigation measures would ensure that impacts on special-status species at this site would be reduced to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1i (Avoidance and Minimization Measures for Nesting Birds)**, **4.6-1l (Avoidance and Minimization Measures for Special-**

status Bats), **4.6-1o (Avoidance and Minimization Measures for California Red-legged Frog and California Tiger Salamander)**, and **4.14-2 (Site-Specific Nighttime Lighting Measures)**. These measures would reduce impacts on special-status species by designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring worker training regarding special-status species potentially present to ensure that workers are aware of special-status species that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as installation of an exclusion fencing to ensure special-status species do not occur within the construction area, a trash abatement program to ensure special-status species predators are not attracted to the site, and other measures to avoid and minimize impacts on special-status species; requiring specific measures to avoid and minimize impacts on nesting birds such as limiting construction to the non-nesting season when feasible to avoid impacts to active nests; requiring measures to avoid and minimize impacts on special-status bats such as limiting removal of trees or structures with potential bat roosting habitat to the time of year when bats are active to avoid disturbing bats during the maternity roosting season or months of winter torpor; requiring measures to avoid and minimize impacts on California red-legged frog and California tiger salamander such as pre-construction surveys to determine if these species are present and implementing minimization measures to minimize construction impacts on these species, if present, and compensating for permanent impacts; and requiring measures to minimize light spillover outside of the construction area to minimize construction lighting impacts on special-status wildlife species.

Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline)

The proposed ASR Facilities are described in Chapter 3, Description of the Proposed Project, Section 3.2.4. These facilities include the ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline. These facilities would be located outside of the MBNMS. Each ASR well would be housed in a permanent 900-square foot concrete pump house. Chain-link fencing would encompass an approximately 0.4-acre and 0.5-acre area around the ASR-5 and ASR-6 Wells, respectively. Therefore, the construction footprint for both of the ASR Wells is expected to be approximately 0.9 acre. Water produced during development of the wells would be conveyed to a 1.4-acre natural depression located east of the intersection of San Pablo Avenue and General Jim Moore Boulevard and percolated into the ground. The construction footprint of the area where water would be conveyed is approximately 7.0 acres. Three parallel 0.9-mile-long, 30-inch-diameter ASR pipelines (ASR Recirculation Pipeline, ASR Conveyance Pipeline, and ASR Pump-to-Waste Pipeline) would extend along General Jim Moore Boulevard between the proposed ASR-5 and ASR-6 Wells at the Fitch Park military housing area and Coe Avenue/General Jim Moore Boulevard. The construction footprint for all three ASR pipelines is approximately 8.8 acres. A portion of the construction footprint for the ASR pipelines overlaps with a portion of the construction footprints for the new Transmission Main and the new Transmission Main using the optional alignment. Installation of the ASR pipelines would occur during daytime hours. Construction of the ASR-5 and ASR-6 wells would require nighttime construction.

The ASR-5 and ASR-6 Well sites contain a mix of coast live oak woodland, coyote brush scrub, and ruderal areas surrounded by single family residences. The ASR pipelines would be installed within developed General Jim Moore Boulevard, but are surrounded by a mix of single family residences and moderately disturbed coast live oak woodland, coyote brush scrub, ice plant mats, and ruderal areas, in the north with a border of undisturbed northern coastal scrub and coast live oak woodland on former Fort Ord lands at the southern end of the pipeline alignment. The area where water produced during development of the ASR-5 and ASR-6 wells would be conveyed is located on former Fort Ord lands and contains a mix of central maritime chaparral and ruderal areas.

Kellogg's horkelia has been observed within the development water infiltration area that will be used during development of the ASR-5 and ASR-6 Wells (CDFW, 2016). Monterey spineflower, Kellogg's horkelia, and Monterey ceanothus were observed along the ASR pipeline alignment during reconnaissance surveys and focused botanical surveys of the project area along General Jim Moore Boulevard (ESA, 2016; AECOM, 2016). As indicated in **Table 4.6-2**, there are several other special-status plant species that have a moderate to high potential to occur in or adjacent to the proposed ASR Facilities including robust spineflower, seaside birds-beak, sand gilia, Yadon's rein orchid, Hooker's manzanita, Toro manzanita, Pajaro manzanita, sandmat manzanita, ocean bluff milkvetch, Monterey Coast paintbrush, Eastwood's goldenbush, sand-loving wallflower, Carmel Valley bush-mallow, northern curly-leaved monardella, south coast branching phacelia, Michael's rein orchid, and others listed in **Table 4.6-2**. Installation of the ASR Facilities could result in direct or indirect impacts on special-status plant species during the 5-month construction period for the ASR pipelines and 12-month construction period for the ASR wells as described above under the heading *Overview of Potential Construction Effects on Plants* (see **Table 4.6-6** for a complete list of special-status species that could be significantly impacted by construction of the proposed ASR facilities).

Special-status wildlife with a moderate to high potential to occur at the ASR Facilities include silvery legless lizard, black legless lizard, coast horned lizard, Coast Range newt, red-tailed hawk, and Monterey dusky-footed woodrat. See **Table 4.6-2** for a complete list of special-status wildlife species and their potential to occur at the ASR facilities sites. If black legless lizard, silvery legless lizard, coast horned lizard, Coast Range newt, Monterey dusky-footed woodrat, Monterey shrew, or American badger are present in the construction area, or if raptors or other special-status nesting passerines or roosting special-status bats are present within or in close proximity to the construction area, those species could be directly or indirectly impacted by construction activities during the 5-month construction period for the ASR pipelines and 12-month construction period for the ASR wells as described above under the heading *Overview of Potential Construction Effects on Wildlife*.

Impacts to coast live oak woodland and central maritime chaparral, which are habitats for one or more of the special-status species listed above (including special-status plants, black legless lizard, silvery legless lizards, coast horned lizard, Coast Range newt, Monterey dusky-footed woodrat, Monterey shrew, and American badger) at this facility, is addressed in Impact 4.6-2. Substantial adverse effects on special-status species during construction of the ASR facilities, as described above, would result in a significant impact. Implementation of the following mitigation

measures would reduce impacts on special-status species at this site to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1e (Avoidance and Minimization Measures for Special-status Plants)**, **4.6-1g (Avoidance and Minimization Measures for Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard)**, **4.6-1i (Avoidance and Minimization Measures for Nesting Birds)**, **4.6-1j (Avoidance and Minimization Measures for American Badger)**, **4.6-1k (Avoidance and Minimization Measures for Monterey Dusky-Footed Woodrat)**, **4.6-1l (Avoidance and Minimization Measures for Special-status Bats)**, **4.6-1n (Habitat Mitigation and Monitoring Plan)**, **4.6-1p (Control Measures for Spread of Invasive Plants)**, and **4.14-2 (Site-Specific Nighttime Lighting Measures)**. These measures would reduce impacts on special-status species by designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring worker training regarding special-status species potentially present to ensure that workers are aware of special-status species that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as installation of an exclusion fencing to ensure special-status species do not occur within the construction area, a trash abatement program to ensure special-status species predators are not attracted to the site, and other measures to avoid and minimize impacts on special-status species; requiring specific measures to avoid and minimize impacts on special-status plants such as avoiding individual plants to the extent feasible and compensating for temporary or permanent loss of special-status plants at a level acceptable to the applicable resource agencies; requiring specific measures to avoid and minimize impacts on black legless lizard, silvery legless lizard, and coast horned lizard such as relocating individuals to areas outside of the construction area to avoid injury or mortality from construction; requiring specific measures to avoid and minimize impacts on nesting birds such as limiting construction to the non-nesting season when feasible to avoid impacts to active nests; requiring specific measures to avoid and minimize impacts on American badger such as conducting pre-construction surveys to identify whether any badger dens are present and avoiding and/or passively relocating badgers from dens as necessary to avoid and minimize impacts to badgers within active dens; requiring measures to avoid and minimize impacts on Monterey dusky-footed woodrat such as relocating active nests within the construction area to areas outside of the construction area to minimize impacts to individual woodrats from construction activities; requiring measures to avoid and minimize impacts on special-status bats such as limiting removal of trees or structures with potential bat roosting habitat to the time of year when bats are active to avoid disturbing bats during the maternity roosting season or months of winter torpor; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring implementation of measures to reduce the introduction or spread of invasive species that may degrade habitat for special-status species; and requiring measures to minimize light spillover outside of the construction area to minimize construction lighting impacts on special-status wildlife species.

Pipelines and Other Conveyance Facilities South of Reservation Road

New Transmission Main and New Transmission Main Optional Alignment

The new Transmission Main and new Transmission Main Optional alignments are described in Chapter 3, Description of the Proposed Project, Section 3.2.3.4. This facility would be located outside of the MBNMS. This 6-mile-long, 36-inch-diameter pipeline would extend from the Desalinated Water Pipeline at the intersection of Del Monte Boulevard and Reservation Road south to the existing Phase I ASR Facilities near the intersection of General Jim Moore and Coe Avenue. Construction of this pipeline and the new Desalinated Water Pipeline would take approximately 15 months to complete. Similar to the other pipelines, construction activities would occur during the daytime hours, except at a few locations where nighttime construction would be required to meet the project schedule. The construction footprint is approximately 27.1 acres. A portion of the new Transmission Main construction footprint overlaps with a portion of the ASR pipelines construction footprint.

As described in Section 4.6.1.10, habitat along the new Transmission Main alignment is variable and includes ice plant mats and ruderal areas with a few Monterey cypress stands and eucalyptus groves, central dune scrub along the back dunes of Fort Ord Dunes State Park, coyote brush scrub, and coast live oak woodland with some areas of northern coastal scrub in inland areas.

Table 4.6-2 presents the potential for special-status plant and wildlife species to occur along the new Transmission Main alignment, and **Table 4.6-6** identifies the special-status plant and wildlife species that could be significantly impacted by project-related construction activities. As indicated in **Table 4.6-2**, Sandmat manzanita, Monterey spineflower, Menzies' wallflower, Kellogg's horkelia, Monterey Coast paintbrush, branching beach aster, south coast branching phacelia, Michael's rein orchid, and Monterey ceanothus have been observed along the alignment (ESA, 2013; USACE, 1997; Fort Ord Reuse Authority, 2012; CDFW, 2016; Denise Duffy & Associates, 2013; and URS, 2016) and construction of the Transmission Main could result in direct and indirect impacts on these species during the 15-month construction period (in conjunction with the new Desalinated Water Pipeline) as described above under the heading *Overview of Potential Construction Effects on Plants*, a significant impact. Additionally, a number of other special-status plant species could occur within the alignment and, if present, could be directly or indirectly impacted by construction, which is a significant impact.

Coast buckwheat occurs along the alignment (ESA, 2013) and could support Smith's blue butterfly. If any life form of Smith's blue butterfly is present, removal or destruction of coast buckwheat and associated soil could result in injury or loss of Smith's blue butterfly. Construction of the new Transmission Main would temporarily impact approximately 0.3 acre of Smith's blue butterfly habitat. These impacts on Smith's blue butterfly would be significant. Although the habitat would only be temporarily impacted, because the site would be returned to pre-construction conditions, construction could result in the permanent loss of the host plant, a significant impact.

Black legless lizard, silvery legless lizard, coat horned lizard, Coast Range newt, western burrowing owl, American badger, tricolored blackbird, Monterey dusky-footed woodrat, and

Monterey shrew could occur along, or in the vicinity of, the alignment. Additionally, raptors and other birds protected by the MBTA could nest where suitable habitat occurs along the alignment. Special-status bats have some potential to roost within crevices underneath the Highway 1 overpass and in trees within the alignment. If present, these species could be directly or indirectly impacted by construction activities during the 15-month construction period (in conjunction with the new Desalinated Water Pipeline) as described above under the heading *Overview of Potential Construction Effects on Wildlife*. The impact on these special-status wildlife species is considered significant.

Impacts to sensitive natural communities, which are habitat for the special-status plant species listed above, black legless lizard, silvery legless lizards, coast horned lizard, and Coast Range newt, at this facility is addressed in Impact 4.6-2.

The overall construction-related impact on special-status plant and wildlife species during construction of the new Transmission Main would be significant. However, implementation of the following mitigation measures would ensure that these impacts are reduced to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1e (Avoidance and Minimization Measures for Special-status Plants)**, **4.6-1f (Avoidance and Minimization Measures for Smith's Blue Butterfly)**, **4.6-1g (Avoidance and Minimization Measures for Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard)**, **4.6-1h (Avoidance and Minimization Measures for Western Burrowing Owl)**, **4.6-1i (Avoidance and Minimization Measures for Nesting Birds)**, **4.6-1j (Avoidance and Minimization Measures for American Badger)**, **4.6-1k (Avoidance and Minimization Measures for Monterey Dusky-Footed Woodrat), 4.6-1l (Avoidance and Minimization Measures for Special-status Bats)**, **4.6-1n (Habitat Mitigation and Monitoring Plan)**, **4.6-1p (Control Measures for Spread of Invasive Plants)**, and **4.14-2 (Site-Specific Nighttime Lighting Measures)**. These measures would reduce impacts on special-status species by designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring worker training regarding special-status species potentially present to ensure that workers are aware of special-status species that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as installation of an exclusion fencing to ensure special-status species do not occur within the construction area, a trash abatement program to ensure special-status species predators are not attracted to the site, and other measures to avoid and minimize impacts on special-status species; requiring specific measures to avoid and minimize impacts on special-status plants such as avoiding individual plants to the extent feasible and compensating for temporary or permanent loss of special-status plants at a level acceptable to the applicable resource agencies; requiring specific measures to avoid and minimize impacts on Smith's blue butterfly such as avoiding host plants to the extent feasible to avoid impacts to individuals and providing compensatory mitigation for permanent impacts; requiring specific measures to avoid and minimize impacts on black legless lizard, silvery legless lizard, and coast horned lizard such as relocating individuals to areas outside of the construction area to avoid injury or mortality from construction; requiring measures to avoid and minimize impacts on western burrowing owl such as conducting pre-construction surveys to

determine if owls are present and implementing minimization measures to minimize construction impacts on owls, if present, and compensating for loss of habitat; requiring specific measures to avoid and minimize impacts on nesting birds such as limiting construction to the non-nesting season when feasible to avoid impacts to active nests; requiring specific measures to avoid and minimize impacts on American badger such as conducting pre-construction surveys to identify whether any badger dens are present and avoiding and/or passively relocating badgers from dens as necessary to avoid and minimize impacts to badgers within active dens; requiring measures to avoid and minimize impacts on Monterey dusky-footed woodrat such as relocating active nests within the construction area to areas outside of the construction area to minimize impacts to individual woodrats from construction activities; requiring measures to avoid and minimize impacts on special-status bats such as limiting removal of trees or structures with potential bat roosting habitat to the time of year when bats are active to avoid disturbing bats during the maternity roosting season or months of winter torpor; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring implementation of measures to reduce the introduction or spread of invasive species that may degrade habitat for special-status species; and requiring measures to minimize light spillover outside of the construction area to minimize construction lighting impacts on special-status wildlife species.

Since the new Transmission Main and new Transmission Main using the optional alignment would impact the same special-status species, the same impacts and mitigation measures would apply to the new Transmission Main using the optional alignment as apply to the new Transmission Main.

Terminal Reservoir

The proposed Terminal Reservoir is described in Chapter 3, Description of the Proposed Project, Section 3.2.3.5. This facility would be located outside of the MBNMS. Construction of the Terminal Reservoir is expected to take approximately 15 months to complete, with construction activities occurring only during daytime hours. The Terminal Reservoir would either include two 33-foot-high, 130-foot-diameter above ground concrete tanks on a 0.75 acre concrete pad or the tanks would be fully buried. Security fencing would enclose a 3.5-acre area around the Terminal Reservoir. The construction footprint for the Terminal Reservoir is approximately 6 acres.

Central maritime chaparral occurs throughout the site with a few patches of coast live oak woodland and ice plant mats. The site is located at the eastern edge of a large expanse of relatively intact maritime chaparral, also within the former Fort Ord lands. Portions of maritime chaparral within the project area are somewhat disturbed from the use of access roads, but the Terminal Reservoir site is largely undisturbed.

Table 4.6-6 lists all potential special-status species with potential to occur at the Terminal Reservoir site and be impacted by construction. Many special-status plant species have been observed within the Terminal Reservoir site including Monterey spineflower, sand gilia, seaside bird's beak, sandmat manzanita, and Eastwood's goldenbush (Denise Duffy & Associates, 2010a), sand-loving wallflower (Denise Duffy & Associates, 2013), Monterey ceanothus (Fort Ord Reuse Authority, 2012; AECOM, 2016), south coast branching phacelia, and Michael's rein

orchid (URS, 2014a). Other special-status plant species with potential to occur onsite include robust spineflower, Yadon's rein orchid, Toro manzanita, Pajaro manzanita, Hooker's manzanita, ocean bluff milkvetch, Monterey Coast paintbrush, Kellogg's horkelia, Carmel Valley bush-mallow, northern curly-leaved monardella, and native stands of Monterey pine. If any of these species, or others listed in **Table 4.6-6**, are present within or adjacent to the construction area, they could be directly or indirectly impacted by construction activities during the 15-month construction period as described above under the heading *Overview of Potential Construction Effects on Plants*, a significant impact.

Central maritime chaparral on the former Fort Ord lands is located within 1.2 miles of a potential California tiger salamander breeding pond and provides upland habitat for this species. Installation of the Terminal Reservoir aboveground tank option would result in the permanent loss of approximately 1 acre of central maritime chaparral from installation of the concrete pad for the Terminal Reservoir and a permanent access road. Additionally, construction of the facility would temporarily impact up to 5 additional acres of central maritime chaparral during construction. If the Terminal Reservoir is constructed in buried tanks, then there would be approximately 5.75 acres of temporary impacts on central maritime chaparral and there would be approximately 0.25 acre of permanent impact from the permanent access road. Temporary and permanent impacts on central maritime chaparral, which is considered California tiger salamander upland habitat at this site, is a significant impact. California red-legged frogs also have potential to disperse through the site since a potential breeding pond is located within one mile of site. If individual California red-legged frog or California tiger salamander are present, construction of the Terminal Reservoir could directly or indirectly impact these individuals during the 15-month construction period as described above under the heading "*Overview of Potential Construction Effects on Wildlife*," a significant impact.

Black legless lizard, silvery legless lizard, Monterey dusky-footed woodrat, and American badger may also occur on-site in the central maritime chaparral. Coast Range newt may occur in oak woodland. Additionally, special-status birds, such as western burrowing owl, raptors or nesting passerines, or roosting special-status bats may be present within the project area. If these wildlife species are present within or adjacent to the entire pipeline alignment, these species could be directly or indirectly impacted by construction activities during the 15-month construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife*.

Impacts to central maritime chaparral, which is habitat for the special-status plant species listed above, black legless lizard, silvery legless lizards, coast horned lizard, dusky-footed woodrat, and Monterey shrew, at this facility, is addressed in Impact 4.6-2.

Implementation of the following mitigation measures would ensure that impacts on special-status species at this site are reduced to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1e (Avoidance and Minimization Measures for Special-status Plants)**, **4.6-1g (Avoidance and Minimization Measures for Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard)**, **4.6-1h (Avoidance**

and Minimization Measures for Western Burrowing Owl), **4.6-1i (Avoidance and Minimization Measures for Nesting Birds)**, **4.6-1j (Avoidance and Minimization Measures for American Badger)**, **4.6-1k (Avoidance and Minimization Measures for Monterey Dusky-Footed Woodrat)**, **4.6-1l (Avoidance and Minimization for Special-status Bats)**, **4.6-1m (Avoidance and Minimization Measures for Native Stands of Monterey Pine)**,**4.6-1n (Habitat Mitigation and Monitoring Plan)**, **4.6-1o (Avoidance and Minimization Measures for California Red-legged Frog and California Tiger Salamander)**, and **4.6-1p (Control Measures for Spread of Invasive Plants)**. These measures would reduce impacts on special-status species by designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring worker training regarding special-status species potentially present to ensure that workers are aware of special-status species that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as installation of an exclusion fencing to ensure special-status species do not occur within the construction area, a trash abatement program to ensure special-status species predators are not attracted to the site, and other measures to avoid and minimize impacts on special-status species; requiring specific measures to avoid and minimize impacts on special-status plants such as avoiding individual plants to the extent feasible and compensating for temporary or permanent loss of special-status plants at a level acceptable to the applicable resource agencies; requiring specific measures to avoid and minimize impacts on black legless lizard, silvery legless lizard, and coast horned lizard such as relocating individuals to areas outside of the construction area to avoid injury or mortality from construction; requiring measures to avoid and minimize impacts on western burrowing owl such as conducting pre-construction surveys to determine if owls are present and implementing minimization measures to minimize construction impacts on owls, if present, and compensating for loss of habitat; requiring specific measures to avoid and minimize impacts on nesting birds such as limiting construction to the non-nesting season when feasible to avoid impacts to active nests; requiring specific measures to avoid and minimize impacts on American badger such as conducting pre-construction surveys to identify whether any badger dens are present and avoiding and/or passively relocating badgers from dens as necessary to avoid and minimize impacts to badgers within active dens; requiring measures to avoid and minimize impacts on Monterey dusky-footed woodrat such as relocating active nests within the construction area to areas outside of the construction area to minimize impacts to individual woodrats from construction activities; requiring measures to avoid and minimize impacts on special-status bats such as limiting removal of trees or structures with potential bat roosting habitat to the time of year when bats are active to avoid disturbing bats during the maternity roosting season or months of winter torpor; requiring measures to avoid and minimize impacts on native stands of Monterey Pines such as avoiding any stands present to avoid tree loss and replacing trees that cannot be avoided to compensate for any loss; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring measures to avoid and minimize impacts on California red-legged frog and California tiger salamander such as pre-construction surveys to determine if these species are present and implementing minimization measures to minimize construction impacts on these species, if present, and compensating for permanent impacts; and requiring implementation of

measures to reduce the introduction or spread of invasive species that may degrade habitat for special-status species.

Carmel Valley Pump Station

The proposed Carmel Valley Pump Station is described in Section 3.2.3.8 of Chapter 3, Description of the Proposed Project. This facility would be located outside of the MBNMS.

The pump station would be enclosed within a 500-square-foot single-story building and a 100-square-foot electrical control building would be constructed outside of the pump station building. This pump station also includes an inlet and outlet pipeline that connects the pump station to Carmel Valley Road. Construction would take approximately 6 months to complete and would occur during daytime hours only. The construction footprint for the pump station and associated pipelines is approximately 0.2 acre.

The site includes non-native annual grassland, landscaped, and developed areas bordered by coast live oak woodland.

Special-status species that could be significantly impacted during construction of the Carmel Valley Pump Station are listed in **Table 4.6-6**. They include California red-legged frog, Monterey pine, Coast Range newt, red-tailed hawk, red-shouldered hawk, white-tailed kite, American peregrine falcon, American kestrel, loggerhead shrike, pallid bat, western red bat, Monterey dusky-footed woodrat, and Monterey shrew. If Monterey pines are located at the site, they may be part of a native stand, which is considered special-status. If a native Monterey pine stand is present within or adjacent to the construction area, it could be directly or indirectly impacted by construction activities during the 6-month construction period as described above under the heading *Overview of Potential Construction Effects on Plants*, a significant impact.

California red-legged frogs are known to breed in the Carmel River and small tributaries and backpools in the vicinity of the proposed Carmel Valley Pump Station (CDFW, 2016). Non-native grassland at the site provides potential upland habitat for this species. If California red-legged frog are present at the site, construction of the Carmel Valley Pump Station could directly or indirectly impact these individuals during the 6-month construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife,* a significant impact. Additionally, construction activities would temporarily impact 0.04 acre and permanently impact 0.08 acre of upland habitat, which is a significant impact.

Additionally, raptors, such as red-tailed hawk or red-shouldered hawk, and birds protected under the MTBA and California Fish and Game Code may nest in trees that border the boundary of site. Special-status bats may also roost in trees adjacent to the construction area. Monterey dusky-footed woodrat and Monterey shrew may occur in the adjacent coast live oak woodland understory. Coast Range newt could occur in grassland or adjacent oak woodland. If these species are present in the construction area, construction could directly or indirectly impact these species during the 6-month construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife,* which would be a significant impact. This impact

would be inclusive of construction noise which, as stated in Section 4.12 Noise and Vibration, could generate noise levels more than 15 dBA above existing ambient noise levels.

However, implementation of the following mitigation measures would ensure that impacts on special-status species at this site are reduced to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1i (Avoidance and Minimization Measures for Nesting Birds)**, **4.6-1k (Avoidance and Minimization Measures for Monterey Dusky-Footed Woodrat), 4.6-1l (Avoidance and Minimization Measures for Special-status Bats)**, **4.6-1m (Avoidance and Minimization Measures for Native Stands of Monterey Pine)**, **4.6-1n (Habitat Mitigation and Monitoring Plan)**, and **4.6-1o (Avoidance and Minimization Measures for California Red-legged frog and California Tiger Salamander)**. These measures would reduce impacts on special-status species by designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring worker training regarding special-status species potentially present to ensure that workers are aware of special-status species that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as installation of an exclusion fencing to ensure special-status species do not occur within the construction area, a trash abatement program to ensure special-status species predators are not attracted to the site, and other measures to avoid and minimize impacts on special-status species; requiring specific measures to avoid and minimize impacts on nesting birds such as limiting construction to the non-nesting season when feasible to avoid impacts to active nests; requiring measures to avoid and minimize impacts on Monterey dusky-footed woodrat such as relocating active nests within the construction area to areas outside of the construction area to minimize impacts to individual woodrats from construction activities; requiring measures to avoid and minimize impacts on special-status bats such as limiting removal of trees or structures with potential bat roosting habitat to the time of year when bats are active to avoid disturbing bats during the maternity roosting season or months of winter torpor; requiring measures to avoid and minimize impacts on native stands of Monterey Pines such as avoiding any stands present to avoid tree loss and replacing trees that cannot be avoided to compensate for any loss; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; and requiring measures to avoid and minimize impacts on California red-legged frog and California tiger salamander such as pre-construction surveys to determine if these species are present and implementing minimization measures to minimize construction impacts on these species, if present, and compensating for permanent impacts.

Ryan Ranch-Bishop Interconnection Improvements

The proposed Ryan Ranch–Bishop Interconnection Improvements are described in Section 3.2.3.11 of Chapter 3, Description of the Proposed Project. This facility would be located outside of the MBNMS. The 1.1-mile-long, 8-inch-diameter Ryan Ranch–Bishop Interconnection Improvements pipeline would extend between an existing interconnection at Highway 68 and Ragsdale Avenue and a new connection to the Bishop system. Construction of the Ryan Ranch–

Bishop Interconnection Improvements would occur during daytime hours and would take approximately 4 months to complete. The construction footprint is approximately 7.3 acres.

The proposed Ryan Ranch–Bishop Interconnection Improvements would be located within a business park area with existing stands of coast live oak woodland, northern coastal scrub, and non-native grassland interspersed throughout the developed areas. In general, construction disturbance would be limited to the road right-of-ways; however, there is an area of non-native grassland adjacent to the roadway where disturbance would occur.

Special-status species that could be significantly impacted during construction of the Ryan Ranch–Bishop Interconnection Improvements are indicated in **Table 4.6-6**. Although construction-related disturbance would be largely limited to the paved roadways, some special-status plant species could occur in coast live oak woodland adjacent to the construction area or non-native grassland within or adjacent to the construction area, including Hickman's onion, Toro manzanita, Michael's rein orchid, and native stands of Monterey pine. If these special-status plant species, or others listed in **Table 4.6-6**, occur within or adjacent to the construction disturbance areas, these plants could be directly or indirectly impacted by construction activities during the 4-month construction period as described above under the heading *Overview of Potential Construction Effects on Plants*. This would be a significant impact.

Although California tiger salamander breeding habitat is absent from the site, California tiger salamander breeding ponds are known within 1 mile of the Ryan Ranch–Bishop Interconnection Improvements (CDFW, 2016); thus, salamander could occur in upland habitat at the site. California red-legged frog aquatic habitat is absent from site, however, this frog is known to breed within the Carmel River (CDFW, 2016) and could occur in grassland within the construction areas or other suitable upland habitat adjacent to construction area while dispersing. Construction activities would temporarily impact approximately 0.5 acre of California tiger salamander and California red-legged frog upland habitat. If these species are present they could be directly or indirectly impacted by construction activities during the 4-month construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife*, a significant impact.

Additionally, Coast Range newt, Monterey dusky-footed woodrat, Monterey shrew, and/or American badger could occur in suitable habitat within or adjacent to the Ryan Ranch–Bishop Interconnection Improvements site. Special-status nesting birds and bats could also occur within or adjacent to site. If these species, or others listed in **Table 4.6-6** are present, they could be directly or indirectly impacted by construction activities during the 4-month construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife*, a significant impact.

Construction-related impacts on special-status plant and animal species during construction of the Ryan Ranch-Bishop Interconnection Improvements would be significant (see **Table 4.6-6** for a complete list of special-status species that would be significantly impacted). However, implementation of the following mitigation measures would reduce impacts on special-status species to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker**

Environmental Awareness Training and Education Program), **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1e (Avoidance and Minimization Measures for Special-status Plants)**, **4.6-1i (Avoidance and Minimization Measures for Nesting Birds), 4.6-1j (Avoidance and Minimization Measures for American Badger)**, **4.6-1k (Avoidance and Minimization Measures for Monterey Dusky-Footed Woodrat)**, **4.6-1l (Avoidance and Minimization Measures for Special-status Bats)**, **4.6-1m (Avoidance and Minimization Measures for Native Stands of Monterey Pine)**, **4.6-1n (Habitat Mitigation and Monitoring Plan)**, and **4.6-1o (Avoidance and Minimization Measures for California Red-legged frog and California Tiger Salamander)**. These measures would reduce impacts on special-status species by designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring worker training regarding special-status species potentially present to ensure that workers are aware of special-status species that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as installation of an exclusion fencing to ensure special-status species do not occur within the construction area, a trash abatement program to ensure special-status species predators are not attracted to the site, and other measures to avoid and minimize impacts on special-status species; requiring specific measures to avoid and minimize impacts on special-status plants such as avoiding individual plants to the extent feasible and compensating for temporary or permanent loss of special-status plants at a level acceptable to the applicable resource agencies; requiring specific measures to avoid and minimize impacts on nesting birds such as limiting construction to the non-nesting season when feasible to avoid impacts to active nests; requiring specific measures to avoid and minimize impacts on American badger such as conducting pre-construction surveys to identify whether any badger dens are present and avoiding and/or passively relocating badgers from dens as necessary to avoid and minimize impacts to badgers within active dens; requiring measures to avoid and minimize impacts on Monterey dusky-footed woodrat such as relocating active nests within the construction area to areas outside of the construction area to minimize impacts to individual woodrats from construction activities; requiring measures to avoid and minimize impacts on special-status bats such as limiting removal of trees or structures with potential bat roosting habitat to the time of year when bats are active to avoid disturbing bats during the maternity roosting season or months of winter torpor; requiring measures to avoid and minimize impacts on native stands of Monterey Pines such as avoiding any stands present to avoid tree loss and replacing trees that cannot be avoided to compensate for any loss; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; and requiring measures to avoid and minimize impacts on California red-legged frog and California tiger salamander such as pre-construction surveys to determine if these species are present and implementing minimization measures to minimize construction impacts on these species, if present, and compensating for permanent impacts.

Main System-Hidden Hills Interconnection Improvements

The proposed Main System-Hidden Hills Interconnection Improvements are described in Section 3.2.3.11 of Chapter 3, Description of the Proposed Project. This facility would be located outside of the MBNMS. The existing interconnection between the main CalAm distribution system and the Hidden Hills system would be improved by installing approximately 1,200 feet of 6-inch-

diameter pipeline along the northern extent of Tierra Grande Drive. Additionally, the existing pump capacity at the Upper Tierra Grande Booster Station and the Middle Tierra Grande Booster Station would be upgraded. Construction of the Main System-Hidden Hills Interconnection Improvements would occur during daytime hours and would take approximately 3 months to complete. The construction footprint for the Main System-Hidden Hills Interconnection Improvements is 1.1 acre.

The Main System–Hidden Hills Interconnection Improvements site is located in a low-density residential area. Construction disturbance would be limited to the road right-of-way and within the existing developed booster stations, but coast live oak woodland, Monterey pine woodland, and northern coastal scrub occur adjacent to the developed areas.

Special-status species that could be significantly impacted during construction of the Main System-Hidden Hills Interconnection Improvements are indicated in **Table 4.6-6**. Although construction-related disturbance would be limited to the paved roadways and existing facilities, some special-status plant species could occur in coast live oak woodland, non-native grassland, or northern coastal scrub adjacent to the developed areas, including Yadon's rein orchid, Hickman's onion, Toro manzanita, Michael's rein orchid, and native stands of Monterey pine. If these special-status plant species, or others listed in **Table 4.6-6**, occur within or adjacent to the construction disturbance areas, they could be directly or indirectly impacted by construction activities during the 3-month construction period as described above under the heading *Overview of Potential Construction Effects on Plants*. This would be a significant impact.

Similarly, if California red-legged frog, California tiger salamander, or Coast Range newt are dispersing through suitable habitat adjacent to the work area during construction; if Monterey dusky-footed woodrat, Monterey shrew, or American badger are located in suitable habitat adjacent to the construction area; if raptors or special-status nesting passerines, roosting special-status bats, or other special-status wildlife species listed in **Table 4.6-6**, are present within or adjacent to the construction work area, they could be directly or indirectly impacted by construction activities during the 3-month construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife*, which would be a significant impact.

Implementation of the following mitigation measures would reduce impacts on special-status species to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1e (Avoidance and Minimization Measures for Special-status Plants)**, **4.6-1i (Avoidance and Minimization Measures for Nesting Birds), 4.6-1j (Avoidance and Minimization Measures for American Badger)**, **4.6-1k (Avoidance and Minimization Measures for Monterey Dusky-Footed Woodrat)**, **4.6-1l (Avoidance and Minimization Measures for Special-status Bats)**, **4.6-1m (Avoidance and Minimization Measures for Native Stands of Monterey Pine)**, **4.6-1n (Habitat Mitigation and Monitoring Plan)** and **4.6-1o (Avoidance and Minimization Measures for California Red-legged frog and California Tiger Salamander)**. These measures would reduce impacts on special-status species by designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring worker training regarding special-status species potentially present

to ensure that workers are aware of special-status species that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as installation of an exclusion fencing to ensure special-status species do not occur within the construction area, a trash abatement program to ensure special-status species predators are not attracted to the site, and other measures to avoid and minimize impacts on special-status species; requiring specific measures to avoid and minimize impacts on special-status plants such as avoiding individual plants to the extent feasible and compensating for temporary or permanent loss of special-status plants at a level acceptable to the applicable resource agencies; requiring specific measures to avoid and minimize impacts on nesting birds such as limiting construction to the non-nesting season when feasible to avoid impacts to active nests; requiring specific measures to avoid and minimize impacts on American badger such as conducting pre-construction surveys to identify whether any badger dens are present and avoiding and/or passively relocating badgers from dens as necessary to avoid and minimize impacts to badgers within active dens; requiring measures to avoid and minimize impacts on Monterey dusky-footed woodrat such as relocating active nests within the construction area to areas outside of the construction area to minimize impacts to individual woodrats from construction activities; requiring measures to avoid and minimize impacts on special-status bats such as limiting removal of trees or structures with potential bat roosting habitat to the time of year when bats are active to avoid disturbing bats during the maternity roosting season or months of winter torpor; requiring measures to avoid and minimize impacts on native stands of Monterey Pines such as avoiding any stands present to avoid tree loss and replacing trees that cannot be avoided to compensate for any loss; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring measures to avoid and minimize impacts on California red-legged frog and California tiger salamander such as pre-construction surveys to determine if these species are present and implementing minimization measures to minimize construction impacts on these species, if present, and compensating for permanent impacts.

Staging Areas

There are eight staging areas located throughout the project area. **Table 4.6-7** below lists the location of each staging area, a description of the site, habitat types present, and the special-status species with potential to occur within or adjacent to the staging areas. These facilities would be located outside of the MBNMS. The majority of the staging areas are located within developed or highly disturbed areas. However, there is potential for special-status species to occur in the vicinity of each of the staging area as listed in **Table 4.6-7**.

These special-status species include California tiger salamander, California red-legged frog, black legless lizard, silvery legless lizard, Coast Range newt, special-status plants, Smith's blue butterfly, nesting birds, roosting bats, and others listed in **Table 4.6-2**.

Special-status species that could be significantly impacted during use of the staging areas are indicated in **Table 4.6-6**. Although construction-related disturbance would be limited to the developed or highly disturbed areas, some special-status plant species could occur in areas adjacent to the developed and disturbed areas, including, but not limited to, Monterey

TABLE 4.6-7
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR AT CONSTRUCTION STAGING AREAS

Location	Site Description	Staging Area Footprint (acre)	Habitat Types Present	Special-Status Species with Potential to Occur within or Adjacent to the Staging Areas
Monte Road/Neponset Road in unincorporated Monterey County	Paved parking lot (semi-trucks) at Dole Vegetable Processing Plant	0.7	Developed/Landscaped, Ice Plant Mats, Ruderal	Habitat for California tiger salamander, California red-legged frog, Coast Range newt, black legless lizard, and silvery legless lizard occurs in the staging area vicinity. Nesting birds and roosting bats may occur in adjacent buildings and trees. Branching beach aster and Monterey spineflower documented in nearby central dune scrub.
Beach Road in Marina	Paved parking lot at Walmart	0.4	Developed/Landscaped, Ruderal, Ice Plant Mats, Non-native Annual Grassland	Habitat for black legless lizard, silvery legless lizard, coast horned lizard, and Coast Range newt occurs in the staging area vicinity. Nesting birds and roosting bats may occur in adjacent trees. Branching beach aster documented in nearby central dune scrub.
Highway 1/1st Street in Marina	Gated paved parking lot	1.2	Developed/Landscaped, Ice Plant Mats	Habitat for black legless lizard, silvery legless lizard, and coast horned lizard occurs in the staging area vicinity. Nesting birds and roosting bats may occur in adjacent trees. Monterey spineflower, coast buckwheat and branching beach aster documented in nearby central dune scrub. Smith's blue butterfly may occur in vicinity.
2nd Avenue, between Lightfighter Drive and Divarty Street, in Seaside	Paved parking lot at the Cal State University at Monterey Bay Athletic Fields	3.2	Developed/Landscaped, Ruderal, Ice Plant Mats	Habitat for black legless lizard, silvery legless lizard, and coast horned lizard occurs in the staging area vicinity. Nesting birds and roosting bats may occur in adjacent trees. Landscaped manzanita observed at the site during ESA's reconnaissance survey.
2nd Avenue/Lightfighter Drive in Seaside	Paved parking lot.	0.5	Developed/Landscaped, Ruderal, Central Dune Scrub	Habitat for black legless lizard, silvery legless lizard, coast horned lizard, and other special-status species with potential to occur in central dune scrub occurs in the staging area vicinity. Nesting birds and roosting bats may occur in adjacent trees
West side of General Jim Moore Boulevard, near Gigling Road, in Seaside	Paved parking lot	0.3	Developed/Landscaped, Coast Live Oak Woodland	Habitat for black legless lizard, silvery legless lizard, coast horned lizard, and Coast Range newt occurs in the staging area vicinity. Nesting birds and roosting bats may occur in adjacent trees.
East side of General Jim Moore Boulevard, near Gigling Road, in Seaside	Paved parking lot	0.2	Developed/Landscaped, Ice Plant Mats, Ruderal, Coast Live Oak Woodland	Habitat for black legless lizard, silvery legless lizard, coast horned lizard, and Coast Range newt occurs in the staging area vicinity. Nesting birds and roosting bats may occur in adjacent trees and buildings. Monterey spineflower documented in nearby central dune scrub (AECOM, 2016).
West side of General Jim Moore Boulevard, near Seaside Middle School, in Seaside	Sandy area	0.1	Northern Coastal Scrub, Ice Plant Mats, Coyote Brush Scrub, Developed/ Landscaped	Habitat for black legless lizard, silvery legless lizard, coast horned lizard, and Monterey shrew occurs in the staging area vicinity. Nesting birds and roosting bats may occur in adjacent trees and buildings. Monterey spineflower and branching beach aster documented in nearby central dune scrub. Monterey ceanothus documented within survey area (AECOM, 2016) and confirmed to be located on vegetated shoulder of paved area by ESA during reconnaissance surveys.

spineflower, branching beach aster, Kellogg's horkelia, and Monterey ceanothus. If these special-status plant species, or others listed in **Table 4.6-6**, occur within or adjacent to the construction disturbance areas, they could be directly or indirectly impacted by construction activities during the construction period as described above under the heading *Overview of Potential Construction Effects on Plants*. This would be a significant impact.

Similarly, if California red-legged frog, California tiger salamander, black legless lizard, Coast Range newt, or Smith's blue butterfly are located in suitable habitat adjacent to the construction area; if raptors or special-status nesting passerines, roosting special-status bats, or other special-status wildlife species listed in **Table 4.6-6**, are present within or adjacent to the construction work area, they could be directly or indirectly impacted by construction activities during the construction period as described above under the heading *Overview of Potential Construction Effects on Wildlife*, which would be a significant impact.

Implementation of the following mitigation measures would reduce impacts on special-status species to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1e (Avoidance and Minimization Measures for Special-status Plants)**, **4.6-1f (Avoidance and Minimization Measures for Smith's Blue Butterfly), 4.6-1g (Avoidance and Minimization Measures for Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard), 4.6-1h (Avoidance and Minimization Measures for Western Burrowing Owl), 4.6-1i (Avoidance and Minimization Measures for Nesting Birds), 4.6-1j (Avoidance and Minimization Measures for American Badger), 4.6-1k (Avoidance and Minimization Measures for Monterey Dusky-Footed Woodrat), 4.6-1l (Avoidance and Minimization Measures for Special-status Bats)**, **4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1o (Avoidance and Minimization Measures for California Red-legged Frog and California Tiger Salamander),** and **4.6-1p (Control Measures for Spread of Invasive Plants)**. These measures would reduce impacts on special-status species by designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring worker training regarding special-status species potentially present to ensure that workers are aware of special-status species that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as installation of an exclusion fencing to ensure special-status species do not occur within the construction area, a trash abatement program to ensure special-status species predators are not attracted to the site, and other measures to avoid and minimize impacts on special-status species; requiring specific measures to avoid and minimize impacts on special-status plants such as avoiding individual plants to the extent feasible and compensating for temporary or permanent loss of special-status plants at a level acceptable to the applicable resource agencies; requiring specific measures to avoid and minimize impacts on Smith's blue butterfly such as avoiding host plants to the extent feasible to avoid impacts to individuals and providing compensatory mitigation for permanent impacts; requiring specific measures to avoid and minimize impacts on black legless lizard, silvery legless lizard, and coast horned lizard such as relocating individuals to areas outside of the construction area to avoid injury or mortality from construction; requiring measures to avoid and minimize impacts on western burrowing owl such as conducting pre-construction surveys to

determine if owls are present and implementing minimization measures to minimize construction impacts on owls, if present, and compensating for loss of habitat; requiring specific measures to avoid and minimize impacts on nesting birds such as limiting construction to the non-nesting season when feasible to avoid impacts to active nests; requiring specific measures to avoid and minimize impacts on American badger such as conducting pre-construction surveys to identify whether any badger dens are present and avoiding and/or passively relocating badgers from dens as necessary to avoid and minimize impacts to badgers within active dens; requiring measures to avoid and minimize impacts on Monterey dusky-footed woodrat such as relocating active nests within the construction area to areas outside of the construction area to minimize impacts to individual woodrats from construction activities; requiring measures to avoid and minimize impacts on special-status bats such as limiting removal of trees or structures with potential bat roosting habitat to the time of year when bats are active to avoid disturbing bats during the maternity roosting season or months of winter torpor; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring measures to avoid and minimize impacts on California red-legged frog and California tiger salamander such as pre-construction surveys to determine if these species are present and implementing minimization measures to minimize construction impacts on these species, if present, and compensating for permanent impacts; and requiring implementation of measures to reduce the introduction or spread of invasive species that may degrade habitat for special-status species;

Consistency with Regulatory Requirements

In addition to the physical impacts described above, as noted in Section 4.6.2, Regulatory Framework, MPWSP construction could be inconsistent with applicable regulatory requirements related to special-status species that were adopted for the purpose of avoiding or mitigating an environmental effect. Specifically, the project could be inconsistent with the FESA, Federal Migratory Bird Treaty Act, CESA, California Fish and Game Code, City of Marina General Plan Policies 4.112, 4.114, 4.115, 4.118, 4.119, and 2.10; City of Marina Local Coastal Land Use Plan Policies 25 and 26 and Planning Guideline entitled Rare and Endangered Species: Habitat Protection; City of Seaside Local Coastal Program Land Use Plan Policy NCR-CZ 1.1.C; Seaside Municipal Code Chapter 8.54; Monterey County Greater Monterey Peninsula Area Plan Policy GMP-3.9; Monterey County General Plan Policies OS-4.1, OS-5.1, OS-5.2, OS-5.4, OS-5.16, and OS-5.25; Monterey County North County Land Use Plan Policies 2.3.2.1, 2.3.2.10, 2.3.3.B6, 2.3.3.C2, NC-3.3, and NC-3.5 and Key Policy 4.3.4; Fort Ord Reuse Plan (Seaside) Biological Resource Policies A-4, B-1, C-3, D-1; Fort Ord Reuse Plan (Monterey County) Biological Resource Policies A-9, B-1, D-1, which were established to avoid or mitigate special-status species impacts, respectively. As discussed in the preceding paragraphs, **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures), 4.6-1d (Protective Measures for Western Snowy Plover), 4.6-1e (Avoidance and Minimization Measures for Special-status Plants), 4.6-1f (Avoidance and Minimization Measures for Smith's Blue Butterfly), 4.6-1g (Avoidance and Minimization Measures for Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard), 4.6-1h (Avoidance and Minimization Measures for Western**

Burrowing Owl), 4.6-1i (Avoidance and Minimization Measures for Nesting Birds), 4.6-1j (Avoidance and Minimization Measures for American Badger), 4.6-1k (Avoidance and Minimization Measures for Monterey Dusky-Footed Woodrat), 4.6-1l (Avoidance and Minimization Measures for Special-status Bats), 4.6-1m (Avoidance and Minimization Measures for Native Stands of Monterey Pine), 4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1o (Avoidance and Minimization Measures for California Red-legged Frog and California Tiger Salamander), 4.6-1p (Control Measures for Spread of Invasive Plants), 4.6-1q (Frac-out Contingency Plan), 4.12-1b (General Noise Controls for Construction Equipment), and **4.14-2 (Site-Specific Nighttime Lighting Measures)** would reduce impacts on special-status species by: designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring worker training regarding special-status species potentially present to ensure that workers are aware of special-status species that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as installation of an exclusion fencing to ensure special-status species do not occur within the construction area, a trash abatement program to ensure special-status species predators are not attracted to the site, and other measures to avoid and minimize impacts on special-status species; requiring specific measures to avoid, minimize, and compensate for impacts on the western snowy plover such as avoiding the breeding season, installing a visual construction barrier for work conducted adjacent to breeding habitat during the breeding season to reduce human disturbance to plovers, conducting pre-construction surveys to determine if plovers are present and implementing minimization measures to minimize construction impacts on plovers, if present, and compensating for habitat loss to mitigate for temporary and permanent loss of habitat; requiring specific measures to avoid and minimize impacts on special-status plants such as avoiding individual plants to the extent feasible and compensating for temporary or permanent loss of special-status plants at a level acceptable to the applicable resource agencies; requiring specific measures to avoid and minimize impacts on Smith's blue butterfly such as avoiding host plants to the extent feasible to avoid impacts to individuals and providing compensatory mitigation for permanent impacts; requiring specific measures to avoid and minimize impacts on black legless lizard, silvery legless lizard, and coast horned lizard such as relocating individuals to areas outside of the construction area to avoid injury or mortality from construction; requiring measures to avoid and minimize impacts on western burrowing owl such as conducting pre-construction surveys to determine if owls are present and implementing minimization measures to minimize construction impacts on owls, if present, and compensating for loss of habitat; requiring specific measures to avoid and minimize impacts on nesting birds such as limiting construction to the non-nesting season when feasible to avoid impacts to active nests; requiring specific measures to avoid and minimize impacts on American badger such as conducting pre-construction surveys to identify whether any badger dens are present and avoiding and/or passively relocating badgers from dens as necessary to avoid and minimize impacts to badgers within active dens; requiring measures to avoid and minimize impacts on Monterey dusky-footed woodrat such as relocating active nests within the construction area to areas outside of the construction area to minimize impacts to individual woodrats from construction activities; requiring measures to avoid and minimize impacts on special-status bats such as limiting removal of trees or structures with potential bat roosting habitat to the time of year when bats are active to avoid disturbing bats during the maternity

roosting season or months of winter torpor; requiring measures to avoid and minimize impacts on native stands of Monterey Pines such as avoiding any stands present to avoid tree loss and replacing trees that cannot be avoided to compensate for any loss; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring measures to avoid and minimize impacts on California red-legged frog and California tiger salamander such as pre-construction surveys to determine if these species are present and implementing minimization measures to minimize construction impacts on these species, if present, and compensating for permanent impacts; requiring implementation of measures to reduce the introduction or spread of invasive species that may degrade habitat for special-status species; requiring preparation of a Frac-out Contingency Plan and implementation of measures in the Plan to contain and clean-up any frac-outs in waterways to minimize impacts of frac-outs on special-status species and their habitat; requiring implementation of noise controls for construction equipment to reduce noise impacts on special-status wildlife species; and requiring measures to minimize light spillover outside of the construction area to minimize construction lighting impacts on special-status wildlife species. Therefore, with these measures implemented, the MPWSP would be brought into conformance with the above-noted regulatory requirements.

Impact Conclusion

Construction activities associated with all proposed project facilities have the potential to result in significant impacts on special-status species. For all facilities, implementation of the proposed mitigation measures would reduce impacts on special-status species to a less-than-significant level.

Mitigation Measures

Mitigation Measure 4.6-1a applies to all project facilities: the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Brine Discharge Pipeline and Pipeline to CSIP Pond, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, Main System–Hidden Hills Interconnection Improvements, and staging areas.

Mitigation Measure 4.6-1a: Retain a Lead Biologist to Oversee Implementation of Protective Measures.

Prior to initiation of construction, CalAm and/or representatives of CalAm shall retain a qualified Lead Biologist[19] to oversee compliance with avoidance and minimization measures for all special-status species and sensitive habitats. The Lead Biologist shall be onsite, or shall appoint qualified biologists and/or qualified biological monitors to be

[19] The term "qualified biologist" or "qualified Lead Biologist" for surveys is defined as an individual who shall possess, at a minimum, a bachelor's degree in biology, ecology, wildlife biology or closely related field and has demonstrated prior field experience using accepted resource agency techniques for the survey prescribed, and who possesses all appropriate USFWS, NMFS, and CDFW permits. The term "biological monitor" or "qualified biological monitor" is defined as holding similar educational credentials to those of a qualified biologist and who has functioned as an environmental inspector or monitor on at least two construction projects within the preceding two years.

onsite, during all fencing and ground disturbance activities. The Lead Biologist, qualified biologists, and qualified biological monitors shall be subject to approval by resource agencies with jurisdiction over the special-status species with potential to occur at the project site (and local agencies, if required). Only the Lead Biologist and/or qualified biologists may lead protocol surveys and relocate special-status species, as authorized by the resource agencies with jurisdiction over these species.

In the event that construction-related activities have the potential to violate the prescribed special-status species and habitat protection measures, the project Lead Biologist, or other appointed qualified biological monitors shall report to construction or operational site supervisors with authority to stop work to prevent any violations. Work shall proceed only after the construction-related hazards to special-status species and habitats are removed and the species is no longer at risk. Violations shall be thoroughly documented as part of compliance monitoring activities.

The Lead Biologist shall ensure that all compliance monitoring activities are documented on a daily basis, and shall prepare a summary monitoring report on a monthly basis to be submitted to regulatory agencies upon their request. The monthly summary monitoring report shall provide information regarding the worker awareness training (see Mitigation Measure 4.6-1b below), surveys, and any observed special-status species, including any accidental injuries or fatalities. The monthly report shall also document the effectiveness and practicality of the prescribed avoidance and minimization measures and recommend modifications to the measures if needed. The Lead Biologist shall supply agency staff with copies of compliance records, including any reports of non-compliance, upon request.

The Lead Biologist shall have in her/his possession a copy of all compliance measures while work is being conducted onsite, and shall ensure that CalAm's onsite representatives and contractors also maintain copies of the compliance measures on the site. To facilitate the Lead Biologist's role, CalAm shall ensure that the Lead Biologist is fully apprised of all decisions that change or materially affect the schedule, methods, and location of work that is subject to the protective measures for biological resources.

This measure also applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1b applies to all project facilities.

Mitigation Measure 4.6-1b: Construction Worker Environmental Awareness Training and Education Program.

Prior to starting work, all construction workers at the project areas shall attend a Construction Worker Environmental Awareness Training and Education Program developed and presented by the Lead Biologist, appointed qualified biologist, and/or qualified biological monitor. The program shall include information on each federal and state-listed species, as well as other special-status wildlife and plant species and sensitive natural communities that may be encountered during construction activities. The training shall include: information on special-status species' life history and legal protections; the definition of "take" under the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA); the measures CalAm and/or its contractors have committed to implementing to protect special-status species and sensitive natural communities; reporting requirements and communication protocols; specific measures that

each worker shall employ to avoid "take" of special-status species; and penalties for violation of FESA and/or CESA. Training shall be documented as follows:

1. An acknowledgement form shall be signed by each worker indicating that environmental training has been completed.

2. A sticker shall be placed on hard hats indicating that the workers have completed the environmental training. Construction workers shall not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker.

3. A copy of the training transcript/training video and/or DVD, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms, shall be submitted to the CPUC.

This measure also applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1c applies to all project components.

Mitigation Measure 4.6-1c: General Avoidance and Minimization Measures.

CalAm's construction contractor(s) shall implement the following general avoidance and minimization measures to protect special-status species and sensitive natural communities at the facility sites during construction:

1. The construction footprint, staging areas, equipment access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and flagging prior to construction to avoid natural resources where possible. Any construction-related disturbance outside of these boundaries, including driving, parking, temporary access, sampling or testing, or storage of materials, shall be prohibited without explicit approval of the Lead Biologist.

2. New access driveways shall not extend beyond the delineated construction work area boundary. Construction vehicles shall pass and turn around only within the delineated construction work area boundary or local road network. Where new access is required outside of existing roads or the construction work area, the route shall be clearly marked (i.e., flagged and/or staked) prior to being used, subject to review and approval of the Lead Biologist.

3. Vehicle speeds within the project area shall not exceed 15 miles per hour on roads within the sites.

4. Excavated soils shall be stockpiled in disturbed areas lacking native vegetation. Stockpile areas shall be marked by the Lead Biologist to define the limits where stockpiling can occur.

5. Standard best management practices (such as setbacks and use of silt fences and fiber rolls) shall be employed to prevent loss of habitat due to erosion caused by project related impacts (i.e., grading or clearing for new roads). All detected erosion shall be remedied immediately upon discovery.

6. Fueling of construction equipment shall take place within existing paved areas, and at least 50 feet from drainages (including streams, creeks, ditches, culverts, or storm

drain inlets) and native habitats. Contractor equipment shall be checked for leaks prior to operation and repaired when leaks are detected. Fuel containers shall be stored within appropriately-sized secondary containment barriers.

7. The introduction of exotic plant species shall be avoided through physical or chemical removal and prevention. Measures to prevent the introduction of exotic plants into the construction site via vehicular sources shall include implementing Track clean or other method of vehicle cleaning for vehicles coming to the site and leaving the site. Earthmoving equipment shall be cleaned prior to transport to the project area. Weed-free rice straw or other certified weed-free straw shall be used for erosion control. Weed populations introduced into the site during construction shall be eliminated by chemical and/or mechanical means approved by California Department of Fish and Wildlife (CDFW) and the United States Fish and Wildlife Service (USFWS).

8. Use of herbicides as vegetation control measures shall be used only when mechanical means have been deemed ineffective. All uses of such herbicidal compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and state and federal legislation as well as additional project-related restrictions deemed necessary by the CDFW and/or USFWS. No rodenticides shall be used.

9. Prior to the start of construction at any proposed facility site where special-status amphibians, reptiles and mammals have a moderate or high potential to occur, the construction work area boundary shall be fenced with a temporary exclusion fence to prevent special-status wildlife from entering the site during construction (see **Table 4.6-6** for the list of special-status species that could be significantly impacted at each project facility site). The exclusion fencing shall be constructed of metal flashing, plastic sheeting, or other materials that will prohibit California horned lizards, Monterey shrews, and other special-status reptiles, amphibians, and rodents from climbing the fence. If meshing is used it shall be of a size that would not catch wildlife. The fencing shall be buried a minimum of 6 inches below grade to secure the fence and extend a minimum of 30 inches above grade. The fencing shall be inspected by the Lead Biologist or qualified biological monitor on a daily basis during construction activities to ensure fence integrity. Any needed repairs to the fence shall be performed on the day of their discovery. Fencing shall be installed and maintained during all phases of construction. Final fence design and location shall be determined in consultation with USFWS and CDFW. Exclusion fencing shall be removed once construction activities are complete.

10. If special-status wildlife species are found on the site during project construction, construction activities shall cease in the vicinity of the animal until the animal moves on its own outside of the project area (if possible). The wildlife resource agency(ies) with jurisdiction over the species shall be consulted regarding any additional avoidance, minimization, or mitigation measures that may be necessary if the animal does not move on its own. A report shall be prepared by the Lead Biologist to document the activities of the animal within the site; all fence construction, modification, and repair efforts; and movements of the animal once again outside the exclusion fence. This report shall be submitted to the CPUC and pertinent wildlife agencies with jurisdiction over the wildlife species.

11. Work shall be conducted during daylight hours to the extent practicable. Immediately prior to conducting vegetation removal or grading activities inside fenced exclusion areas, the Lead Biologist or a qualified biologist shall survey within the exclusion area to ensure that no special-status species are present. The Lead Biologist or a qualified biologist shall also monitor vegetation removal or grading activities inside fenced exclusion areas for the presence of special-status species.

12. To prevent the inadvertent entrapment of special-status wildlife during construction, all excavated, steep-walled holes or trenches more than 2 feet deep shall be covered with plywood or similar materials at the close of each working day, or escape ramps constructed of earth fill or wooden planks shall be positioned within the excavations to allow special-status wildlife to escape on their own. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape. If listed species are trapped, the USFWS and/or CDFW, as appropriate, shall be contacted to determine the appropriate method for relocation.

13. All construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods and with a diameter of 4 inches or more shall be inspected for special-status wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a special-status animal is discovered inside a pipe, that section of pipe shall not be moved until the appropriate resource agency, with jurisdiction over that species, has been consulted to determine the appropriate method for relocation. If necessary, under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity until the animal has escaped.

14. All vertical tubes used in project construction, such as chain link fencing poles or signage mounts, shall be temporarily or permanently capped at the time they are installed to avoid the entrapment and death of special-status birds.

15. Water used for dust abatement shall be minimized to the extent feasible in an effort to avoid the formation of puddles that could attract common ravens and other predators to the construction work areas.

16. No vehicle or equipment parked in the project area shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal shall be left to move on its own.

17. All vehicles and equipment shall be in proper working condition to ensure that there is no potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The Lead Biologist shall be informed of any hazardous spills within 24 hours of the incident. Hazardous spills shall be immediately cleaned up and the contaminated soil shall be properly disposed of at a licensed facility.

18. A trash abatement program shall be implemented during construction. Trash and food items shall be contained in closed containers and removed from the construction site daily to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.

19. Workers shall be prohibited from feeding wildlife and bringing pets and firearms to the construction work areas.

20. Intentional killing or collection of wildlife species, including special-status species in the project area and surrounding areas shall be prohibited.

21. All temporarily disturbed areas shall be returned to pre-project conditions or better.

This measure also applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1d applies to the subsurface slant wells and the Source Water Pipeline and Source Water Pipeline Optional Alignment.

Mitigation Measure 4.6-1d: Protective Measures for Western Snowy Plover.

Construction contractors shall be required to implement the following measures to protect western snowy plover:

1. CalAm shall require that its construction contractor(s) implement all avoidance and minimization measures required by USFWS as part of the FESA Section 7 consultation between the ONMS and USFWS.

2. Construction work at the slant well heads and along the segment of the Source Water Pipeline located west of the CEMEX processing plant shall occur during the western snowy plover non-breeding season (defined as October 1 through February 28) unless otherwise approved by the USFWS.

3. For work that cannot be completed during the non-nesting season, the following steps to obtaining USFWS approval shall be implemented:

    a. CalAm shall engage the services of Point Blue or other qualified western snowy plover biologist (subject to approval by USFWS) to perform one year of surveys during the nesting season preceding construction to determine whether nesting is occurring within sight or audible range of the slant well head locations or Source Water Pipeline.

    b. If findings from the nesting season survey are negative, then the qualified western snowy plover biologist shall conduct additional pre-construction nesting surveys within 24 hours of initiation of construction activities within 300 feet of all construction work areas to determine if any snowy plover nests are present. If there is a break of 3 days or more in construction activities, a survey shall be conducted before construction begins again.

    c. If nests are observed within 300 feet of construction activities, the qualified biologist shall notify and consult with USFWS to determine whether construction may proceed, based on detailed information on location of nest(s), proximity to construction, site lines and topography, and noise environment. Any additional avoidance or minimization measures shall be implemented prior to initiating construction activities.

    d. The biologist shall conduct periodic monitoring during construction to determine if there are any nest starts. Nest starts shall be reported to USFWS to determine whether construction on all or portions of the slant wells or Source Water Pipeline need to be suspended for the duration of nesting and fledging. The biologist will inform the decision with detailed information on location of

nest(s), proximity to construction, site lines and topography, and noise environment.

4. For construction during the breeding season that is approved by USFWS, visual barriers shall be installed around any work area located within line of sight of potential nesting habitat. Visual barriers shall be constructed at an adequate height and width to visually block construction equipment and construction crews from snowy plover nesting habitat. Final designs of the visual barriers shall be coordinated with USFWS. Existing sand dunes may serve as visual barriers.

5. For work conducted during the non-nesting season, a qualified biologist will evaluate the nature and extent of wintering plover activity in the project area several days prior to construction and inform CalAm so they can make construction decisions that avoid or minimize disturbance to plovers. The biologist shall conduct periodic monitoring during construction to ensure that minimization measures are implemented to avoid or minimize disturbance to plovers.

6. CalAm shall restore all temporarily impacted potential snowy plover habitat following construction. Restoration and mitigation activities shall be described in a Habitat Mitigation and Monitoring Plan consistent with **Mitigation Measure 4.6-1n (Habitat Mitigation and Monitoring Plan)**.

7. Anti-perching devices, such as bird spikes or wire strips, shall be installed and maintained on the top of the proposed electrical control panel to discourage potential plover predators.

8. Permanent loss of western snowy plover habitat will be compensated, at a minimum ratio of 2:1, or as otherwise negotiated with USFWS, through actions to enhance existing degraded habitat according to one of the following approaches, or a combination thereof:

    a. Prior to project implementation, CalAm shall prepare a Habitat Mitigation and Monitoring Plan, as described in Mitigation Measure 4.6-1n (Habitat Mitigation and Monitoring Plan), which will describe either onsite or offsite restoration. The plan will include actions to benefit western snowy plover, in conjunction with providing mitigation for special-status plants, as described in Mitigation Measure 4.6-1e, below. The plan will be subject to USFWS input and approval. It will describe restoration methods that may include, but not be limited to removal of ice plant, stabilization of dune sand, planting, seeding or other means of re-establishing native plant species. CalAm will identify and secure access rights and other approvals to implement the plan, and will execute the plan. CalAm will conduct, or will support a qualified third party monitor to conduct annual monitoring of restoration performance measures, such as cover, density and diversity of native plant species, thresholds of non-native plant abundance, and stability of dune sands.

    b. Alternatively, and also subject to USFWS input and approval, in lieu of undertaking restoration actions described above, CalAm may contribute funds to either a mitigation bank authorized to sell credits for western snowy plover habitat or dunes scrub vegetation, or to an existing restoration program, such as those undertaken by the Monterey Peninsula Regional Park District.

This measure also applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1e applies to: the: the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, Ryan Ranch-Bishop Interconnection Improvements, Main System–Hidden Hills Interconnection Improvements, and staging areas.

Mitigation Measure 4.6-1e: Avoidance and Minimization Measures for Special-status Plants.

Prior to construction, CalAm or its contractor shall conduct focused botanical survey(s) for special-status plants in all potentially suitable habitat during the appropriate blooming period for each species and in accordance with the guidelines established by California Department of Fish and Game in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG, 2009). Maps depicting the results of these surveys shall be prepared for use in final design. If more than two years elapse between the focused botanical surveys and commencement of ground disturbance activities, a final set of appropriately-timed focused botanical surveys shall be conducted and populations mapped. The results of these final surveys shall be combined with previous survey results to produce habitat maps showing habitat where the special-status plants have been observed during either of the focused botanical surveys conducted for each facility site.

Special-status plant species are widespread throughout the project area, and could occur at the following facility locations: subsurface slant well site, MPWSP Desalination Plant site, ASR-5 and ASR-6 Wells sites, Terminal Reservoir site, and along the Source Water Pipeline, new Desalinated Water Pipeline and new Desalinated Water Pipeline Optional Alignment, the Castroville Pipeline and Castroville Pipeline Optional Alignments, new Transmission Main and new Transmission Main Optional Alignment, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, and ASR Recirculation Pipeline, Ryan Ranch-Bishop Interconnection Improvements, and Main System-Hidden Hills Interconnection Improvements, and at proposed staging areas.

1. To the extent feasible, project facilities shall be sited to avoid permanent and temporary impacts on special-status plants and their required constituent habitat elements.

2. Special-status plants located within temporary construction areas shall be fenced or flagged for avoidance (if feasible) prior to construction. The Lead Biologist or the appointed biological monitor shall ensure compliance with off-limits areas. If avoidance is not feasible, seasonal avoidance measures (i.e., limited operating periods based on timing of annual plant dormancy), or temporarily placing heavy fabric or wooden mats over the affected habitat shall be applied as appropriate. Topsoil salvage and site restoration may also be implemented, to be determined by the Lead Biologist and USFWS and CDFW, as appropriate.

3. For potential impacts on listed plant species, such as Menzies' wallflower, sand gilia, Monterey spineflower, and Yadon's rein orchid, CalAm shall comply with the FESA CESA by implementing any requirements from USFWS and CDFW consultation. For state listed rare plants, an Incidental Take Permit (ITP) may be required which

would provide conditions for allowable take and measures to compensate impacts on rare plants.

4. For HMP plant species on former Fort Ord lands, plants shall be salvaged, under the direction of a qualified biologist, as necessary, per the requirements of the HMP, and in accordance with any requirements from USFWS and CDFW.

5. Compensation for temporary or permanent loss of special-status plant occurrences, in the form of land purchase or restoration, shall be provided to the level acceptable to the resource agencies with jurisdiction over those species. Compensatory measures shall be determined on a case-by-case basis in consultation with the resource agencies with jurisdiction over those species. Compensation for loss of special-status plant populations typically involves the purchase and permanent stewardship of known occupied habitat or the restoration and reintroduction of populations in degraded, unoccupied habitat. Restoration or reintroduction may be located on- or offsite.

6. CalAm shall prepare a **Habitat Mitigation and Monitoring Plan, as described in Mitigation Measure 4.6-1n** (Habitat Mitigation and Monitoring Plan), which will describe either onsite or offsite restoration.

This measure also applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1f applies to the subsurface slant wells, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, New Transmission Main and New Transmission Main Optional Alignment, and staging areas.

Mitigation Measure 4.6-1f: Avoidance and Minimization Measures for Smith's Blue Butterfly.

CalAm or its construction contractor(s) shall implement the following measures to reduce impacts on Smith's blue butterfly during construction:

1. CalAm shall require that its construction contractor(s) implement all avoidance and minimization measures required by USFWS as part of the FESA Section 7 consultation between ONMS and USFWS.

2. Floristic botanical surveys of all suitable habitat for coast buckwheat and seacliff buckwheat, both of which are host plants to Smith's blue butterfly, shall be conducted by a qualified biologist during project design and prior to project implementation. Maps depicting the results of these surveys shall be prepared to document the location of the host plants within or adjacent to the project area.

3. Construction of project elements shall be planned to avoid mapped host plants for Smith's blue butterfly whenever feasible.

4. If it is not feasible to avoid disturbance to host plants during project construction, the following shall be implemented:

    a. Prior to the start of construction activities and before conducting preconstruction surveys for Smith's blue butterfly, the Lead Biologist or an appointed qualified biologist shall prepare a protect-in-place and relocation plan for Smith's blue

butterfly and its host plants. If either is found in areas subject to permanent habitat or plant loss, then plants would be salvaged and relocated in accordance with the plan. The relocation plan shall be submitted to USFWS for approval. The relocation plan shall define the study area, describe appropriate handling and relocation methods (such as digging up and removing individual plants, duff, and/or soil and moving them to a new location), and identify appropriate relocation sites.

b. If preconstruction surveys identify butterflies or host plants in areas subject only to temporary disturbance that do not require plant removal, then the plants, and leaf litter and soil which may hold dormant butterfly pupae, would be protected in place with heavy fabric, plywood or other mats (depending on the stability of the underlying soil) to allow construction vehicles to pass over. Following construction, the fabric or mats would be carefully removed and the area allowed to recover. Short-term damage to buckwheat populations is expected to be low.

c. A qualified biologist shall survey the work area no more than 30 days before the onset of ground disturbance. If any life stage of the Smith's blue butterfly or its host plants is found within the project area boundary, the Lead Biologist or qualified biologist shall relocate plants, duff, and/or soil, from the site before construction begins per the relocation plan described above.

5. Upon completion of construction activities, CalAm shall restore Smith's blue butterfly habitat temporarily impacted during construction. Compensatory mitigation for permanent impacts shall be provided either onsite or offsite at a minimum ratio of 2:1, or as otherwise negotiated with USFWS. Restoration and mitigation activities shall be described in the Habitat Mitigation and Monitoring Plan prescribed by **Mitigation Measure 4.6-1n (Habitat Mitigation and Monitoring Plan)**.

This measure also applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1g applies to the subsurface slant wells, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, and staging areas.

Mitigation Measure 4.6-1g: Avoidance and Minimization Measures for Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard.

The Lead Biologist shall appoint a qualified biologist possessing a Scientific Collecting Permit issued by CDFW for black legless lizard, silvery legless lizard, and coast horned lizard to conduct preconstruction surveys for legless lizards and coast horned lizards within 24 hours prior to the initiation of ground disturbing activities or vegetation clearing in suitable habitats such as central dune scrub, coast sage scrub, and central maritime chaparral.

1. Prior to conducting the surveys, the qualified biologist shall prepare a relocation plan that describes the appropriate survey and handling methods for the lizards, and identifies nearby relocation sites where the lizards would be relocated if found during the preconstruction surveys. Surveys should be conducted at relocation sites to

determine the existing lizard population size and ensure that the relocation sites will not become overpopulated. Only relocation sites that are not overpopulated and have suitable habitat conditions (e.g., soils, moisture content, vegetation, aspect) shall be used. The relocation plan shall be submitted to CDFW for approval prior to the start of construction activities.

2. Legless lizard surveys shall be conducted by hand raking soil and leaf litter beneath brush. If Legless lizards are encountered, they shall be salvaged and relocated per the relocation plan.

3. Coast horned lizard surveys shall be conducted by walking transects spaced appropriately to allow for 100 percent visual coverage in search of lizards under shrubs, along gravelly-sandy areas, or any other suitable habitat. Any lizard encountered shall be relocated per the relocation plan.

This measure also applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1h applies to the Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, and staging areas.

Mitigation Measure 4.6-1h: Avoidance and Minimization Measures for Western Burrowing Owl.

The following measures shall be implemented to avoid and minimize impact on western burrowing owl:

1. Prior to the start of construction activities in or around suitable burrowing owl habitat, the Lead Biologist shall appoint a qualified biologist to conduct protocol surveys for burrowing owl. The survey methodology shall be consistent with the methods outlined in the *Staff Report on Burrowing Owl Mitigation* (CDFG, 2012). The surveys shall consist of walking parallel transects spaced 7 to 20 meters (23 to 65 feet) apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls. A copy of the protocol survey results shall be submitted to the CPUC and CDFW upon request. Protocol surveys shall be conducted within both the breeding and non-breeding seasons to determine the presence/absence of burrowing owls.

2. A qualified biologist shall conduct preconstruction surveys of the permanent and temporary impact areas in or around suitable burrowing owl habitat to locate active breeding or wintering burrowing owl burrows not more than less than 14 days prior to construction and/or prior to exclusion fencing installation. The methodology for the preconstruction surveys shall be consistent with the methods outlined in the *Staff Report on Burrowing Owl Mitigation*.

3. If no burrowing owls are detected, no additional action is necessary.

4. In areas positive for burrowing owl presence, the Lead Biologist or qualified biological monitor shall be onsite during all construction activities in areas where burrowing owls are determined to be present.

5. If burrowing owls are detected during the nesting and fledging seasons (April 1 to August 15 and August 16 to October 15, respectively), no ground-disturbing activities shall be permitted within the distances specified in **Table 4.6-8** from an active burrow, unless otherwise authorized by CDFW. The specified buffer distance ranges from 656 feet to 1,640 feet, according to the time of year and the level of disturbance. Buffers shall be established in accordance with **Table 4.6-8** and occupied burrows shall not be disturbed during the nesting season unless a qualified biologist approved by CDFW verifies through noninvasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Burrowing owls shall not be moved or excluded from burrows during the breeding season (April 1 to October 15).

6. During the non-breeding (winter) season (October 16 to March 31), consistent with **Table 4.6-8**, ground-disturbing work shall maintain a distance ranging from 164 to 1,640 feet from any active burrows, depending on the level of disturbance, to be determined through coordination with CDFW. If active winter burrows are found that would be directly affected by ground-disturbing activities, owls can be displaced from winter burrows according to recommendations made in the *Staff Report on Burrowing Owl Mitigation*.

TABLE 4.6-8
BURROWING OWL BURROW BUFFERS

Location	Time of Year	Level of Disturbance		
		Low	Medium	High
Nesting sites	April 1–August 15	656 feet	1,640 feet	1,640 feet
Nesting sites	August 16–October 15	656 feet	656 feet	1,640 feet
Any occupied burrow	October 16–March 31	164 feet	328 feet	1,640 feet

SOURCE: CDFG Staff Report, 2012.

7. Burrowing owls should not be excluded from burrows unless or until a Burrowing Owl Exclusion Plan is developed by the Lead Biologist, approved by CDFW, and submitted to the CPUC. At a minimum, the plan shall include the following:

   a. Confirmation by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding the use of a scope to visually inspect the burrow;

   b. Specifications regarding the type of scope to be used and the appropriate timing of using a scope to visually inspect burrows to avoid disturbance of individual owls;

   c. Occupancy factors to look for and what shall guide determination of vacancy and excavation timing;

   d. Methods for burrow excavation. Excavation using hand tools with refilling to prevent reoccupation is preferable whenever possible;

   e. Removal of other potential owl burrow surrogates or refugia onsite;

f. Photographing the excavation and closure of the burrow to demonstrate success and sufficiency;

g. Monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use and to avoid take;

h. Methods to ensure the impacted site shall continually be made inhospitable to burrowing owls and fossorial[20] mammals (e.g., by allowing vegetation to grow tall, heavy disking, or immediate and continuous grading) until development is complete.

8. Site monitoring shall be conducted prior to, during, and after exclusion of burrowing owls from their burrows sufficient to ensure take is avoided. Prior to exclusion activities, daily monitoring shall be conducted for one week to confirm young owls have fledged if the exclusion occurs immediately after the end of the breeding season.

9. If burrowing owls are found on-site, compensatory mitigation for loss of breeding and/or wintering habitat shall be implemented onsite or offsite in accordance with burrowing owl *Staff Report on Burrowing Owl Mitigation* guidance and in consultation with CDFW. If compensatory mitigation is necessary, CalAm shall detail the compensatory mitigation in a Burrowing Owl Habitat Mitigation Plan (which shall be incorporated into the Habitat Mitigation and Monitoring Plan described in **Mitigation Measure 4.6-1n**). At a minimum, the following measures shall be implemented:

   a. Temporarily disturbed habitat shall be restored, if feasible, to pre-construction conditions, including soil decompaction and revegetation.

   b. Permanent impacts on nesting, occupied and satellite burrows, and any other burrowing owl habitat shall be mitigated such that the habitat acreage, number of burrows, and number of burrowing owls impacted are replaced. Compensatory mitigation may include the permanent conservation of lands with similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) as those lands where the permanent loss of habitat would occur. Conservation lands should provide habitat for burrowing owl nesting, foraging, wintering, and/or dispersal (i.e., during breeding and nonbreeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals.

Mitigation Measure 4.6-1i applies to all project components.

Mitigation Measure 4.6-1i: Avoidance and Minimization Measures for Nesting Birds.

This measure applies to all nesting birds protected by the federal Migratory Bird Treaty Act and Section 3503 of the California Fish and Game Code, except for western snowy plover and western burrowing, which are addressed in Mitigation Measure 4.6-1d and 4.6-1h, respectively.

Nesting birds may be present at all of the proposed facility sites. A qualified biologist shall conduct preconstruction avian nesting surveys prior to initiation of construction activities at all facility sites, unless otherwise indicated below.

[20] Adapted to digging or burrowing.

1. No preconstruction surveys or avoidance measures are required for construction activities that would be completed entirely during the non-nesting season (September 16 to January 31).

2. For all construction activities scheduled to occur during the nesting season (February 1 to September 15), the qualified biologist shall conduct a preconstruction avian nesting survey within 14 days of site clearing and/or ground disturbance. Copies of the survey results shall be submitted to the CPUC.

3. If construction activities at any given facility site begins in the non-breeding season and proceeds continuously into the breeding season, no surveys are required. However, if there is a break of 14 days or more in construction activities during the breeding season, a new nesting bird survey shall be conducted before reinitiating construction.

4. The surveying biologist shall be capable of determining the species and nesting stage without causing intrusive disturbance. The surveys shall cover all potential nesting sites within 500 feet of the project area for raptors and within 300 feet for other birds.

If active nests are found, a no-disturbance buffer (at least 300 to 500 feet for raptors and 50 to 100 feet for other birds [or as otherwise determined in consultation with CDFW] shall be created around the active nests). If the nest(s) are found in an area where ground disturbance is scheduled to occur, the project operator shall require that ground disturbance be delayed until after the birds have fledged.

This measure also applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1j applies to the MPWSP Desalination Plant, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and staging areas.

Mitigation Measure 4.6-1j: Avoidance and Minimization Measures for American Badger.

The following measures shall be implemented to avoid and minimize impacts on American badger:

1. A qualified biologist shall conduct preconstruction surveys for American badger dens prior to the start of construction at potentially affected sites. The survey results shall be submitted to the CPUC.

2. Areas of suitable habitat for American badger in the project area include fallow agricultural and grazing land and non-native grasslands. Surveys shall be conducted wherever these vegetation communities exist within 100 feet of the project area boundary. Along pipeline alignments surveys shall be phased to occur within 14 days prior to disturbance along that portion of the alignment.

3. If no potential American badger dens are found during the preconstruction surveys, no further action is required.

4. If the biologist determines that any potential dens identified during the preconstruction surveys are inactive, the biologist shall excavate the dens by hand with a shovel to prevent use by badgers during construction.

5. If active badger dens are found during the course of preconstruction surveys, the following measures shall be taken to avoid and minimize adverse effects on American badger:

    a. Relocation shall be prohibited during the badger pupping season (typically February 15 to June 1).

    b. Construction activities shall not occur within 50 feet of active badger dens. The Lead Biologist shall contact CDFW immediately if natal badger dens are detected to determine suitable buffers.

If the biologist determines that potential dens within the project area, and outside the breeding season, may be active, the biologist shall notify the CDFW. Badgers shall be passively relocated from active dens during the nonbreeding season. Passive relocation may include incrementally blocking the den entrance with soil, sticks, and debris for three to five days to discourage use of these dens prior to project disturbance. After the qualified biologist determines that badgers have abandoned any active dens found within the project area, the dens shall be hand-excavated with a shovel to prevent re-use during construction.

Mitigation Measure 4.6-1k applies to the Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and staging areas.

Mitigation Measure 4.6-1k: Avoidance and Minimization Measures for Monterey Dusky-Footed Woodrat.

The following measures shall be implemented to avoid and minimize impacts on Monterey dusky-footed woodrat:

1. A qualified wildlife biologist shall conduct preconstruction surveys for Monterey dusky-footed woodrat. The surveys shall be conducted within 14 days prior to the start of construction in suitable habitat and shall identify any woodrat nests located within 50 feet of anticipated construction disturbance areas.

2. If woodrat nests are found during the preconstruction surveys, the wildlife biologist shall conduct additional surveys throughout the duration of construction activities at the potentially affected facility site to identify any newly constructed woodrat nests.

3. If nests are observed outside of the construction area, the qualified biologist shall demarcate a suitable buffer area with orange construction fencing and require that all construction activities and disturbance remain outside of the fencing.

4. Active woodrat nests located within the anticipated construction disturbance areas shall be relocated. To the extent feasible, nests should be relocated outside of the peak breeding season, (peak breeding season is typically February through November). Relocation of woodrats and/or their nests shall be conducted by the Lead Biologist or qualified wildlife biologist as follows:

a. Clear understory vegetation from around the nest using hand tools.

b. After all vegetative cover has been cleared around the nest, the biologist shall gently disturb the nest to encourage the woodrat(s) to abandon the nest and seek cover in adjacent habitat.

c. Once the woodrats have left the nest, the biologist shall carefully relocate the nest sticks to suitable habitat outside of the construction disturbance area, piling the sticks at the base of trees or large shrubs if available. If multiple nests are relocated, the stick piles shall be placed at least 25 feet from one another.

d. The Lead Biologist shall ensure potential health hazards to the biologists moving nests are addressed to minimize the risk of contracting diseases associated with woodrats and woodrat nests. These include hantavirus, Lyme disease, and plague. The biologists that relocate nests shall take the following precautionary safety measures:

   i. Wear a Cal/OSHA-certified facial respirator to reduce inhalation of potential disease causing organisms.

   ii. Wear a white Tyvec protective suit to provide a barrier for ticks and fleas and facilitate their detection and removal.

   If nest relocation cannot be avoided within the peak breeding season, the Lead Biologist shall contact CDFW for further guidance on relocating woodrat nests and shall implement all further CDFW recommendations.

Mitigation Measure 4.6-1l applies to the MPWSP Desalination Plant, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Brine Discharge Pipeline and Pipeline to CSIP Pond, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, Main System–Hidden Hills Interconnection Improvements, and staging areas.

Mitigation Measure 4.6-1l: Avoidance and Minimization Measures for Special-status Bats.

A pre-construction survey for special-status bats shall be conducted by a qualified biologist prior to construction activities to characterize potential bat habitat and identify active roost sites. Surveys should be conducted within 100 feet of construction activities. If an active bat roost being used for maternity or hibernation is found within 100 feet of the construction activities a no-disturbance buffer of 100 feet shall be established around these roost sites until they are determined to be no longer active by the qualified biologist. Should potential roosting habitat or active bat roosts be found in trees and/or structures to be removed under the project, the following measures shall be implemented:

1. Removal of trees or structures with potential bat roosting habitat or active roosts shall occur when bats are active, approximately between the periods of March 1 to April 15 and August 15 to October 15; outside of bat maternity roosting season

(approximately April 15 – August 31) and outside of months of winter torpor (approximately October 15 – February 28) to the extent feasible.

2. If removal of trees and structures with potential bat roosting habitat during the periods when bats are active is not feasible a qualified biologist will develop a Bat Protection Plan. This plan will include a supplemental evaluation of activity at potential roosting habitat conducted within 14 days prior to removal and additional roost specific protective measures to be implemented prior to and during removal.

3. The qualified biologist shall be present during tree and structure removal if potential roosting habitat or active bat roosts are present. Trees and structures with potential roosting habitat or active roosts shall be removed only when no rain is occurring or is forecast to occur for 3 days, when nighttime temperatures are at least 50°F, and when wind speeds are less than 15 mph.

4. Removal of trees with active or potentially active roost sites shall follow a two-step removal process:

    a. On the first day of tree removal and under supervision of the qualified biologist, branches and limbs not containing cavities or fissures in which bats could roost, shall be cut only using hand tools.

    b. On the following day and under the supervision of the qualified biologist, the remainder of the tree may be removed, either using hand tools or other equipment (e.g. excavator or backhoe).

5. Removal of structures containing or suspected to contain active bat roosts shall be partially dismantled under the supervision of the qualified biologist in the evening prior to the emergence of bats. Structures shall be partially dismantled to significantly change the roost conditions, causing bats to abandon and not return to the roost. Removal will be completed the subsequent day.

6. Bat roosts that begin during construction are presumed to be unaffected, and no buffer would be necessary. Direct impacts on bat roosts or take of individual bats will be avoided.

Mitigation Measure 4.6-1m applies to the Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, and Main System-Hidden Hills Interconnection Improvements.

Mitigation Measure 4.6-1m: Avoidance and Minimization Measures for Native Stands of Monterey Pine.

A qualified botanist or arborist shall conduct surveys for native stands of Monterey pine prior to completion of final project design documents. Individual Monterey pine trees existing within the construction work area shall be evaluated to determine if they are native occurrences, relics, or otherwise naturally-occurring remnants of the past historic range. Maps depicting the results of these surveys shall be prepared for consideration during final facility design. Native stands of Monterey pine could occur at the identified facility sites and pipeline alignments based on the historical extent of native Monterey pines and biological reconnaissance surveys.

To the extent feasible, project facilities shall be sited and construction activities planned to avoid impacts on native stands of Monterey pine. Any native stands of Monterey pines located within the anticipated construction disturbance area shall be fenced or flagged for avoidance prior to construction, and a biological monitor shall be present to ensure compliance with off-limits areas.

If removal of native stands of Monterey pine cannot be avoided, trees shall be replaced at a 2:1 ratio for trees removed or directly impacted by construction activities. Only local Monterey pine genetic stock shall be used for replanting at the project site. Replacement plantings shall be planted contiguous with other individuals of the same species in areas that are determined to have suitable site conditions. Protective fencing shall be installed around the seedlings to protect against disturbance. Replacement trees shall be maintained and monitored for a period of five years to ensure success. The Habitat Mitigation and Monitoring Plan to be prepared in accordance with **Mitigation Measure 4.6-1n (Habitat Mitigation and Monitoring Plan)** shall detail the monitoring requirements and success criteria.

This mitigation measures applies to native stands of Monterey pines. Independent of whether Monterey pines in the project area are considered native stands, individual trees may be subject to local tree ordinances; see **Mitigation Measure 4.6-5 (Compliance with Local Tree Policies and Ordinances)**.

Mitigation Measure 4.6-1n applies to the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and staging areas.

Mitigation Measure 4.6-1n: Habitat Mitigation and Monitoring Plan.

CalAm shall develop and submit a Habitat Mitigation and Monitoring Plan (HMMP) to the appropriate resource agencies (CCC, CDFW, CCRWQCB, USACE, USFWS, and local agencies that require a habitat mitigation and monitoring plan) for approval prior to project construction. The HMMP shall be implemented at all areas where special-status species habitat or sensitive natural communities will be restored, created, or enhanced to mitigate for project impacts either prior to, concurrently with, or following project construction, as specified in the HMMP. The HMMP shall outline measures to be implemented to, depending on the mitigation requirements, restore, improve, or re-establish special-status species habitat, sensitive natural communities, and critical habitat on the site, and shall include the following elements:

1. Name and contact information for the property owner of the land on which the mitigation will take place
2. Identification of the water source for supplemental irrigation
3. Identification of depth to groundwater
4. Site preparation guidelines to prepare for planting, including coarse and fine grading

5. Plant material procurement, including assessment of risk of introduction of plant pathogens through use of nursery-grown container stock vs. collection and propagation of site-specific plant materials, or use of seeds

6. Planting plan outlining species selection, planting locations and spacing, for each vegetation type to be restored

7. Planting methods, including containers, hydroseed or hydromulch, weed barriers and cages, as needed

8. Soil amendment recommendations

9. Irrigation plan, with proposed rates (in gallons per minute), schedule (i.e. recurrence interval), and seasonal guidelines for watering

10. Site protection plan to prevent unauthorized access, accidental damage and vandalism

11. Weeding and other vegetation maintenance tasks and schedule, with specific thresholds for acceptance of invasive species

12. Performance standards by which successful completion of mitigation can be assessed in comparison to a relevant baseline or reference site, and by which remedial actions will be triggered; all success criteria to be summarized in tabular form

13. Monitoring methods and schedule

14. Reporting requirements and schedule

15. Adaptive management and corrective actions to achieve the established success criteria

16. Educational outreach program to inform operations and maintenance departments of local land management and utility agencies of the mitigation purpose of restored areas to prevent accidental damages

17. Description of any other compensatory mitigation in the form of land purchase, establishment of conservation easements or deed restrictions, contribution of funds in lieu of active restoration, or purchase of mitigation bank credits, or other means by which the mitigation site will be preserved in perpetuity.

Mitigation Measure 4.6-1o applies to the MPWSP Desalination Plant, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Brine Discharge Pipeline and Pipeline to CSIP Pond, Castroville Pipeline and Castroville Pipeline Optional Alignments, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and staging areas.

Mitigation Measure 4.6-1o: Avoidance and Minimization Measures for California Red-legged Frog and California Tiger Salamander.

A preconstruction survey for California red-legged frog and California tiger salamander shall be conducted by a qualified biologist in suitable habitat where there is a moderate to high potential for these species to occur prior to vegetation removal or grading, as specified below:

1. Prior to conducting the surveys, the qualified biologist shall prepare a relocation plan that describes the appropriate survey and handling methods for California red-legged frog and California tiger salamander, and identifies nearby relocation sites where individuals would be relocated if found during the preconstruction surveys. The relocation plan shall be submitted to USFWS and CDFW for approval prior to the start of construction activities.

2. Preconstruction surveys shall be conducted within 5 days prior to, and immediately prior to, vegetation removal, grading, or installation of exclusion fence to identify any California red-legged frog, California tiger salamander, and any small mammal burrows.

3. Small mammal burrows identified during preconstruction surveys shall be surveyed (through hand-excavation, scoping, or other suitable methods to be determined in consultation with USFWS and CDFW) to identify any California red-legged frog or California tiger salamander. Once the burrow is confirmed to be vacant, the burrow shall be collapsed.

4. If California red-legged frog or California tiger salamander are observed within the construction area, a qualified biologist shall relocate the individual according to the relocation plan above and only with authorization from USFWS and CDFW.

5. Exclusion fencing shall be installed around construction areas where there is a moderate to high potential for these species to occur as specified in **Mitigation Measure 4.6-1c (General Avoidance and Minimization Measures)**.

6. The qualified biologist shall monitor vegetation removal and grading inside the exclusion fence as specified in **Mitigation Measure 4.6-1c (General Avoidance and Minimization Measures)**.

Upon completion of construction activities, CalAm shall restore California tiger salamander and California red-legged frog habitat temporarily impacted during construction. Compensatory mitigation for permanent impacts shall be provided either onsite or offsite at a minimum ratio of 2:1, or as otherwise negotiated with USFWS and CDFW. Restoration and mitigation activities shall be described in the Habitat Mitigation and Monitoring Plan prescribed by **Mitigation Measure 4.6-1n (Habitat Mitigation and Monitoring Plan)**.

Mitigation Measure 4.6-1p applies to the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, and staging areas.

Mitigation Measure 4.6-1p: Control Measures for Spread of Invasive Plants.

Construction best management practices shall be implemented in construction areas within or adjacent to lands with native plant communities that may be susceptible to non-native plant species invasion to prevent the spread of invasive plants, seed, propagules, and pathogens through the following actions:

1) Avoid driving in or operating equipment in weed-infested areas outside of fenced work areas and restrict travel to established roads.

2) Avoid leaving exposed soil or construction materials in areas with the potential for invasive plants (e.g., in staging areas). Non-active stockpiles shall be covered with plastic or a comparable material.

3) Clean tools, equipment, and vehicles before transporting materials and before entering and leaving worksites (e.g., wheel washing stations at Project site access points). Inspect vehicles and equipment for weed seeds and/or propagules stuck in tire treads or mud on the vehicle to minimize the risk of carrying them to unaffected areas. Designate areas within active construction sites for cleaning and inspections.

4) An environmental inspector, under direction of the Lead Biologist or appointed qualified biologist (see **Mitigation Measure 4.6-1a**) shall inspect vehicles and equipment prior to project initiation at applicable work areas (listed above) for weed seeds and plant fragments that could colonize within the site or be transported to other sites. At project initiation, all construction vehicles must be cleaned to remove soil and plant fragments at designated locations, and vehicles or equipment that are not clean shall be rejected until clear of weed seed and plant fragments. Wheel washing stations or other methods to remove and contain seeds or other plant fragments from vehicles, equipment, boots, and tools shall be established in designated areas.

5) All equipment and tools involved in soil disturbance at applicable work areas shall be disinfected using a 10% bleach or 70% isopropyl alcohol solution prior to initial use or prior to returning to applicable work areas if used on another project site.

6) Only certified, weed-free, plastic-free imported erosion control materials (or rice straw in upland areas) shall be used for the project.

This measure also applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1q applies to HDD installation of the Castroville Pipeline beneath the Salinas River and Tembladero Slough.

Mitigation Measure 4.6-1q: Frac-out Contingency Plan.

CalAm shall retain a licensed geotechnical engineer to develop a Frac-out Contingency Plan (Plan). CalAm will submit the plan to the appropriate resource agencies (CDFW, CCRWQCB, USACE, USFWS, NMFS, and local agencies with land use jurisdiction) for approval prior to the start of construction of any pipeline that will use HDD installation. The Plan shall be implemented at all areas where HDD installation under a waterway would occur to avoid, minimize, or mitigate for project impacts either prior to, concurrently with, or following HDD installation, as specified in the Plan. The plan shall include, at a minimum:

1) Measures describing training of construction personnel about monitoring procedures, equipment, materials and procedures in place for the prevention, containment, clean-up (such as creating a containment area and using a pump, using a vacuum truck, etc.), and disposal of released bentonite slurry, and agency notification protocols;

2) Methods for preventing frac-out including maintaining pressure in the borehole to avoid exceeding the strength of the overlying soil.

3) Methods for detecting an accidental release of bentonite slurry that include: (a) monitoring by a minimum of one biological monitor throughout drilling operations to ensure swift response if a frac-out occurs; (b) continuous monitoring of drilling pressures to ensure they do not exceed those needed to penetrate the formation; (c) continuous monitoring of slurry returns at the exit and entry pits to determine if slurry circulation has been lost; and (d) continuous monitoring by spotters to follow the progress of the drill bit during the pilot hole operation, and reaming and pull back operations.

4) Protocols CalAm and/or its contractors will follow if there is a loss of circulation or other indicator of a release of slurry.

5) Cleanup and disposal procedures and equipment CalAm and/or its contractors will use if a frac-out occurs.

6) If a frac-out occurs, CalAm and/or its contractors shall immediately halt work and notify and consult with the staffs of the agencies listed above regarding appropriate incident-specific actions to be undertaken, including implementation of the cleanup and disposal procedures in Item 5, before HDD activities can begin again.

Mitigation Measure 4.12-1b applies to the subsurface slant wells and Source Water Pipeline west of Highway 1.

Mitigation Measure 4.12-1b (General Noise Controls for Construction Equipment)

(See Impact 4.12-1 in Section 4.12, Noise and Vibration, for description.)

Mitigation Measure 4.14-2 applies to subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Brine Discharge Pipeline and Pipeline to CSIP Pond, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, and ASR Recirculation Pipeline), and New Transmission Main and New Transmission Main Optional Alignment.

Mitigation Measure 4.14-2: Site-Specific Nighttime Lighting Measures.

(See Impact 4.14-2 in Section 4.14, Aesthetic Resources, for description.)

Impact 4.6-2: Result in substantial adverse effects on riparian habitat, critical habitat, or other sensitive natural communities during construction. (*Less than Significant with Mitigation*)

This impact addresses impacts on the sensitive natural communities (including riparian habitat) described in Section 4.6.1.5, and on designated critical habitat, described in Section 4.6.1.9. Section 4.6.1.10, Sensitive Terrestrial Biological Resources in the Project Area, above, describes how sensitive natural communities are distributed throughout the project area.

Table 4.6-4 in Section 4.6.2.3, Regulatory Framework, above, presents an evaluation of project consistency with the applicable LCP policies that relate to ESHAs. Wetlands and other waters may also be considered ESHAs and sensitive natural communities; however, potential impacts on wetlands or other waters are addressed below under Impact 4.6-3.

Consultation will include addressing any destruction or adverse modification of critical habitat that is described in Section 4.6.2.1, Federal Regulations. Impacts within critical habitat are generally only considered significant if they adversely affect the primary constituent habitat elements required by the corresponding species.

Sensitive communities and critical habitat within or adjacent to project construction areas could be temporarily or permanently impacted during project construction. A discussion of the potential construction-related impacts on sensitive communities and critical habitat associated with each project facility is provided below.

Impact acreages are provided below for each facility when appropriate and are provided as an approximation based on the current proposed project footprint. Since many of the facilities overlap, the impact acreages provided below may overlap with the impact acreages for other facilities and optional alignments. The final impact acreages for the entire project would be based on whether the proposed project uses the proposed alignments or optional alignments.

Subsurface Slant Wells

Sensitive Natural Communities. Central dune scrub occurs in and around the subsurface slant well site. As described in Section 4.6.1.4, Vegetation Communities and Habitat Types, central dune scrub in this area varies between relatively undisturbed central dune scrub, formerly disturbed sand dunes that are revegetating with native and non-native dune scrub vegetation, and unvegetated disturbed sandy soil in actively mined areas. Construction of the subsurface slant wells would occur in the Coastal Zone and would be subject to the City of Marina LCLUP. As described in Section 4.6.1.10, Sensitive Terrestrial Biological Resources in the Project Area, the majority of the subsurface slant well area would likely be considered either “primary habitat” or “secondary habitat” areas protected under the City of Marina’s LCLUP. For the purpose of this analysis, it is assumed that primary habitat would include any central dune scrub habitat mapped within the CEMEX property and secondary habitat would be any developed areas located within 100 feet of the central dune scrub.

As described in Section 3.3.2 of Chapter 3, Description of the Proposed Project, slant well construction would temporarily disturb approximately 9 acres in the CEMEX mining area. A portion of this construction footprint overlaps with a portion of the construction footprints for the Source Water Pipeline and Source Water Pipeline using the optional alignment. The majority of this disturbance area is central dune scrub, although there are some existing disturbed areas. Slant well construction (including drilling, staging, and truck access) would temporarily disturb sensitive central dune scrub through direct removal of vegetation and changes to topography. Construction of the nine permanent subsurface slant wells in the CEMEX mining area is expected to take a total of

15 months to complete, but could occur anytime during the 24-month construction duration. Temporary disturbance to central dune scrub during construction would be a significant impact.

The components of the proposed subsurface slant wells that would be below the mean high water line would be within the MBNMS. Impacts to marine biological resources from the slant well components that would be located within the MBNMS are described in Section 4.5 Marine Biological Resources. The facility components that are evaluated in this section would be located above the mean high water line and outside of the MBNMS.

Within the 9-acre disturbance area, new permanent facilities would be constructed within central dune scrub. These permanent facilities include five new concrete pads with associated aboveground infrastructure at Well Sites 2 through 6; each well site would include one to three wellhead vaults, above-ground mechanical piping, an electrical control cabinet, and a pump-to-waste vault. A graded access road also would be constructed. These features would result in the permanent loss of approximately 1.0 acre of central dune scrub.

Critical Habitat. Subsurface slant well construction would occur outside of western snowy plover critical habitat and would not result in direct impacts on critical habitat. However, conversion of the test slant well to a permanent well and construction of aboveground facilities at Site 1 would occur approximately 240 feet east of critical habitat for western snowy plover. Slant well construction could indirectly impact the primary constituent elements of this critical habitat if worker foot traffic extends beyond the designated construction work area, if trash and debris is left behind following construction, or if invasive plant species are introduced or spread at the site. These indirect impacts on critical habitat would be significant.

Implementation of the following mitigation measures would reduce impacts on sensitive natural communities and critical habitat resulting from slant well construction to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures), 4.6-1d (Protective Measures for Western Snowy Plover), 4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1p (Control Measures for Spread of Invasive Plants)**, **4.6-2a (Consultation with Local Agencies and the California Coastal Commission regarding Environmentally Sensitive Habitat Areas)**, and **4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities)**. These measures would reduce impacts on sensitive natural communities and critical habitat by designating a lead biologist to oversee and ensure implementation of sensitive natural community protective measures; requiring worker training regarding sensitive natural communities potentially present to ensure that workers are aware of sensitive natural communities that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as staking or flagging the construction area to ensure work is restricted to the construction footprint and avoids adjacent sensitive natural communities and other measures to avoid and minimize impacts on sensitive natural communities; requiring specific measures to avoid, minimize, and compensate for impacts on the western snowy plover such as avoiding the breeding season, installing a visual construction barrier for work conducted adjacent to breeding habitat during the

breeding season to reduce human disturbance to plovers, conducting pre-construction surveys to determine if plovers are present and implementing minimization measures to minimize construction impacts on plovers, if present, and compensating for habitat loss to mitigate for temporary and permanent loss of habitat; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring implementation of measures to reduce the introduction or spread of invasive species that may degrade sensitive habitat; ensuring the project conforms to ESHA policies (including local coastal plan policies); and requiring measures to avoid and minimize impacts on sensitive natural communities such as requiring that staging areas are located away from sensitive communities to minimize project impacts to these resources and compensating for loss of habitat.

MPWSP Desalination Plant

The proposed MPWSP Desalination Plant is described in Chapter 3, Description of the Proposed Project, Section 3.2.2 and would be constructed on the upper terrace (approximately 25 acres) of a 46-acre vacant parcel on Charles Benson Road. This facility would be located outside of the MBNMS. It would take approximately 24 months to construct.

Sensitive Natural Communities. The majority of the MPWSP Desalination Plant site is non-native grassland; however, there is a small patch of yellow bush lupine scrub, a type of northern coastal scrub, located in the northeastern corner of the site. The site is outside of the Coastal Zone and would not be subject to the Coastal Act. Construction of the MPWSP Desalination Plant would permanently impact approximately 0.06 acre of northern coastal scrub, which would be a significant impact. This community could also be indirectly impacted through the dispersal or spread of invasive plant species, which would be a significant impact.

Critical Habitat. There is no critical habitat at the 25-acre MWSP Desalination Plant site. However, critical habitat for south/central California coast steelhead and tidewater goby occurs along the Salinas River, approximately 670 feet north of the proposed MPWSP Desalination Plant development area. Construction of the MPWSP Desalination Plant would not directly impact south/central California coast steelhead or tidewater goby critical habitat. However, soil-disturbing activities at the site could result in soil erosion and the migration of eroded soil and sediment downgradient towards the Salinas River. As discussed under Impact 4.3-1 in Section 4.3, Surface Water Hydrology and Water Quality, project construction activities that disturb more than 1 acre are subject to the NPDES Construction General Permit requirements. Per the requirements, a SWPPP would be prepared by a Qualified SWPPP Developer and a Qualified SWPPP Practitioner would oversee its implementation. The SWPPP, which would include site-specific erosion and stormwater control measures to be implemented during construction of the MPWSP Desalination Plant, would reduce or eliminate the off-site migration of pollutants and sediment. Mandatory compliance with the NPDES Construction General Permit would avoid substantial adverse effects on water quality in critical habitat along the Salinas River. Thus, the impact on critical habitat along the Salinas River would be less than significant, and no mitigation is necessary.

Implementation of the following mitigation measures would reduce impacts on sensitive natural communities resulting from construction of the MPWSP Desalination Plant to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures), 4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1p (Control Measures for Spread of Invasive Plants)**, and **4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities)**. These measures would reduce impacts on sensitive natural communities by designating a lead biologist to oversee and ensure implementation of sensitive natural community protective measures; requiring worker training regarding sensitive natural communities potentially present to ensure that workers are aware of sensitive natural communities that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as staking or flagging the construction area to ensure work is restricted to the construction footprint and avoids adjacent sensitive natural communities and other measures to avoid and minimize impacts on sensitive natural communities; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring implementation of measures to reduce the introduction or spread of invasive species that may degrade sensitive habitat; and requiring measures to avoid and minimize impacts on sensitive natural communities such as requiring that staging areas are located away from sensitive communities to minimize project impacts to these resources and compensating for loss of habitat.

Pipelines and Other Conveyance Facilities North of Reservation Road

Source Water Pipeline

The Source Water Pipeline and Source Water Pipeline Optional alignments are described in Chapter 3, Description of the Proposed Project, Section 3.2.1.2. This facility would be located outside of the MBNMS. Construction of this pipeline would take approximately 6 months.

Sensitive Natural Communities. Central dune scrub occurs along the portions of the Source Water Pipeline alignment that are located within the Coastal Zone. As described in Section 4.6.1.4, Vegetation Communities and Habitat Types, the occurrence of central dune scrub in this area ranges from relatively undisturbed areas dominated by native species, to disturbed areas dominated by a combination of native and non-native invasive species. Central dune scrub and adjacent areas within the Coastal Zone may be considered Primary or Secondary Habitat under the City of Marina LCLUP, and may be designated as ESHA under the North County Land Use Plan Local Coastal Program and by the CCC.

Earthmoving activities associated with installation of the Source Water Pipeline could result in the temporary loss of approximately 6.7 acres of central dune scrub (upon completion of construction, the site would be graded and revegetated). A portion of the 6.7-acre central dune scrub impact area also falls within the new Desalinated Water Pipeline and Castroville Pipeline alignments described below and may overlap with some of the impact area for the subsurface slant wells described above. The movement of construction vehicles and equipment over

vegetated areas, as well as inadvertent discharges of pollutants to these areas via stormwater runoff, could result in direct and indirect impacts on central dune scrub located within and adjacent to the construction work areas. Temporary and indirect impacts on central dune scrub would be significant.

Critical Habitat. Critical habitat for western snowy plover is located outside of and approximately 240 feet west of the western end of the Source Water Pipeline project area. Installation of the Source Water Pipeline would not result in direct impacts on critical habitat. However, pipeline installation could indirectly impact the nearby primary constituent elements of critical habitat for western snowy plover if construction worker foot traffic extends beyond the designated construction area, if trash and debris is left behind following construction, and/or if invasive plant species are introduced or spread at the site. These indirect impacts on critical habitat would be significant.

Implementation of the following mitigation measures would reduce impacts on sensitive natural communities and critical habitat associated with construction of the Source Water Pipeline to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1d (Protective Measures for Western Snowy Plover)**, **4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1p (Control Measures for Spread of Invasive Plants)**, **4.6-2a (Consultation with Local Agencies and the California Coastal Commission regarding Environmentally Sensitive Habitat Areas)**, and **4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities)**. As summarized above in the impact discussion for the subsurface slant wells, these measures would reduce impacts on sensitive natural communities and critical habitat by requiring implementation of general and specific protective measures.

Since the Source Water Pipeline and Source Water Pipeline using the optional alignment would impact the same type and the same amount of sensitive natural community habitat, the same impacts and mitigation measures would apply to the Source Water Pipeline using the optional alignment as apply to the Source Water Pipeline.

New Desalinated Water Pipeline

The Desalinated Water Pipeline is described in Chapter 3, Description of the Proposed Project, Section 3.2.3.3. This facility would be located outside of the MBNMS. The construction footprint is approximately 35.4 acres. A portion of the construction footprint for the new Desalinated Water Pipeline overlaps with a portion of the construction footprints for the Source Water Pipeline, Source Water Pipeline using the optional alignment, Castroville Pipeline, Castroville Pipeline using the optional alignment 1, and Castroville Pipeline using the optional alignment 2. Construction of this pipeline, combined with the new Transmission Main described below, would take approximately 15 months.

Sensitive Natural Communities. Central dune scrub, coast live oak woodland, and riparian woodland and scrub occur along portions of the Desalinated Water Pipeline alignment that are within the Coastal Zone. Central dune scrub and coast live oak woodland in this alignment are

relatively disturbed and are dominated by a combination of native and non-native invasive species. Riparian woodland and scrub forms a riparian corridor along the Locke-Paddon Park pond. Riparian woodland and scrub, central dune scrub, and coast live oak woodland may be considered Primary and Secondary Habitat under the City of Marina LCLUP, and may be designated as ESHA under the North County Land Use Plan Local Coastal Program and by the CCC.

Earthmoving activities associated with installation of the Desalinated Water Pipeline could result in the temporary loss of approximately 9.4 acres of central dune scrub, 0.2 acre of coast live oak woodland, and 0.4 acre of riparian woodland and scrub (upon completion of construction, the site would be graded and revegetated to its pre-construction condition). A portion of the 9.4-acre central dune scrub impact area also falls within the Source Water Pipeline alignment described above and Castroville Pipeline alignment described below. The movement of construction vehicles and equipment over vegetated areas, as well as inadvertent releases of pollutants to these areas via stormwater runoff, could result in direct and indirect impacts on central dune scrub, coast live oak woodland, and riparian woodland and scrub located within and adjacent to the construction corridor. These communities could also be indirectly impacted through the dispersal or spread of invasive plant species, which would be a significant impact. Temporary and indirect impacts on central dune scrub, coast live oak woodland, and riparian woodland and scrub would be significant.

Critical Habitat. There is no critical habitat within, or adjacent to, the Desalinated Water Pipeline alignment. Therefore, installation of the Desalinated Water Pipeline would have no impact on critical habitat.

Implementation of the following mitigation measures would reduce impacts on sensitive natural communities associated with installation of the Desalinated Water Pipeline to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1p (Control Measures for Spread of Invasive Plants)**, **4.6-2a (Consultation with Local Agencies and the California Coastal Commission regarding Environmentally Sensitive Habitat Areas)**, and **4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities)**.

These measures would reduce impacts on sensitive natural communities and critical habitat by designating a lead biologist to oversee and ensure implementation of sensitive natural community protective measures; requiring worker training regarding sensitive natural communities potentially present to ensure that workers are aware of sensitive natural communities that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as staking or flagging the construction area to ensure work is restricted to the construction footprint and avoids adjacent sensitive natural communities and other measures to avoid and minimize impacts on sensitive natural communities; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as

required; requiring implementation of measures to reduce the introduction or spread of invasive species that may degrade sensitive habitat; ensuring the project conforms to ESHA policies (including local coastal plan policies); and requiring measures to avoid and minimize impacts on sensitive natural communities such as requiring that staging areas are located away from sensitive communities to minimize project impacts to these resources and compensating for loss of habitat.

Since the new Desalinated Water Pipeline and new Desalinated Water Pipeline using the optional alignment would impact the same type and the same amount of sensitive natural community habitat, the same impacts and mitigation measures would apply to the new Desalinated Water Pipeline using the optional alignment as apply to the new Desalinated Water Pipeline.

Castroville Pipeline

The Castroville Pipeline and Castroville Optional alignments (1 and 2) are described in Chapter 3, Description of the Proposed Project, Section 3.2.3.9. This facility would be located outside of the MBNMS. The construction footprint is approximately 15.0 acres. A portion of the Castroville Pipeline construction footprint overlaps with a portion of the construction footprints for the Source Water Pipeline, Source Water Pipeline using the optional alignment, new Desalinated Water Pipeline, and new Desalinated Water Pipeline using the optional alignment. Construction of this pipeline would take approximately 4 months.

Sensitive Natural Communities. Central dune scrub, northern coastal scrub, riparian woodland and scrub, and freshwater marsh occur along the Castroville Pipeline alignment. The central dune scrub and northern coastal scrub areas are relatively isolated and somewhat disturbed. The riparian woodland and scrub and freshwater marsh occur in association with the Salinas River, in an isolated patch along the pipeline, and in an area north of Tembladero Slough. A small segment of the proposed Castroville Pipeline alignment is located within the coastal zone. Central dune scrub within this area may be designated as ESHA under the North County Land Use Plan Local Coastal Program and by the CCC.

The pipeline would be installed underneath the Salinas River and Tembladero Slough using HDD techniques to avoid direct impacts on those features, but would be installed using open trench techniques for the remainder of the pipeline. Earthmoving activities associated with installation of the Castroville Pipeline could result in the temporary loss of approximately 0.004 acre of central dune scrub, 0.15 acre of northern coastal scrub, and 0.06 acre of riparian woodland and scrub (upon completion of construction, the site would be graded and revegetated to its pre-construction condition). A portion of the 0.004-acre central dune scrub impact area also falls within the Source Water Pipeline and new Desalinated Water Pipeline alignments described above. The movement of construction vehicles and equipment over vegetated areas, as well as inadvertent releases of pollutants to these areas via stormwater runoff, could result in direct and indirect impacts on central dune scrub, northern coastal scrub, riparian woodland and scrub, and freshwater marsh located within and adjacent to the construction corridor. These communities could also be indirectly impacted through the dispersal or spread of invasive plant species, which would be a significant impact. Temporary and indirect impacts on central dune scrub, northern coastal scrub, riparian woodland and scrub, and freshwater marsh would be significant.

Critical Habitat. The Castroville Pipeline would be installed using HDD beneath the Salinas River and Tembladero Slough, which are part of the south/central California coast steelhead Salinas Hydrologic critical habitat unit. The Salinas River is within the tidewater goby Unit MN-2 (Salinas River) critical habitat unit. As discussed under Impact 4.3-1 in Section 4.3, Surface Water Hydrology and Water Quality, a SWPPP would be prepared, which would include site-specific erosion and stormwater control measures (such as installing sediment barriers like silt fencing and fiber rolls and maintaining equipment and vehicles used for construction) to be implemented during construction of the Castroville Pipeline, which would reduce or eliminate the off-site migration of pollutants and sediment. Mandatory compliance with the SWPPP would avoid substantial adverse effects from upland erosion on water quality in critical habitat along the Salinas River and Tembladero Slough. If a frac-out occurs during HDD, bentonite slurry could be released into the Salinas River and/or Tembladero Slough, which could degrade water quality and adversely impact steelhead critical habitat (Salinas River and Tembladero Slough) and tidewater goby critical habitat (Salinas River), a significant impact.

Implementation of the following mitigation measures would reduce impacts on sensitive natural communities associated with installation of the Castroville Pipeline to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1p (Control Measures for Spread of Invasive Plants)**, **4.6-1q (Frac-out Contingency Plan)**, **4.6-2a (Consultation with Local Agencies and the California Coastal Commission regarding Environmentally Sensitive Habitat Areas)**, and **4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities)**. These measures would reduce impacts on sensitive natural communities and critical habitat by designating a lead biologist to oversee and ensure implementation of sensitive natural community protective measures; requiring worker training regarding sensitive natural communities potentially present to ensure that workers are aware of sensitive natural communities that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as staking or flagging the construction area to ensure work is restricted to the construction footprint and avoids adjacent sensitive natural communities and other measures to avoid and minimize impacts on sensitive natural communities; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring implementation of measures to reduce the introduction or spread of invasive species that may degrade sensitive habitat; requiring preparation of a Frac-out Contingency Plan and implementation of measures in the Plan to contain and clean-up any frac-outs in waterways to minimize impacts of frac-outs on sensitive habitat; ensuring the project conforms to ESHA policies (including local coastal plan policies); and requiring measures to avoid and minimize impacts on sensitive natural communities such as requiring that staging areas are located away from sensitive communities to minimize project impacts to these resources and compensating for loss of habitat.

The Castroville Pipeline using the optional alignment 1 would impact approximately 0.06 acre of riparian woodland and scrub, 0.01 acre of freshwater marsh, and 0.15 acre of northern coastal

scrub. The Castroville Pipeline using the optional alignment 2 would impact approximately 0.06 acre of riparian woodland and scrub and 0.15 acre of northern coastal scrub. The Castroville Pipeline using the optional alignments would generally result in the same type of impact as described for the Castroville Pipeline. The same impact conclusion and mitigation measures would apply to the Castroville Pipeline using the optional alignments as apply to the Castroville Pipeline.

Brine Discharge Pipeline and Pipeline to CSIP Pond

The Brine Discharge Pipeline and Pipeline to CSIP Pond are described in Sections 3.2.2.5 and 3.2.3.10, respectively, of Chapter 3, Description of the Proposed Project. These facilities would be located outside of the MBNMS. The Brine Discharge Pipeline would take approximately 3 months to install and the Pipeline to CSIP Pond would take approximately 2 months to install. The construction footprint for both of these pipelines combined is approximately 6.6 acres.

Sensitive Natural Communities. The proposed Brine Discharge Pipeline and Pipeline to CSIP Pond contain developed/landscaped and ruderal areas and a few patches of non-native grassland. No sensitive natural communities were identified along these alignments during reconnaissance level surveys conducted in preparation of this EIR/EIS. These alignments are outside of the Coastal Zone and would not be subject to the Coastal Act. No impact on sensitive natural communities would result from construction of the Brine Discharge Pipeline and Pipeline to CSIP Pond, and no mitigation is necessary.

Critical Habitat. There is no critical habitat within the proposed Brine Discharge Pipeline and Pipeline to CSIP Pond alignments. The Salinas River, which is designated as critical habitat for south/central California coast steelhead and tidewater goby, is located approximately 1,200 feet north of the northern terminus of both pipelines. Construction of the Brine Discharge Pipeline and Pipeline to CSIP Pond would not result in significant indirect impacts on south/central California coast steelhead and tidewater goby critical habitat. Similar to the discussion above for the MPWSP Desalination Plant, pipeline installation activities would also be subject to the NPDES Construction General Permit requirements and the SWPPP would include erosion and stormwater control measures to be implemented during construction. These measures would help to prevent pollutants and sediment generated during pipeline installation activities from migrating downstream and entering the Salinas River. Mandatory compliance with the NPDES Construction General Permit would avoid substantial adverse effects on water quality in critical habitat along the Salinas River. Thus, the impact on critical habitat along the Salinas River would be less than significant, and no mitigation is necessary.

Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline)

The proposed ASR Facilities are described in Chapter 3, Description of the Proposed Project, Section 3.2.4. These facilities would be located outside of the MBNMS. Construction of the ASR-5 and ASR-6 Wells would take approximately 12 months. Construction of the ASR Pipelines (ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline) would take approximately 5 months. The construction footprint for both of the ASR

Wells is expected to be approximately 0.9 acre. The construction footprint of the area where water would be conveyed is approximately 7.0 acres. The construction footprint for all three ASR pipelines is approximately 8.8 acres. A portion of the construction footprint for the ASR pipelines overlaps with a portion of the construction footprints for the new Transmission Main and the new Transmission Main using the optional alignment.

Sensitive Natural Communities. Coast live oak woodland and central maritime chaparral occur at the various proposed ASR facility sites. In the vicinity of these proposed facility sites, these communities occur on sandy soils and are dominated by native species. These proposed facilities would be located outside of the Coastal Zone and would not be subject to the Coastal Act.

Coast live oak woodland occurs at the proposed ASR-5 and ASR-6 Well sites. Construction of the ASR-5 and ASR-6 Wells would likely result in the temporary loss of up to 0.9 acre of coast live oak woodland and permanent loss of up to 0.04 acre of coast live oak woodland. The temporary and permanent loss of oak woodland would be a significant impact. In addition, water produced during development of the ASR-5 and ASR-6 Wells would be conveyed to a natural depression located east of the intersection of San Pablo Avenue and General Jim Moore Boulevard that includes central maritime chaparral. Conveyance of water to this area has potential to temporarily impact approximately 4.6 acres of central maritime chaparral. However, implementation of the mitigation measures prescribed below would reduce the impact to a less-than-significant level.

The ASR Pipelines would be constructed within the developed General Jim Moore Boulevard and would not have a direct temporary or permanent impact any sensitive natural communities. However, coast live oak woodland, northern coastal scrub, and central maritime chaparral border portions of the pipeline alignments and could be indirectly impacted during construction from accidental foot traffic or equipment use outside of the construction boundary or the introduction or spread of invasive plant species. Temporary impacts on oak woodland, northern coastal scrub, and central maritime chaparral are considered significant.

Critical Habitat. No critical habitat occurs within the proposed ASR Facilities. Monterey spineflower critical habitat occurs approximately 50 feet east of the area where the water produced during development of the ASR-5 and ASR-6 Wells would be conveyed to and percolated into the ground. Construction of these ASR facilities would remain outside of critical habitat and would not impact critical habitat. No impact would result, and no mitigation is necessary.

Implementation of the following mitigation measures would reduce impacts on sensitive natural communities at the proposed ASR Facilities to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures), 4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1p (Control Measures for Spread of Invasive Plants)**, and **4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities)**. As summarized above in the impact discussion for the MPWSP Desalination Plant, these measures would reduce impacts on sensitive natural communities by requiring implementation of general and specific protective measures.

Pipelines and Other Conveyance Facilities South of Reservation Road

New Transmission Main

The new Transmission Main and new Transmission Main Optional alignments are described in Chapter 3, Description of the Proposed Project Proposed, Section 3.2.3.4, of this EIR/EIS. This facility would be located outside of the MBNMS. Construction of this pipeline and the new Desalinated Water Pipeline would take approximately 15 months to complete. The construction footprint is approximately 27.1 acres. A portion of the new Transmission Main construction footprint overlaps with a portion of the ASR pipelines construction footprint.

Sensitive Natural Communities. Central dune scrub, coast live oak woodland, and northern coastal scrub occur along the new Transmission Main alignment. The occurrence of central dune scrub in this area ranges from areas dominated by non-native species to areas with higher cover of native dune scrub species. Coast live oak woodland and northern coastal scrub along the alignment is interspersed with single family residences. The central dune scrub found along the Transmission Main alignment is located within the Coastal Zone and may be considered Primary and Secondary Habitat under the City of Marina LCLUP, and may be designated as ESHA by the City of Seaside Local Coastal Program Land Use Plan and by the CCC.

Installation of the Transmission Main would temporarily impact approximately 1.9 acres of central dune scrub and 0.07 acre of coast live oak woodland through direct removal of vegetation during open-trench excavation activities or from trampling of the vegetation from construction vehicle access. Additionally, central dune scrub, coast live oak woodland, and northern coastal scrub occur adjacent to the construction area and could be indirectly impacted if worker foot traffic were to extend beyond the designated construction work area, if trash and debris is left behind following construction, and/or if invasive plant species are introduced or spread at the site. No permanent impacts on central dune scrub would result from installation of the Transmission Main. Temporary impacts on central dune scrub, coast live oak woodland, and northern coastal scrub during construction would be significant.

Critical Habitat. The majority of the Transmission Main alignment is located a minimum of 150 feet east of Monterey spineflower critical habitat. Construction of the new Transmission Main would remain outside of critical habitat and would not impact critical habitat. No impact would result and no mitigation is necessary.

Implementation of the following mitigation measures would reduce temporary impacts on sensitive natural communities resulting from installation of the new Transmission Main to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1p (Control Measures for Spread of Invasive Plants)**, **4.6-2a (Consultation with Local Agencies and the California Coastal Commission regarding Environmentally Sensitive Habitat Areas)**, and **4.6-2b (Avoid, Minimize and Compensate for Construction Impacts to Sensitive Communities)**. As summarized above in the impact discussion for the Desalinated Water Pipeline, these measures

would reduce temporary impacts on sensitive natural communities by requiring implementation of general and specific protective measures.

Since the new Transmission Main and new Transmission Main using the optional alignment would impact the same type and approximately the same amount of sensitive natural community habitat (The new Transmission Main would impact approximately 1.9 acres of central dune scrub, while the Transmission Main using the optional alignment would impact approximately 1.4 acre of central dune scrub. Both alignments would impact the same amount of coast live oak woodland), the same impacts and mitigation measures would apply to the new Transmission Main using the optional alignment as apply to the new Transmission Main.

Terminal Reservoir

The proposed Terminal Reservoir is described in Chapter 3, Description of the Proposed Project, Section 3.2.3.5. This facility would be located outside of the MBNMS. The construction footprint for the Terminal Reservoir is approximately 6 acres.

Sensitive Natural Communities. Central maritime chaparral and coast live oak woodland, both sensitive communities, occur at the Terminal Reservoir site. At the Terminal Reservoir site central dune scrub exists as a mosaic of disturbed and undisturbed variations, with most of the disturbed areas located near General Jim Moore Boulevard and adjacent to existing access roads within the former Ford Ord military base. Coast live oak woodland occurs in patches in the southeastern corner of the site. The site is outside of the Coastal Zone and would not be subject to the Coastal Act.

Installation of the Terminal Reservoir aboveground tank option would result in the permanent loss of approximately 1 acre of central maritime chaparral from installation of the concrete pad for the Terminal Reservoir and a permanent access road. Additionally, construction of the facility would temporarily impact up to 5 additional acres of central maritime chaparral during construction. If the Terminal Reservoir is constructed in buried tanks, then there would be approximately 5.75 acres of temporary impacts on central maritime chaparral and there would be approximately 0.25 acre of impact from the permanent access road. Additionally, central maritime chaparral and coast live oak woodland located outside of the Terminal Reservoir construction disturbance area could be inadvertently impacted by construction worker foot traffic, trash or debris left behind following construction, or through the introduction or spread of invasive plant species at the site. The permanent and temporary impacts on central maritime chaparral would be significant. However, with implementation of the mitigation measures prescribed in the discussion of critical habitat, below, impacts on sensitive natural communities during construction of Terminal Reservoir would be reduced to a less-than-significant level.

Critical Habitat. Monterey spineflower critical habitat is not located within the Terminal Reservoir site; however, it is located adjacent to the site. Although construction at the Terminal Reservoir would not directly impact critical habitat, the primary constituent elements of the Monterey spineflower critical habitat abutting the Terminal Reservoir site to the east could be inadvertently impacted by worker traffic or construction related-trash, which would be a significant impact.

Impacts to sensitive natural communities and critical habitat associated with construction of the Terminal Reservoir would be reduced to a less-than-significant level with implementation of the following mitigation measures: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1e (Avoidance and Minimization Measures for Special-status Plants), 4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1p (Control Measures for Spread of Invasive Plants)**, and **4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities)**. These measures would reduce impacts on sensitive natural communities and critical habitat by designating a lead biologist to oversee and ensure implementation of sensitive natural community protective measures; requiring worker training regarding sensitive natural communities potentially present to ensure that workers are aware of sensitive natural communities that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as staking or flagging the construction area to ensure work is restricted to the construction footprint and avoids adjacent sensitive natural communities and other measures to avoid and minimize impacts on sensitive natural communities; requiring specific measures to avoid and minimize impacts on special-status plants such as avoiding individual plants to the extent feasible and compensating for temporary or permanent loss of special-status plants at a level acceptable to the applicable resource agencies; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring implementation of measures to reduce the introduction or spread of invasive species that may degrade sensitive habitat; and requiring measures to avoid and minimize impacts on sensitive natural communities such as requiring that staging areas are located away from sensitive communities to minimize project impacts to these resources and compensating for loss of habitat.

Carmel Valley Pump Station

The proposed Carmel Valley Pump Station is described in Section 3.2.3.8 of Chapter 3, Description of the Proposed Project. This facility would be located outside of the MBNMS. Construction would take approximately 6 months to complete. The construction footprint for the pump station and associated pipelines is approximately 0.2 acre.

Sensitive Natural Communities. The Carmel Valley Pump Station site includes non-native annual grassland, landscaped, and developed areas and does not contain any sensitive natural communities. These sites are outside of the Coastal Zone and would not be subject to the Coastal Act. No impact on sensitive natural communities would result. No mitigation is necessary.

Critical Habitat. The Carmel Valley Pump Station site is located within California red-legged frog critical habitat unit MNT-2 (Carmel River). Non-native grassland within the Carmel Valley Pump Station site provides California red-legged frog upland habitat as described in Section 4.6.1.9. Construction of the Carmel Valley Pump Station would permanently impact 0.01 acre and temporarily impact 0.12 acre of non-native grassland upland habitat. This would be a significant impact on California red-legged frog critical habitat.

Steelhead critical habitat is located approximately 280 feet south of the Carmel Valley Pump Station site. As discussed under Impact 4.3-1 in Section 4.3, Surface Water Hydrology and Water Quality, a SWPPP would be prepared, which would include site-specific erosion and stormwater control measures to be implemented during construction of the Carmel Valley Pump Station, which would reduce or eliminate the off-site migration of pollutants and sediment. Mandatory compliance with the SWPPP would avoid substantial adverse effects on water quality in critical habitat along the Carmel River. Thus, the impact on steelhead critical habitat along the Carmel River would be less than significant and no mitigation is necessary.

Impacts to critical habitat associated with construction of the Carmel Valley Pump Station would be reduced to a less-than-significant level with implementation of the following mitigation measures: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures), 4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1o (Avoidance and Minimization Measures for California Red-legged Frog and California Tiger Salamander),** and **4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities)**.

These measures would reduce impacts on sensitive natural communities and critical habitat by designating a lead biologist to oversee and ensure implementation of sensitive natural community protective measures; requiring worker training regarding sensitive natural communities potentially present to ensure that workers are aware of sensitive natural communities that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as staking or flagging the construction area to ensure work is restricted to the construction footprint and avoids adjacent sensitive natural communities and other measures to avoid and minimize impacts on sensitive natural communities; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring measures to avoid and minimize impacts on California red-legged frog and California tiger salamander such as pre-construction surveys to determine if these species are present and implementing minimization measures to minimize construction impacts on these species, if present, and compensating for permanent impacts; and requiring measures to avoid and minimize impacts on sensitive natural communities such as requiring that staging areas are located away from sensitive communities to minimize project impacts to these resources and compensating for loss of habitat.

Ryan Ranch-Bishop Interconnection Improvements

The proposed Ryan Ranch–Bishop Interconnection Improvements are described in Section 3.2.3.11 of Chapter 3, Description of the Proposed Project. This facility would be located outside of the MBNMS. The construction footprint is approximately 7.3 acres.

Sensitive Natural Communities. The majority of the Ryan Ranch-Bishop Interconnection Improvements site is located within road right-of-ways, although a small extent of non-native grassland also occurs within the project area. Coast live oak woodland and northern coastal scrub occur adjacent to the Ryan Ranch-Bishop Interconnection Improvements project area.

Construction of the Ryan Ranch-Bishop Interconnection Improvements could indirectly impact adjacent sensitive natural communities if worker foot traffic extends beyond the designated construction work area. Indirect impacts on sensitive natural communities would be significant.

The Ryan Ranch-Bishop Interconnection Improvements site is outside of the Coastal Zone and would not be subject to the Coastal Act.

Critical Habitat. No critical habitat occurs within the Ryan Ranch-Bishop Interconnection Improvements site. The closest critical habitat to this site is Monterey spineflower critical habitat located approximately 0.7 mile to the north and California red-legged frog critical habitat located approximately 1.0 mile to the south. Due to the distance between the anticipated construction disturbance area for the Ryan Ranch-Bishop Interconnection Improvements and the critical habitat, no impact would result from the construction of these improvements, and no mitigation is necessary.

Impacts to sensitive natural communities associated with construction of the Ryan Ranch-Bishop Interconnection Improvements would be reduced to a less-than-significant level with implementation of the following mitigation measures: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1b (Construction Worker Environmental Awareness Training and Education Program), 4.6-1c (General Avoidance and Minimization Measures), 4.6-1n (Habitat Mitigation and Monitoring Plan),** and **4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities)**.These measures would reduce impacts on sensitive natural communities and critical habitat by designating a lead biologist to oversee and ensure implementation of sensitive natural community protective measures; requiring worker training regarding sensitive natural communities potentially present to ensure that workers are aware of sensitive natural communities that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as staking or flagging the construction area to ensure work is restricted to the construction footprint and avoids adjacent sensitive natural communities and other measures to avoid and minimize impacts on sensitive natural communities; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; and requiring measures to avoid and minimize impacts on sensitive natural communities such as requiring that staging areas are located away from sensitive communities to minimize project impacts to these resources and compensating for loss of habitat.

Main System-Hidden Hills Interconnection Improvements

The proposed Main System-Hidden Hills Interconnection Improvements are described in Section 3.2.3.11 of Chapter 3, Description of the Proposed Project. This facility would be located outside of the MBNMS. The construction footprint for the Main System-Hidden Hills Interconnection Improvements is 1.1 acre.

Sensitive Natural Communities. The Main System-Hidden Hills Interconnection Improvements is located entirely within road right-of-ways and existing facilities and would not have direct impacts on sensitive natural communities. Coast live oak woodland occurs adjacent to the Main

System-Hidden Hills Interconnection Improvements project area and could be indirectly affected if worker foot traffic extends beyond the designated construction work area. Indirect impacts on sensitive natural communities would be significant.

Critical Habitat. The Main System-Hidden Hills Interconnection Improvements site is located within California red-legged frog critical habitat. All construction activities would occur within paved or developed surfaces that do not contain the primary constituent elements for California red-legged frog described in Section 4.1.6.9. However the adjacent coast live oak woodland provides upland dispersal habitat for California red-legged frog. Construction of the Main System-Hidden Hills Interconnection Improvements could indirectly impact adjacent critical habitat if worker foot traffic extends beyond the designated construction work area. Indirect impacts on critical habitat would be significant.

Impacts to sensitive natural communities and critical habitat associated with construction of the Main System-Hidden Hills Interconnection Improvements would be reduced to a less-than-significant level with implementation of the following mitigation measures: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures), 4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1o (Avoidance and Minimization Measures for California Red-legged Frog and California Tiger Salamander),** and **4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities)**.These measures would reduce impacts on sensitive natural communities and critical habitat by designating a lead biologist to oversee and ensure implementation of sensitive natural community protective measures; requiring worker training regarding sensitive natural communities potentially present to ensure that workers are aware of sensitive natural communities that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as staking or flagging the construction area to ensure work is restricted to the construction footprint and avoids adjacent sensitive natural communities and other measures to avoid and minimize impacts on sensitive natural communities; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring measures to avoid and minimize impacts on California red-legged frog and California tiger salamander such as pre-construction surveys to determine if these species are present and implementing minimization measures to minimize construction impacts on these species, if present, and compensating for permanent impacts; and requiring measures to avoid and minimize impacts on sensitive natural communities such as requiring that staging areas are located away from sensitive communities to minimize project impacts to these resources and compensating for loss of habitat.

Staging Areas

The proposed Staging Areas are described in Section 3.3.1.2 of Chapter 3, Description of the Proposed Project. These facilities would be located outside of the MBNMS.

Sensitive Natural Communities. There are eight staging areas located throughout the project area. The majority of the staging areas are located within developed or highly disturbed areas.

However some staging areas contain northern coastal scrub and coast live oak woodland, which are considered sensitive natural communities. **Table 4.6-9** below describes which staging area contains, or is adjacent to, a sensitive natural community and the type of temporary impact. If sensitive natural communities occur in the staging area, use of the staging area could result in direct temporary loss of that community. Use of the staging areas could indirectly impact adjacent sensitive natural communities if worker foot traffic extends beyond the designated construction work area. Temporary direct or indirect impacts on central dune scrub, coast live oak woodland, and northern coastal scrub would be significant.

TABLE 4.6-9
CONSTRUCTION STAGING AREAS SENSITIVE NATURAL COMMUNITY IMPACTS

Location	Staging Area Footprint (acre)	Sensitive Natural Community Present	Estimated Temporary Impact on Sensitive Natural Communities
2nd Avenue/Lightfighter Drive in Seaside	0.5	Central Dune Scrub	Potential indirect impacts
West side of General Jim Moore Boulevard, near Gigling Road, in Seaside	0.3	Coast Live Oak Woodland	0.03 acre temporary impact
East side of General Jim Moore Boulevard, near Gigling Road, in Seaside	0.2	Coast Live Oak Woodland	0.002 acre temporary impact
West side of General Jim Moore Boulevard, near Seaside Middle School, in Seaside	0.1	Northern Coastal Scrub	0.1 acre temporary impact

Although no sensitive natural communities were mapped within the staging area located at Beach Road, this staging is located within the coastal zone and may qualify as Primary or Secondary Habitat under the City of Marina LCLUP. Impacts to Primary or Secondary Habitat would be a significant impact.

Impacts to sensitive natural communities, including potential Primary or Secondary Habitat, associated with the use of the staging areas listed in **Table 4.6-9** would be reduced to a less-than-significant level with implementation of the following mitigation measures: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1b (Construction Worker Environmental Awareness Training and Education Program), 4.6-1c (General Avoidance and Minimization Measures), 4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-2a (Consultation with Local Agencies and the California Coastal Commission regarding Environmentally Sensitive Habitat Areas),** and **4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities)**. These measures would reduce impacts on sensitive natural communities and critical habitat by designating a lead biologist to oversee and ensure implementation of sensitive natural community protective measures; requiring worker training regarding sensitive natural communities potentially present to ensure that workers are aware of sensitive natural communities that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as staking or flagging the construction area to ensure work is restricted to the construction footprint and avoids adjacent sensitive natural communities and other measures to avoid and minimize impacts on sensitive natural communities; developing and implementing a mitigation and monitoring plan for

temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; ensuring the project conforms to ESHA policies (including local coastal plan policies); and requiring measures to avoid and minimize impacts on sensitive natural communities such as requiring that staging areas are located away from sensitive communities to minimize project impacts to these resources and compensating for loss of habitat.

No other staging areas have potential to impact sensitive natural communities.

Critical Habitat. There is no critical habitat within, or adjacent to, any of the staging areas. Therefore, use of the staging areas would have no impact on critical habitat.

Consistency with Regulatory Requirements

In addition to the physical impacts described above, as noted in Section 4.6.2, Regulatory Framework, MPWSP construction could be inconsistent with applicable regulatory requirements related to sensitive natural communities, critical habitat, and ESHAs that were adopted for the purpose of avoiding or mitigating an environmental effect. Specifically, the project could be inconsistent with the FESA, the Coastal Act, City of Marina General Plan Policies 4.112, 4.114, 4.115, 4.116, 4.118, 4.119, 4.120, and 2.10; City of Marina LCLUP Policies 8, 19, 25, 26 and Planning Guideline entitled Rare and Endangered Species: Habitat Protection; Fort Ord Dunes State Park General Plan and Environmental Impact Report BIO-8; City of Seaside Local Coastal Program Land Use Plan Policies NCR-CZ 1.1.C, NCR-CZ 1.2.1A, NCR-CZ 1.2.B, LUD-CZ 3.1A, and LUD-CZ 3.1B; Seaside General Plan Policies COS-4.1 and COS-4.3; Monterey County Carmel Valley Master Plan Policy CV-3.7; Monterey County Greater Monterey Peninsula Area Plan Policy GMP-3.9; Monterey County General Plan Policies OS-5.1, OS-5.2, OS-5.4, OS-5.5, OS-5.6, OS-5.11, OS-5.13, OS-5.16, OS-5.17, OS-5.23; Monterey County North County Land Use Plan Policies 2.3.2.1, 2.3.2.2, 2.3.2.3, 2.3.2.4, 2.3.2.5, 2.3.2.6, 2.3.2.8, 2.3.2.9, 2.3.3.C2, NC-3.3, and NC-3.5, and Key Policy 4.3.4; Fort Ord Reuse Plan (Seaside) Biological Resources Policies A-4 and C-1; Fort Ord Reuse Plan (Monterey County) Biological Resources Policies A-9 and C-1; and California Coastal Act Section 30240, which were established to avoid or mitigate sensitive natural community, critical habitat, and ESHA impacts. As discussed in the preceding paragraphs, **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures), 4.6-1d (Protective Measures for Western Snowy Plover), 4.6-1e (Avoidance and Minimization Measures for Special-status Plants), 4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1o (Avoidance and Minimization Measures for California Red-legged Frog and California Tiger Salamander), 4.6-1p (Control Measures for Spread of Invasive Plants), 4.6-1q (Frac-out Contingency Plan), 4.6-2a (Consultation with Local Agencies and the California Coastal Commission regarding Environmentally Sensitive Habitat Areas)**, and **4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities)** would reduce impacts on sensitive natural communities, critical habitat and ESHA by designating a lead biologist to oversee and ensure implementation of sensitive natural community protective measures; requiring worker training regarding sensitive natural communities potentially present to ensure that workers are aware of sensitive natural communities that occur in the project area

and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as staking or flagging the construction area to ensure work is restricted to the construction footprint and avoids adjacent sensitive natural communities and other measures to avoid and minimize impacts on sensitive natural communities; requiring specific measures to avoid, minimize, and compensate for impacts on the western snowy plover such as avoiding the breeding season, installing a visual construction barrier for work conducted adjacent to breeding habitat during the breeding season to reduce human disturbance to plovers, conducting pre-construction surveys to determine if plovers are present and implementing minimization measures to minimize construction impacts on plovers, if present, and compensating for habitat loss to mitigate for temporary and permanent loss of habitat; requiring specific measures to avoid and minimize impacts on special-status plants such as avoiding individual plants to the extent feasible and compensating for temporary or permanent loss of special-status plants at a level acceptable to the applicable resource agencies; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring measures to avoid and minimize impacts on California red-legged frog and California tiger salamander such as pre-construction surveys to determine if these species are present and implementing minimization measures to minimize construction impacts on these species, if present, and compensating for permanent impacts; requiring implementation of measures to reduce the introduction or spread of invasive species that may degrade sensitive habitat; requiring preparation of a Frac-out Contingency Plan and implementation of measures in the Plan to contain and clean-up any frac-outs in waterways to minimize impacts of frac-outs on sensitive habitat; ensuring the project conforms to ESHA policies (including local coastal plan policies); and requiring measures to avoid and minimize impacts on sensitive natural communities such as requiring that staging areas are located away from sensitive communities to minimize project impacts to these resources and compensating for loss of habitat. Therefore, with these measures implemented, the MPWSP would be brought into conformance with the above-noted regulatory requirements.

Impact Conclusion

Construction of the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline and Source Water Pipeline Optional Alignment, new Desalinated Water Pipeline and new Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), new Transmission Main and new Transmission Main Optional Alignment, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Staging Areas would result in less than significant impacts on riparian habitat, sensitive natural communities, and critical habitat when mitigation measures are implemented.

The Brine Discharge Pipeline and Pipeline to CSIP Pond would not impact riparian habitat, sensitive natural communities, or critical habitat.

Overall, the impact on riparian habitat, sensitive natural communities, and critical habitat, would be reduced to a less than significant level with implementation of the prescribed mitigation.

Mitigation Measures

Mitigation Measure 4.6-1a applies to the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, and ASR Recirculation Pipeline), New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Staging Areas.

Mitigation Measure 4.6-1a: Retain a Lead Biologist to Oversee Implementation of Protective Measures.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1b applies to the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, and ASR Recirculation Pipeline), New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Staging Areas.

Mitigation Measure 4.6-1b: Construction Worker Environmental Awareness Training and Education Program.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1c applies to the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, and ASR Recirculation Pipeline), New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Staging Areas.

Mitigation Measure 4.6-1c: General Avoidance and Minimization Measures.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1d applies to the subsurface slant wells and Source Water Pipeline and Source Water Pipeline Optional Alignment.

Mitigation Measure 4.6-1d: Protective Measures for Western Snowy Plover.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1e applies to the Terminal Reservoir.

Mitigation Measure 4.6-1e: Avoidance and Minimization Measures for Special-status Plants.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1n applies to the subsurface slant wells, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, and ASR Recirculation Pipeline), New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Staging Areas.

Mitigation Measure 4.6-1n: Habitat Mitigation and Monitoring Plan.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1o applies to the Main System-Hidden Hills Interconnection Improvements and the Carmel Valley Pump Station.

Mitigation Measure 4.6-1o: Avoidance and Minimization Measures for California Red-legged Frog and California Tiger Salamander.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1p applies to the subsurface slant wells, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, and ASR Recirculation Pipeline), New Transmission Main and New Transmission Main Optional Alignment, and Terminal Reservoir.

Mitigation Measure 4.6-1p: Control Measures for Invasive Plants.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1q applies to HDD installation of the Castroville Pipeline beneath the Salinas River and Tembladero Slough.

Mitigation Measure 4.6-1q: Frac-out Contingency Plan

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-2a applies to the Subsurface Slant Wells, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, New Transmission Main and New Transmission Main Optional Alignment, and Staging Areas.

Mitigation Measure 4.6-2a: Consultation with Local Agencies and the California Coastal Commission regarding Environmentally Sensitive Habitat Areas.

Some parts of the project area occur within the Coastal Zone and development within the Coastal Zone would require a Coastal Development Permit. Prior to the issuance of project permits, CalAm and/or its contractor shall provide evidence to the CPUC that they have submitted a Coastal Development Permit application to the California Coastal Commission and/or local jurisdictions, through an applicable Local Coastal Plan, for a project that conforms to the principal Coastal Act policy pertaining to ESHA (PRC Section 30240), which provides that " a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas" and "b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas."

Through the permit application process, CalAm shall coordinate with the CCC or local jurisdiction to determine the extent of ESHA within or adjacent (within 100 feet) to portions of the proposed project within the Coastal Zone and ensure that the project conforms to the ESHA policy as defined above. CalAm will consult with the CCC or local jurisdiction and obtain the necessary permit(s) in order to proceed with the MPWSP. The CCC or local agency would authorize the project if it conforms to ESHA policies, along with other policies of the Coastal Act.

Mitigation Measure 4.6-2b applies to the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Staging Areas.

Mitigation Measure 4.6-2b: Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities.

The following measures shall be implemented to reduce direct impacts on sensitive natural communities and the special-status species that utilize these sensitive communities. To the extent feasible, the construction contractor(s) shall implement the following avoidance and minimization measures:

a) Project facilities shall be sited and designed to avoid disturbance of central maritime chaparral, central dune scrub, coast live oak woodland, and riparian woodland and scrub, any areas defined as ESHA, any sensitive communities defined by local jurisdictions, and any other sensitive natural communities, including critical habitat, identified within the project area.

b) Any areas used for staging, laydown, material storage, equipment storage, job trailers, employee parking, or other project-related support activities that do not need to be located to the active construction area shall be located away from jurisdictional areas, sensitive communities, and shall be protected from stormwater runoff using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers.

c) All potential contaminants shall be stored on impervious surfaces, plastic ground covers, or in secondary containment to prevent any spills or leakage from contaminating the ground, and shall be located at least 100 feet from adjacent habitat where practicable.

d) Any spillage of pollutants or construction material shall be contained immediately in accordance with the project SWPPP. The contaminated area shall be cleaned and any contaminated materials properly disposed of. The Lead Biologist shall be notified of all spills.

e) Where direct impacts on sensitive natural communities, ESHA, or critical habitat cannot feasibly be avoided, CalAm shall implement the following measures:

    i. Any temporarily impacted sensitive natural communities, including critical habitat, shall be restored to previous conditions or better at the end of construction. To the extent feasible, topsoil shall be salvaged during grading and earthmoving activities, stockpiled separately from subsoil, and protected from erosion (e.g., covered or watered). Composting additives shall be used to amend the soil, if needed, and compacted topsoil shall be properly prepared prior to reuse for post-construction restoration of temporarily disturbed areas. A minimum of 12 inches of topsoil shall be salvaged (or if there is less than 12 inches of topsoil initially, as much as practicable). Restoration shall be conducted in conformance with the terms of the Habitat Mitigation and Monitoring Plan (HMMP) prepared under Mitigation Measure 4.6-1n. Compensatory mitigation for permanent impacts on sensitive natural communities shall occur, and at a ratio of 1:1 or greater, specified in regulatory permits issued by the CCC, CDFW, or USFWS. All compensatory mitigation shall be conducted in accordance with the terms of the HMMP, as described in Mitigation Measure 4.6-1n. Where applicable, compensatory mitigation shall be developed onsite. Alternatively, subject to approval by the appropriate agencies, offsite mitigation may be developed, or credits purchased through an approved mitigation bank, or approved Habitat Conservation Plan.

    ii. For HMP sensitive natural communities on former Fort Ord lands, plants shall be salvaged, under the direction of a qualified biologist, as necessary per the requirements of the HMP, and in accordance with any requirements from USFWS and CDFW.

Impact 4.6-3: Result in substantial adverse effects on federal wetlands, federal other waters, and/or waters of the state during construction. (*Less than Significant with Mitigation*)

This impact addresses impacts on federal wetlands, federal other waters, and/or waters of the state described in Sections 4.6.1.6 and 4.6.2.

A formal wetland delineation has not been conducted for the project. For the purposes of this analysis, the project area was evaluated for the presence of waters of the U.S./waters of the state (including wetlands under CCC jurisdiction) through examination of NWI maps (USFWS, 2016) and field surveys conducted for the MPWSP by AECOM between 2013 and 2015 (AECOM, 2016), and by ESA in 2013, 2014, and 2016 (ESA, 2013, 2014, 2016). Many potentially jurisdictional wetlands and waters occur within the study area such as riparian woodland and scrub, freshwater marsh, open water, and other small culverts and drainages. The proposed project may have direct effects on these potential waters of the U.S. and/or waters of the state. Direct impacts on those wetlands could include removal of vegetation, soil, or structures and/or the placement of fill in the wetland/other water, or hydrological modifications (i.e., altering the flow of water in or out of the wetland or water).

Waters of the U.S. and waters of the state occur off-site in close proximity to many project components and could be subject to indirect impacts as a result of project construction. Indirect impacts could occur if construction activities inadvertently extend beyond the designated construction work area, if construction worker foot traffic extends beyond the designated construction work area and into these features, and/or if trash and debris is left in the features following construction. Other indirect impacts include sedimentation as a result of increased soil erosion from grading or trenching activities and degradation of water quality from pollutants (e.g., oil, hydraulic fluid) that are conveyed by surface water runoff from the construction site to offsite waters of the U.S./waters of the state.

The following discussion of project-related impacts on waters of the U.S. and/or waters of the state is organized by facility.

Impact acreages are provided below for each facility when appropriate and are provided as an approximation based on the current proposed project footprint. Since many of the facilities overlap, the impact acreages provided below may overlap with the impact acreages for other facilities and optional alignments. The final impact acreages for the entire project would be based on whether the proposed project uses the proposed alignments or optional alignments.

Subsurface Slant Wells

The construction footprint for the subsurface slant wells is 9 acres. A portion of this construction footprint overlaps with a portion of the construction footprints for the Source Water Pipeline and Source Water Pipeline using the optional alignment. The components of the proposed subsurface slant wells that would be below the mean high water line would be within the MBNMS. Impacts to marine biological resources from the slant well components that would be located within the MBNMS are described in Section 4.5 Marine Biological Resources. The facility components that

are evaluated in this section would be located above the mean high water line and outside of the MBNMS.

Construction of the subsurface slant wells is not expected to directly impact any waters of the U.S. or waters of the state as none occur within the subsurface slant well site in the CEMEX active mining area. Some potential waters of the U.S. and/or waters of the state are located in the vicinity of the slant well Site 1. The CEMEX dredging pond and Pacific Ocean are located over 350 feet from the slant well Site 1. Due to the distances between the construction work area and these potential waters of the U.S./waters of the state, construction activities would not be expected to inadvertently extend beyond the construction work area and impact these features. Moreover, implementation of BMPs in the project-specific SWPPP would require measures to manage soil erosion and protect water quality that would avoid impacts on water quality in these potential wetlands/waters. Therefore, impacts on the CEMEX dredging pond and Pacific Ocean during conversion of the test slant well to a permanent slant well and construction of the aboveground facilities at Site 1 would be less than significant and no mitigation is necessary.

The CEMEX settling ponds are located approximately 50 feet from the slant well Site 1. Indirect impacts on water quality are not expected as the settling ponds are surrounded by berms and are not downgradient of the slant well construction work area. Additionally, mandatory compliance with the NPDES Construction General Permit, including implementation of the project SWPPP, would protect water quality. However, due to proximity of the ponds to the slant well site, potentially significant impacts could result from construction-related activity extending beyond the designated construction work area and into these features.

Implementation of the following mitigation measures would reduce the potential impact on the CEMEX settling ponds to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1b (Construction Worker Environmental Awareness Training and Education Program),** and **4.6-1c (General Avoidance and Minimization Measures)**. These measures would reduce impacts on potentially jurisdictional waters by designating a lead biologist to oversee and ensure implementation of jurisdictional waters protective measures; requiring worker training regarding jurisdictional waters potentially present to ensure that workers are aware of jurisdictional waters that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; and requiring general measures such as staking or flagging the construction area to ensure work is restricted to the construction footprint and avoids adjacent jurisdictional waters and other measures to avoid and minimize impacts on jurisdictional waters.

MPWSP Desalination Plant

No waters of the U.S. or waters of the state exist within the 25-acre[21] MPWSP Desalination Plant site. Therefore, construction of the desalination plant and supporting facilities would not result in direct impacts on waters of the U.S. and/or waters of the state. The Salinas River is located about 670 feet to the north of the site and freshwater forested/shrub wetland mapped by the NWI is

[21] As stated in Section 3.2.2 of Chapter 3, Description of the Proposed Project, all proposed project facilities would be constructed on the upper terrace (25 acres) of the 46-acre parcel.

located about 110 feet north of the site. Due to the distances between the construction work area and these features, it is unlikely that construction activities would inadvertently extend beyond the construction work area and directly impact these features. Soil disturbing activities at the site could increase soil erosion and the eroded soil could migrate downgradient to the potential wetland and the Salinas River. However, mandatory compliance with the NPDES Construction General Permit, including implementation of BMPs in the project's SWPPP, would manage soil erosion and protect water quality, thereby avoiding significant impacts on water quality in the potential wetland and the Salinas River. Therefore, the impact on the Salinas River and the potential wetland would be less than significant and no mitigation is necessary.

The MPWS Desalination Plant would be located outside of the MBNMS.

Pipelines and Other Conveyance Facilities North of Reservation Road

Source Water Pipeline

The construction footprint for the Source Water Pipeline is approximately 16.4 acres. A portion of this footprint overlaps with a portion of the construction footprints for the subsurface slant well, Castroville Pipeline, Castroville Pipeline using the optional alignment 1, Castroville Pipeline using the optional alignment 2, the new Desalinated Water Pipeline, and the new Desalinated Water Pipeline using the optional alignment. The Source Water Pipeline would be located outside of the MBNMS.

Several waters of the U.S./waters of the state occur in the vicinity of the proposed Source Water Pipeline alignment. The Pacific Ocean and the CEMEX dredging pond are located over 350 feet to the north and west of the western terminus of the proposed Source Water Pipeline alignment. A third feature mapped as a freshwater emergent wetland by the NWI is located west of Lapis Road, east of Highway 1, and northeast of the CEMEX access road, approximately 160 feet west of the proposed Source Water Pipeline alignment. A fourth feature mapped as a freshwater emergent wetland by the NWI is located south of the CEMEX access road, approximately 580 feet south of the proposed pipeline alignment. Due to the distances between the construction work area and these features, it unlikely that construction activities would inadvertently extend beyond the construction work area and impact these features. Construction-related soil erosion or the inadvertent discharge of toxic construction chemicals could result in significant adverse effects on these off-site features. However, implementation of BMPs in the project's SWPPP would manage soil erosion from the construction work area and protect water quality in these potential wetlands/waters. Therefore, the impact would be less than significant and no mitigation is necessary.

The CEMEX settling ponds are located 50 feet north of the western terminus of the proposed Source Water Pipeline alignment. Indirect impacts on water quality related to soil erosion and potential releases of toxic construction chemicals are not expected as the settling ponds are surrounded by berms and are not located downgradient of the construction work area. Additionally, mandatory compliance with the NPDES Construction General Permit, including implementation of the project SWPPP, would protect water quality in the ponds and prevent significant impacts on water quality. However, due to proximity of the ponds to the slant well

site, potentially significant impacts could result from construction-related activity extending beyond the designated construction work area and into these features.

Implementation of the following mitigation measures would reduce the significant impact on the CEMEX settling ponds to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1b (Construction Worker Environmental Awareness Training and Education Program),** and **4.6-1c (General Avoidance and Minimization Measures)**. As summarized above in the impact discussion for the subsurface slant wells, these measures would reduce impacts on potentially jurisdictional waters by requiring implementation of protective measures.

Since the Source Water Pipeline and Source Water Pipeline using the optional alignment would have the same potential impacts, the same impacts and mitigation measures would apply to the Source Water Pipeline using the optional alignment as apply to the Source Water Pipeline.

New Desalinated Water Pipeline

The construction footprint for the new Desalinated Water Pipeline is approximately 35.4 acres. A portion of the construction footprint for the new Desalinated Water Pipeline overlaps with a portion of the construction footprints for the Source Water Pipeline, Source Water Pipeline using the optional alignment, Castroville Pipeline, Castroville Pipeline using the optional alignment 1, and Castroville Pipeline using the optional alignment 2. The new Desalinated Water Pipeline would be located outside of the MBNMS.

Riparian woodland and scrub at Locke-Paddon Park and near the intersection of Marina Green Drive and Del Monte Boulevard are potential waters of the U.S./waters of the state. Pipeline installation activities could temporarily impact 0.42 acre of riparian woodland and scrub. Temporary impacts on these potential waters of the U.S./waters of the state would be significant.

Direct impacts on these features would be reduced to a less-than-significant level with implementation of the following mitigation measures: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1b (Construction Worker Environmental Awareness Training and Education Program), 4.6-1c (General Avoidance and Minimization Measures),** and **4.6-3 (Avoid, Minimize, and or Mitigate Impacts to Wetlands)**. These measures would reduce impacts on potentially jurisdictional waters by designating a lead biologist to oversee and ensure implementation of jurisdictional waters protective measures; requiring worker training regarding jurisdictional waters potentially present to ensure that workers are aware of jurisdictional waters that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as staking or flagging the construction area to ensure work is restricted to the construction footprint and avoids adjacent jurisdictional waters and other measures to avoid and minimize impacts on jurisdictional waters; and requiring the project to be designed to avoid and/or minimize direct impacts on jurisdictional waters to the extent feasible, using HDD or other trenchless methods to install pipeline underneath wetlands or waters (with some exceptions), and compensating for loss of jurisdictional waters.

Indirect impacts could occur from construction-related soil erosion and related effects on water quality. However, mandatory compliance with the NPDES Construction General Permit, including implementation of the project SWPPP, would avoid significant indirect impacts on water quality and no mitigation measures are required.

Since the new Desalinated Water Pipeline and the new Desalinated Water Pipeline using the optional alignment would have the same potential impacts, the same impacts and mitigation measures would apply to the new Desalinated Water Pipeline using the optional alignment as apply to the new Desalinated Water Pipeline.

Castroville Pipeline

The construction footprint for the Castroville Pipeline is approximately 15.0 acres. A portion of the Castroville Pipeline construction footprint overlaps with a portion of the construction footprints for the Source Water Pipeline, Source Water Pipeline using the optional alignment, new Desalinated Water Pipeline, and new Desalinated Water Pipeline using the optional alignment. The Castroville Pipeline would be located outside of the MBNMS.

There are a few potentially jurisdictional waters of the U.S./water of the state within the Castroville Pipeline alignment which include the Salinas River, Tembladero Slough, riparian woodland and scrub communities, freshwater marsh communities, and a few culverts and ditches.

Pipeline installation activities could temporarily impact approximately 0.06 acre of riparian woodland and scrub, and additional culverts and ditches. Temporary impacts on these potential waters of the U.S./waters of the state would be significant.

The pipeline would be installed beneath the Salinas River and Tembladero Slough using HDD. The Salinas River, Tembladero Slough, and other potentially jurisdictional features are located adjacent to the alignment and the construction area. Mandatory compliance with the NPDES Construction General Permit, including implementation of the project SWPPP, would protect impacts on water quality in these features from upland erosion. Due to proximity of these features to the construction site, potentially significant impacts could result from construction-related activity extending beyond the designated construction work area and into these features. Additionally, if a frac-out occurs during HDD, bentonite slurry could be released into the Salinas River and/or Tembladero Slough, which could degrade water quality, a significant impact.

Direct impacts on these features would be reduced to a less-than-significant level with implementation of the following mitigation measures: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1b (Construction Worker Environmental Awareness Training and Education Program), 4.6-1c (General Avoidance and Minimization Measures), 4.6-1q (Frac-out Contingency Plan),** and **4.6-3 (Avoid, Minimize, and or Mitigate Impacts to Wetlands)**. These measures would reduce impacts on potentially jurisdictional waters by designating a lead biologist to oversee and ensure implementation of jurisdictional waters protective measures; requiring worker training regarding jurisdictional waters potentially present to ensure that workers are aware of jurisdictional waters that occur in the project area and the measures to be implemented to avoid, minimize, and/or

mitigate impacts; requiring general measures such as staking or flagging the construction area to ensure work is restricted to the construction footprint and avoids adjacent jurisdictional waters and other measures to avoid and minimize impacts on jurisdictional waters; requiring preparation of a Frac-out Contingency Plan and implementation of measures in the Plan to contain and clean-up any frac-outs in waterways to minimize impacts of frac-outs on special-status species and their habitat; and requiring the project to be designed to avoid and/or minimize direct impacts on jurisdictional waters to the extent feasible, using HDD or other trenchless methods to install pipeline underneath wetlands or waters (with some exceptions), and compensating for loss of jurisdictional waters.

The Castroville Pipeline using the optional alignment 1 would impact approximately 0.06 acre of riparian woodland and scrub, 0.01 acre of freshwater marsh, and additional culverts and ditches. The Castroville Pipeline using the optional alignment 2 would impact approximately 0.06 acre of riparian woodland and scrub and additional culverts and ditches. The Castroville Pipeline using the optional alignments would generally result in the same type of impact as described for the Castroville Pipeline. The same impact conclusion and mitigation measures would apply to the Castroville Pipeline using the optional alignments as apply to the Castroville Pipeline.

Brine Discharge Pipeline and Pipeline to CSIP Pond

The construction footprint for both the Brine Discharge Pipeline and Pipeline to CSIP Pond combined is approximately 6.6 acres. These facilities would be located outside of the MBNMS.

The Brine Discharge Pipeline and Pipeline to CSIP Pond would have no direct impacts on waters of the U.S./waters of the state because as described below none are assumed to be located within these pipeline alignments. The CSIP pond is located within the Pipeline to CSIP Pond alignment and is mapped as a freshwater pond by the NWI. The Monterey Regional Water Pollution Control Agency (MRWPCA) operates this concrete-lined, man-made, industrial pond as part of their wastewater treatment and recycled water facilities. For this reason, this EIR/EIS assumes the ponds are not waters of the U.S. or waters of the state. No direct impact on waters of the U.S. or waters of the state would occur from installation of the Brine Discharge Pipeline and Pipeline to CSIP Pond.

A potentially jurisdictional pond is located approximately 60 feet south of both alignments. Water quality within this feature could be indirectly impacted from soil erosion and potential releases of toxic construction chemicals. Mandatory compliance with the NPDES Construction General Permit, including implementation of the project SWPPP, would protect water quality in the pond and prevent significant impacts on water quality. However, due to proximity of the pond to the pipeline alignment, potentially significant impacts could result from construction-related activity extending beyond the designated construction work area and into these features.

Implementation of the following mitigation measures would reduce the significant impact on the pond to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1b (Construction Worker Environmental Awareness Training and Education Program),** and **4.6-1c (General Avoidance and Minimization Measures)**. As summarized above in the impact discussion for the subsurface

slant wells, these measures would reduce impacts on potentially jurisdictional waters by requiring implementation of protective measures.

Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline)

The ASR Facilities include the ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline. These facilities would be located outside of the MBNMS. The construction footprint for both of the ASR Wells is expected to be approximately 0.9 acre. The construction footprint of the area where water would be conveyed is approximately 7.0 acres. The construction footprint for all three ASR pipelines is approximately 8.8 acres. A portion of the construction footprint for the ASR pipelines overlaps with a portion of the construction footprints for the new Transmission Main and the new Transmission Main using the optional alignment.

There are no potential waters of the U.S./waters of the state within the Proposed ASR Facilities project area. Two potential waters of the U.S./waters of the state mapped by the NWI occur over 400 feet from the ASR Pipelines alignment. The project's distance from these features ensures that construction activities would not impact them. Furthermore, mandatory compliance with the NPDES Construction General Permit, including implementation of the project SWPPP, would avoid adverse impacts on offsite waters of the U.S./waters of the state. Therefore, there are no direct impacts and potential indirect impacts on these potential waters of the U.S./waters of the state would be less than significant and no mitigation is necessary.

Pipelines and Other Conveyance Facilities South of Reservation Road

New Transmission Main

The construction footprint for the new Transmission Main is approximately 27.1 acres. A portion of the new Transmission Main construction footprint overlaps with a portion of the ASR pipelines construction footprint. The new Transmission Main would be located outside of the MBNMS.

There are no potential waters of the U.S./waters of the state within the new Transmission Main alignment. There is one potentially jurisdictional feature located adjacent to the new Transmission Main project area, an ephemeral drainage located south of the 8th Street overpass. Water quality within this feature could be indirectly impacted from soil erosion and potential releases of toxic construction chemicals. Mandatory compliance with the NPDES Construction General Permit, including implementation of the project SWPPP, would protect water quality in the pond and prevent significant impacts on water quality. However, due to proximity of the drainage to the pipeline alignment, potentially significant impacts could result from construction-related activity extending beyond the designated construction work area and into these features.

Indirect impacts on potential waters of the U.S./waters of the state associated with installation of the new Transmission Main would be significant. However, implementation of **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1b (Construction Worker Environmental Awareness Training and**

Education Program), and **4.6-1c (General Avoidance and Minimization Measures)** would reduce these indirect impacts to a less-than-significant level. As summarized above in the impact discussion for the subsurface slant wells, these measures would reduce impacts on potentially jurisdictional waters by requiring implementation of protective measures.

Other potential waters of the U.S./waters of the state mapped by the NWI are located at least 400 feet from the new Transmission Main alignment. The project's distance from these features ensures that construction activities would not impact them. Additionally, mandatory compliance with the NPDES Construction General Permit would avoid significant impacts on the water quality. Therefore, construction of the new Transmission Main would not be expected to impact these offsite potential waters of the U.S./waters of the state.

Since the new Transmission Main and the new Transmission Main using the optional alignment would have the same potential impacts, the same impacts and mitigation measures would apply to the new Transmission Main using the optional alignment as apply to the new Transmission Main.

Terminal Reservoir

The construction footprint for the Terminal Reservoir is approximately 6 acres. This facility would be located outside of the MBNMS.

The proposed Terminal Reservoir site contains a wetland mapped by the NWI as a freshwater emergent wetland that may be considered a water of the U.S./water of the state. It is anticipated that construction of the Terminal Reservoir would avoid direct removal of the feature because it is not in the proposed construction footprint. Mandatory compliance with the NPDES Construction General Permit, including implementation of the project SWPPP, would protect water quality in the wetland feature and prevent significant impacts on water quality. However, due to proximity of the pond to the reservoir site, potentially significant impacts could result from construction-related activity extending beyond the designated construction work area and into these features.

Indirect impacts on potential waters of the U.S./waters of the state associated with construction of the Terminal Reservoir would be significant. However, implementation of **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1b (Construction Worker Environmental Awareness Training and Education Program),** and **4.6-1c (General Avoidance and Minimization Measures)** would reduce these indirect impacts to a less-than-significant level. As summarized above in the impact discussion for the subsurface slant wells, these measures would reduce impacts on potentially jurisdictional waters by requiring implementation of protective measures.

Another potential water of the U.S./water of the state occurs over 800 feet east of the Terminal Reservoir site. The project's distance from this feature ensures that construction activities would not impact it. Moreover, mandatory compliance with the NPDES Construction General Permit, including implementation of BMPs in the project's SWPPP would avoid impacts on water quality in the potential wetland/water and distance makes it unlikely that construction activities would inadvertently extend into the wetland/water feature. Therefore, impacts on the off-site potential water of the U.S./water of the state would be less than significant and no mitigation is necessary.

Carmel Valley Pump Station

The construction footprint for the Carmel Valley Pump Station, including associated pipelines, is approximately 0.2 acre. This facility would be located outside of the MBNMS.

There is a potentially jurisdictional wetland feature mapped by the NWI within the Carmel Valley Pump Station study area. Carmel Valley Pump Station construction activities could temporarily impact 0.005 acre of this feature.

Direct impacts on this potentially jurisdictional feature would be reduced to a less-than-significant level with implementation of the following mitigation measures: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1b (Construction Worker Environmental Awareness Training and Education Program), 4.6-1c (General Avoidance and Minimization Measures),** and **4.6-3 (Avoid, Minimize, and or Mitigate Impacts to Wetlands)**. As summarized above in the impact discussion for the new Desalinated Water Pipeline, these measures would reduce impacts on potentially jurisdictional waters by requiring implementation of protective measures.

The Carmel River is located approximately 280 feet south of the Carmel Valley Pump Station site. The project's distance from this feature ensures that construction activities would not impact it. Moreover, mandatory compliance with the NPDES Construction General Permit, including implementation of BMPs in the project's SWPPP would avoid impacts on water quality in the River and distance makes it unlikely that construction activities would inadvertently extend into the River. Therefore, indirect impacts on the off-site potential water of the U.S./water of the state would be less than significant and no mitigation is necessary.

Ryan Ranch-Bishop Interconnection Improvements

The construction footprint for the Ryan Ranch-Bishop Interconnection Improvements is approximately 7.3 acres. This facility would be located outside of the MBNMS.

The NWI has mapped a wetland drainage that appears to pass through a culvert underneath Lower Ragsdale Drive near the intersection of Lower Ragsdale Drive and Ryan Court within the Ryan Ranch-Bishop Interconnection Improvements site. This drainage may be considered a water of the U.S./waters of the state. Installation of the Ryan Ranch-Bishop Interconnection Improvements could temporarily impact 0.24 acre of the wetland drainage. Temporary impacts on this potential water of the U.S./water of the state would be significant. Other drainages mapped by the NWI are also located adjacent to the construction area. Mandatory compliance with the NPDES Construction General Permit, including implementation of the project SWPPP, would protect water quality in these features and prevent significant impacts on water quality.

However, due to proximity of the potentially jurisdictional drainage to the pipeline alignment, potentially significant impacts to the potentially jurisdictional feature could result from construction-related activity extending beyond the designated construction work area and into these features.

Direct impacts on these features would be reduced to a less-than-significant level with implementation of the following mitigation measures: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1b (Construction Worker Environmental Awareness Training and Education Program), 4.6-1c (General Avoidance and Minimization Measures),** and **4.6-3 (Avoid, Minimize, and or Mitigate Impacts to Wetlands)**. As summarized above in the impact discussion for the new Desalinated Water Pipeline, these measures would reduce impacts on potentially jurisdictional waters by requiring implementation of protective measures.

Main System-Hidden Hills Interconnection Improvements

The construction footprint for the Main System-Hidden Hills Interconnection Improvements is 1.1 acre. This facility would be located outside of the MBNMS.

A wetland drainage, mapped by the NWI, is located approximately 600 feet downslope of the majority of the Main System-Hills Interconnection Improvements site, but appears to run either beneath or adjacent to the Middle Tierra Grande Booster Station. Depending on construction methods, construction activities at the Middle Tierra Grande Booster Station could temporarily directly impact the wetland drainage or indirectly impact the wetland drainage if construction worker foot traffic extends into this feature. Direct or indirect impacts would be a significant impact. Mandatory compliance with the NPDES Construction General Permit, including implementation of the project SWPPP, would protect water quality in these features and prevent significant impacts on water quality.

Direct impacts on this feature would be further reduced to a less-than-significant level with implementation of the following mitigation measures: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1b (Construction Worker Environmental Awareness Training and Education Program), 4.6-1c (General Avoidance and Minimization Measures),** and **4.6-3 (Avoid, Minimize, and or Mitigate Impacts to Wetlands)**. As summarized above in the impact discussion for the new Desalinated Water Pipeline, these measures would reduce impacts on potentially jurisdictional waters by requiring implementation of protective measures.

Staging Areas

No potential waters of the U.S./waters of the state occur within any of the eight staging areas located throughout the project area.

Mandatory compliance with the NPDES Construction General Permit, including implementation of BMPs in the project's SWPPP would avoid impacts on any unknown potential waters outside of the boundary of the 8 staging areas. Therefore, use of the 8 staging areas would not result in direct or indirect impacts on waters of the U.S. and/or waters of the state. This impact is less than significant and no mitigation is necessary.

All staging areas would be located outside of the MBNMS.

Consistency with Regulatory Requirements

In addition to the physical impacts described above, as noted in Section 4.6.2, Regulatory Framework, MPWSP construction could be inconsistent with applicable regulatory requirements related to waters of the U.S. and/or waters of the state. Specifically, the project could be inconsistent with the Sections 404 and 401 of the CWA, Section 10 of the Rivers and Harbors Act, the Porter-Cologne Act, the Coastal Act, City of Marina General Plan Policies 4.112, 4.114, 4.116, 4.118, 4.119, 4.121, and 2.10; City of Marina LCLUP Policies 24 and 26 and Planning Guidelines entitled Rare and Endangered Species: Habitat Protection and Wetlands Protection; City of Seaside Local Coastal Program Land Use Plan Policies NCR-CZ 1.1.C, NCR-CZ 1.2.A, NCR-CZ 1.2.B, NCR-CZ 1.3.A, NCR-CZ 1.3.B, LUD-CZ 3.1.A, LUD-CZ 3.1B; Seaside General Plan Policies COS-4.1 and COS-4.2; Monterey County Carmel Valley Master Plan Policy CV-3.7; Monterey County Greater Monterey Peninsula Area Plan Policy GMP-3.6; Monterey County General Plan Policies OS-5.16, OS-5.18, OS-5.22; and Fort Ord Reuse Plan (Seaside) Biological Resources Policy A-2, which were established to avoid or mitigate impacts on waters of the U.S. and/or waters of the state. As discussed in the preceding paragraphs, **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1b (Construction Worker Environmental Awareness Training and Education Program), 4.6-1c (General Avoidance and Minimization Measures), 4.6-1q (Frac-out Contingency Plan),** and **4.6-3 (Avoid, Minimize, and or Mitigate Impacts to Wetlands)** would reduce impacts on waters of the U.S. and/or waters of the state by designating a lead biologist to oversee and ensure implementation of jurisdictional waters protective measures; requiring worker training regarding jurisdictional waters potentially present to ensure that workers are aware of jurisdictional waters that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as staking or flagging the construction area to ensure work is restricted to the construction footprint and avoids adjacent jurisdictional waters and other measures to avoid and minimize impacts on jurisdictional waters; requiring preparation of a Frac-out Contingency Plan and implementation of measures in the Plan to contain and clean-up any frac-outs in waterways to minimize impacts of frac-outs on special-status species and their habitat; and requiring the project to be designed to avoid and/or minimize direct impacts on jurisdictional waters to the extent feasible, using HDD or other trenchless methods to install pipeline underneath wetlands or waters (with some exceptions), and compensating for loss of jurisdictional waters. Therefore, with these measures implemented, the MPWSP would be brought into conformance with the above-noted regulatory requirements.

Impact Conclusion

For all project facilities, mandatory compliance with the NPDES Construction General Permit, including implementation of the project-specific SWPPP, would ensure the construction-related impact on water quality in waters of the U.S./waters of the state related to increased soil erosion and/or inadvertent releases of toxic construction chemicals is less than significant.

Implementation and construction of the subsurface slant wells, Source Water Pipeline and Source Water Pipeline Optional alignment, new Desalinated Water Pipeline and new Desalinated Water Pipeline Optional alignment, Castroville Pipeline and Castroville Pipeline Optional alignments,

Brine Discharge Pipeline and Pipeline to CSIP Pond, new Transmission Main and new Transmission Main Optional alignment, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, and Main System-Hidden Hills Interconnection Improvements, have the potential to significantly impact waters of the U.S./waters of the state as a result of placement of fill, removal of a water/wetland feature, and/or the potential for construction activities or construction worker foot traffic to extend beyond the designated construction work area. For these facilities, implementation of the proposed mitigation measures would reduce impacts on waters of the U.S./waters of the state to less than significant.

The impact is less than significant for the MPWSP Desalination Plant, proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), and staging areas.

Overall, the project has potential to impact waters of the U.S./waters of the state. The impact would be less than significant with mitigation.

Mitigation Measures

Mitigation Measure 4.6-1a applies to the subsurface slant wells, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Brine Discharge Pipeline and Pipeline to CSIP Pond, New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, and Main System-Hidden Hills Interconnection Improvements.

> **Mitigation Measure 4.6-1a: Retain a Lead Biologist to Oversee Implementation of Protective Measures.**
>
> (See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1b applies to the subsurface slant wells, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Brine Discharge Pipeline and Pipeline to CSIP Pond, New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, and Main System-Hidden Hills Interconnection Improvements.

> **Mitigation Measure 4.6-1b: Construction Worker Environmental Awareness Training and Education Program.**
>
> (See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1c applies to the subsurface slant wells, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Brine Discharge Pipeline and Pipeline to CSIP Pond, New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, Carmel Valley Pump

Station, Ryan Ranch-Bishop Interconnection Improvements, and Main System-Hidden Hills Interconnection Improvements.

Mitigation Measure 4.6-1c: General Avoidance and Minimization Measures.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1q applies to HDD installation of the Castroville Pipeline beneath the Salinas River and Tembladero Slough.

Mitigation Measure 4.6-1q: Frac-out Contingency Plan

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-3 applies to the New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, New Transmission Main and New Transmission Main Optional Alignment, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvement, and Main System-Hidden Hills Interconnection Improvements.

Mitigation Measure 4.6-3: Avoid, Minimize, and or Mitigate Impacts to Wetlands.

1. A jurisdictional wetland delineation shall be conducted to determine the extent of waters of the U.S. and waters of the state within the project component footprints and anticipated construction disturbance area.

2. The proposed project shall be designed to avoid and/or minimize direct impacts on wetlands and/or waters under the jurisdiction of the U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Wildlife, and/or the California Coastal Commission to the extent feasible. Horizontal Directional Drilling or other trenchless methods will be used at all pipeline crossings of wetlands and other waters of the U.S. and of the state which, except some small order seasonal or ephemeral drainages which do not support riparian woodland, riparian scrub, marsh or other wetland vegetation, and which would be crossed during the dry season in the absence of flow or standing water.

3. Where disturbance to jurisdictional waters cannot be avoided, compensation shall be provided at a 1:1 or greater ratio as specified in project permits issued by the U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Wildlife, and/or the California Coastal Commission. Where applicable, compensation shall be detailed on a project-specific basis and shall include development of a Wetland Mitigation and Monitoring Plan (WMMP), which shall be developed prior to the start of construction and in coordination with permit applications and/or conditions. Offsite mitigation credits may be purchased at an approved mitigation bank; if no banks are available, then alternative mitigation may be achieved through payment of in-lieu fees or development of project specific onsite or offsite mitigation, though these options may require different mitigation ratios. At a minimum, the WMMP shall include:

    a. Name and contact information for the property owner of the land on which the mitigation will take place;

    b. Identification of the source for supplemental irrigation;

c. Identification of depth to groundwater;

d. Baseline information, including a summary of the findings in any other recent wetland delineations applicable to the project disturbance area;

e. Anticipated habitat enhancements to be achieved through compensatory actions;

f. Monitoring methods and schedule;

g. Performance and success criteria for wetland creation and/or enhancement, with success criteria in tabular form, including (1) conducting a wetland delineation for wetlands constructed to compensate for loss of federal jurisdictional wetlands, and (2) ensuring that all wetlands constructed as federal wetlands meet the federal criteria for jurisdictional wetlands.

h. Roles and responsibilities for mitigation funding, implementation, maintenance, monitoring, and reporting.

i. Identification of the mechanism that will preserve the mitigation site in perpetuity, if necessary.

Impact 4.6-4: Be inconsistent with any local policies or ordinances protecting biological resources, such as a tree preservation policy or local tree ordinances. (*Significant and Unavoidable*)

Potential inconsistencies with the City of Marina LCLUP and local tree ordinances are described below.

Potential inconsistencies with all other local policies and ordinances protecting biological resources are addressed throughout this section rather than in a stand-alone impact discussion. Potential conflicts were identified in Table 4.6-4, above. In instances where the consistency analysis concluded the project may conflict with a policy or ordinance, the reader is referred to specific impact discussions (Impacts 4.6-1, 4.6-2, 4.6-3, etc.) addressing those specific biological resource issues.

City of Marina LCLUP

Several project facilities would occur in areas that may qualify as Primary and Secondary Habitat according to the City of Marina LCLUP. These facilities include the subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, new Transmission Main, and the staging area located at Beach Road.

The subsurface slant wells would be located in dune vegetation and wildlife habitat that qualify as Primary and Secondary Habitat according to the City of Marina LCLUP, and therefore the project would result in impacts on Primary and Secondary Habitat. Through design and facility siting, impacts on sensitive biological resources including special-status species and habitat have been minimized. Nonetheless, impacts could result from vegetation removal, grading, excavation,

vehicle movements, or construction of the slant wells, and from periodic maintenance of the well heads. These activities have the potential to disturb vegetation, including nesting habitat for western snowy plover, host plants for Smith's blue butterfly, and sandy substrate for silvery legless lizard. Maintenance activities also could result in exacerbating dune erosion, and hazardous material spills (i.e., fuel, oil, lubricants) in sensitive habitat areas.

Construction and operation of the subsurface slant wells would permanently disturb up to 6 acres of central dune scrub and ice plant mats. The majority of the dune scrub vegetation is currently in a disturbed condition, situated in an inactive sand mining and material handling area that has been retired from use and subject to ice plant control. Typical dominant plant species of intact dune scrub vegetation are largely absent or just beginning to colonize the site, but a sizable population of Monterey spineflower, which often follows disturbance, is present, as are coast buckwheat host plants for Smith's blue butterfly.

Maintenance of the slant well heads would occur approximately every 5 years, and would require re-disturbance of a portion of the initial construction impact area. This would keep these sites in a permanent state of recovery from disturbance, whereby dune scrub vegetation would not be allowed to mature. Therefore, this would be considered a permanent loss of habitat for the special-status species that have the potential to recolonize the slant well head location if it were restored or allowed to recover naturally.

Similar to the subsurface slant wells, construction of the Source Water Pipeline, new Desalinated Water Pipeline, new Transmission Main, and the staging area located at Beach Road could temporarily impact areas that may qualify as Primary and Secondary Habitat. Impacts to sensitive natural communities, including areas that may qualify as Primary and Secondary Habitat, are described in Impact 4.6-2.

Compensation for permanent impacts on sensitive biological resources would occur through development and implementation of a Habitat Mitigation and Monitoring Plan described in **Mitigation Measure 4.6-1n: Habitat Mitigation and Monitoring Plan**, which describes restoration and preservation of dune scrub habitat suitable for western snowy plover, Smith's blue butterfly, and other special-status species that would occur within the Monterey Bay coastal dune ecosystem.

The Marina LCLUP prohibits development in Primary Habitat that is not protective of and dependent upon that habitat. The LCLUP states, "Primary habitat areas shall be protected and preserved against any significant disruption of habitat values and only uses dependent on those resources shall be allowed within those areas (City of Marina, 1982)."

Implementation of **Mitigation Measure 4.6-1n: Habitat Mitigation and Monitoring Plan** would reduce impacts on special-status species habitat by requiring development and implementation of a mitigation and monitoring plan for temporarily and permanently impacted special-status species habitat to ensure that temporary and permanent losses are fully compensated as required. However, construction and maintenance of the subsurface slant wells, new Desalinated Water Pipeline, new Transmission Main and the staging area located at Beach Road are not uses or developments

dependent on the sensitive resources that comprise the Primary Habitat present. Therefore, these facilities would be inconsistent with the City of Marina LCLUP policies governing protection of Primary and Secondary Habitats, a significant and unavoidable impact.

The CCC reached a similar conclusion in its review of the test slant well Coastal Development Permit application, on appeal. The CCC staff report for the test slant well states:

> "Although the project is proposed to be located in portions of the CEMEX site that have been subject to disturbance, the entire area in which the project would be located is primary habitat and ESHA under the LCP. The proposed project is not a resource dependent use, so it cannot be approved consistent with the LCP's habitat protection policies. (CCC, 2014)"

The CCC staff report noted that development of the test slant wells in the proposed location would also conflict with Coastal Act policies related to protection of ESHA (30240).

The CCC was ultimately able to approve the project consistent with the Coastal Act by relying upon Coastal Act Section 30260, which encourages coastal-dependent industrial uses and provides for resolution of conflicting Coastal Act policies where such development is concerned.

Local Tree Ordinances

In general, the types of trees protected by local tree ordinances vary by jurisdiction. **Table 4.6-10**, below, summarizes the local plan, policy, or ordinance that regulates tree removal at each proposed facility site and describes the trees that are protected under the respective plan, policy, or ordinance. The table also includes a description of whether each proposed facility has potential to be inconsistent with a local tree ordinance by removing or impacting a protected tree.

Subsurface Slant Wells

The CEMEX mining area contains relatively undisturbed central dune scrub, formerly disturbed sand dunes that are slowly being occupied by native and non-native dune scrub vegetation, and unvegetated disturbed sandy soil in actively mined areas. There are no trees within the subsurface slant well site. Therefore, no impact would result and no mitigation is necessary.

Staging Areas

There are 8 staging areas located throughout the project area. Some staging areas have trees located along the edge of the staging area boundary; however no trees would be removed during project implementation. Therefore, no impact would result and no mitigation is necessary.

All Other Proposed Project Facilities and Pipelines

To the extent feasible, all other proposed project facilities would be sited so as to minimize tree removal and avoid impacts on trees. Depending on final siting and design of the proposed project facilities, as well as the construction methods and techniques, implementation of the proposed project could necessitate tree removal at various locations throughout the project area. Any trees removed during project construction may be inconsistent with local tree ordinances. This would be a potentially significant impact.

TABLE 4.6-10
APPLICABLE LOCAL PLANS, POLICIES, AND ORDINANCES RELATED TO TREE REMOVAL

Proposed Facility	Jurisdiction	Local Plans, Policies, and Ordinances Related to Tree Removal	Protected Trees	Potential to be Inconsistent with Tree Ordinance
Subsurface Slant Wells	City of Marina	City of Marina Zoning Ordinance and General Plan	A tree removal permit is required to be obtained from the city for any tree that shall be removed or relocated. Oak woodland shall be protected to the greatest extent possible in recognition both of its relatively high biological and aesthetic resource value and its important role in California's and Monterey County's natural heritage. In areas supporting oak woodland, a site survey of this resource should be completed for all new subdivisions and commercial projects as part of a preliminary site and development review. All stands of oak woodland and individual specimens with a diameter of 6 inches or more when measured 4.5 feet from ground level should be identified on a base map. To the greatest extent possible, development plans shall then attempt to incorporate the oak woodland or individual specimens into the plan as an integral feature of the natural and built environment. All oak trees shall be replaced and maintained with new trees of the same stock as those found onsite or in the site vicinity according to the following replacement formula: a minimum one-for-one (one replacement tree for each tree removed) where replacement trees are proposed to be the same diameter or greater than those to be removed; a minimum three-to-one (three replacement trees for each tree removed) for replacement trees of lesser diameter than those proposed for removal, unless, as determined by arborist, the site's specific environmental conditions would not sufficiently support a healthy oak habitat. All diameter measurements shall be taken at 4.5 feet from ground level. Replacement trees shall be a mixture of sizes.	Consistent. There are no trees at the subsurface slant well site.
MPWSP Desalination Plant	Monterey County	Monterey County Zoning Ordinance (Greater Monterey Peninsula Area Plan)	The following trees are protected under this ordinance (tree diameters are measured 2 feet above the ground surface): ● oak trees 6 inches or more in diameter in the areas designated as Resource Conservation; Residential; Commercial; Industrial; Industrial, Mineral Extraction; or Agricultural ● landmark oak trees (trees 24 inches or more in diameter, trees which are visually significant, historically significant, or exemplary of their species) ● any oak tree removed for commercial harvesting purposes The applicant would be required to relocate or replace each removed protected tree on a one-to-one ratio. Additionally, the removal of healthy, native oak, Monterey pine, and redwood trees shall be discouraged.	Potentially Inconsistent. Several trees along Charles Benson Road may require removal to accommodate the proposed access driveways.

TABLE 4.6-10 (Continued)
APPLICABLE LOCAL PLANS, POLICIES, AND ORDINANCES RELATED TO TREE REMOVAL

Proposed Facility	Jurisdiction	Local Plans, Policies, and Ordinances Related to Tree Removal	Protected Trees	Potential to be Inconsistent with Tree Ordinance
MPWSP Desalination Plant (cont.)	Monterey County	Monterey County Code	Oak trees within areas designated as Resource Conservation, Residential, Commercial, or Industrial cannot be removed without the approval of necessary permits. Exceptions include removal of oak trees pursuant to the purpose and standards required in areas designated as Agriculture, Industrial, and or Mineral Extraction. In addition, Title 20, Parts 2-5, addresses native tree removal and protection in the Coastal Zone and Title 21 outside the Coastal Zone. Chapter 16 of the Monterey County Municipal Code also addresses oak and other native tree protection. Native trees in Monterey County, as defined in the ordinance, include Santa Lucia fir, black cottonwood, Fremont cottonwood, box elder, willows, California laurel, sycamores, oaks and madrones. Trees must be at least six inches in diameter two feet above the ground level in order to be subject to these regulations. A landmark oak tree is defined as an oak tree that is 24 inches or more in diameter when measured two feet above ground level or one that is visually significant, historically significant, or exemplary of its species. Removal of any landmark tree is prohibited unless approved by the County Director of Planning and Building Inspection. The applicant would be required to relocate or replace each removed protected tree on a one-to-one ratio.	
Source Water Pipeline and Source Water Pipeline Optional Alignment	City of Marina	City of Marina Zoning Ordinance and General Plan	See above.	Potentially Inconsistent. Although not anticipated, depending on final design, implementation of this pipeline could require tree removal or construction within the driplines of trees at the CEMEX sand mining facility and/or along Charles Benson Road.
	Monterey County	Monterey County Zoning Ordinance (North County Land Use Plan Local Coastal Program)	The following trees are protected under this ordinance (tree diameters are measured 2 feet above the ground surface): ● oak trees 6 inches or more in diameter in the areas designated as Resource Conservation; Residential; Commercial; Industrial; Industrial, Mineral Extraction; or Agricultural ● landmark oak trees (trees 24 inches or more in diameter, trees which are visually significant, historically significant, or exemplary of their species) ● any oak tree removed for commercial harvesting purposes The applicant would be required to relocate or replace each removed protected tree on a one-to-one ratio.	
	Monterey County	Monterey County Zoning Ordinance (Greater Monterey Peninsula Area Plan)	See above.	
	Monterey County	Monterey County Code	See above.	

TABLE 4.6-10 (Continued)
APPLICABLE LOCAL PLANS, POLICIES, AND ORDINANCES RELATED TO TREE REMOVAL

Proposed Facility	Jurisdiction	Local Plans, Policies, and Ordinances Related to Tree Removal	Protected Trees	Potential to be Inconsistent with Tree Ordinance
New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment	City of Marina	City of Marina Zoning Ordinance and General Plan	See above.	Potentially Inconsistent. Although not anticipated, depending on final design, implementation of this pipeline could require tree removal or construction within the driplines of trees along Charles Benson Road or Del Monte Boulevard.
	Monterey County	Monterey County Zoning Ordinance (North County Land Use Plan Local Coastal Program)	See above.	
	Monterey County	Monterey County Zoning Ordinance (Greater Monterey Peninsula Area Plan)	See above.	
	Monterey County	Monterey County Code	See above.	
Castroville Pipeline and Castroville Pipeline Optional Alignments	Monterey County	Monterey County Zoning Ordinance (Greater Monterey Peninsula Area Plan)	See above.	Potentially Inconsistent. Although not anticipated, depending on final design, implementation of this pipeline could require tree removal or construction within the driplines of trees located along Charles Benson Road, the Salinas River, north of Tembladero Slough, and in other isolated locations along the alignment.
	Monterey County	Monterey County Zoning Ordinance (North County Area Plan)	The following trees are protected under this ordinance (tree diameters are measured 2 feet above the ground surface): ● oak or madrone trees 6 inches or more in diameter ● landmark oak trees (trees 24 inches or more in diameter, trees which are visually significant, historically significant, or exemplary of their species) ● any oak tree removed for commercial harvesting purposes The applicant would be required to relocate or replace each removed protected tree on a one-to-one ratio.	
	Monterey County	Monterey County Zoning Ordinance (Greater Salinas Area Plan)	The following trees are protected under this ordinance (tree diameters are measured 2 feet above the ground surface): ● oak trees 6 inches or more in diameter in the areas designated as Resource Conservation; Residential; Commercial; Industrial; Industrial, Mineral Extraction; or Agricultural ● landmark oak trees (trees 24 inches or more in diameter, trees which are visually significant, historically significant, or exemplary of their species) ● any oak tree removed for commercial harvesting purposes The applicant would be required to relocate or replace each removed protected tree on a one-to-one ratio.	
	Monterey County	Monterey County Code	See above.	

TABLE 4.6-10 (Continued)
APPLICABLE LOCAL PLANS, POLICIES, AND ORDINANCES RELATED TO TREE REMOVAL

Proposed Facility	Jurisdiction	Local Plans, Policies, and Ordinances Related to Tree Removal	Protected Trees	Potential to be Inconsistent with Tree Ordinance
Brine Discharge Pipeline and Pipeline to CSIP Pond	Monterey County	Monterey County Zoning Ordinance (Greater Monterey Peninsula Area Plan)	See above.	Potentially Inconsistent. Although not anticipated, depending on final design, implementation of these pipelines could require tree removal or construction within the driplines of trees located along Charles Benson Road and along the MRWPCA Regional WTTP access roads.
	Monterey County	Monterey County Code	See above.	
Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline)	City of Seaside	City of Seaside Municipal Code	A tree permit is required to be obtained from the City for removal or alteration of any tree on private property. The applicant would be required to relocate or replace each removed protected tree on a one-to-one ratio.	Potentially Inconsistent. Although not anticipated, depending on final design, installation of the ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline could require tree removal or construction within the driplines of trees located at these sites.
New Transmission Main and New Transmission Main Optional Alignment	City of Marina	City of Marina Zoning Ordinance and General Plan	See above.	Potentially Inconsistent. Although not anticipated, depending on final design, implementation of this pipeline could require tree removal or construction within the driplines of trees located along Del Monte Boulevard, the TAMC right-of-way, Lightfighter Drive, and General Jim Moore Boulevard.
	City of Seaside	City of Seaside Municipal Code	See above.	
	City of Monterey	City of Monterey Municipal Code	A tree permit is required to be obtained from the City for removal or excessive pruning of any protected tree. Protected trees are defined as a) trees located on a vacant private parcel that are more than two inches (2”) in diameter when measured at a point four feet six inches (4’6”) above the tree’s natural grade; and, b) trees located on a private, developed parcel that are more than six inches (6”) when measured at a point four feet six inches (4’6”) above the tree’s natural grade.	
Terminal Reservoir	City of Seaside	City of Seaside Municipal Code	See above.	Potentially Inconsistent. Although not anticipated, depending on final design, installation of the Terminal Reservoir could require tree removal or construction within the driplines of trees located at this site.
Carmel Valley Pump Station	Monterey County	Monterey County Zoning Ordinance (Carmel Valley Master Plan)	The following trees are protected under this ordinance (tree diameters are measured 2 feet above the ground surface): ● oak, madrone, or redwood trees 6 inches or more in diameter ● landmark oak trees (trees 24 inches or more in diameter, trees which are visually significant, historically significant, or exemplary of their species)	Potentially Inconsistent. Although not anticipated, depending on final design, installation of the Carmel Valley Pump Station could require tree removal or construction within the driplines of trees located at this site.

TABLE 4.6-10 (Continued)
APPLICABLE LOCAL PLANS, POLICIES, AND ORDINANCES RELATED TO TREE REMOVAL

Proposed Facility	Jurisdiction	Local Plans, Policies, and Ordinances Related to Tree Removal	Protected Trees	Potential to be Inconsistent with Tree Ordinance
Carmel Valley Pump Station (cont.)			• any oak tree removed for commercial harvesting purposes The applicant would be required to relocate or replace each removed protected tree on a one-to-one ratio.	
	Monterey County	Monterey County Code	See above.	
Ryan Ranch–Bishop Interconnection Improvements	City of Monterey	City of Monterey Municipal Code	See above.	Potentially Inconsistent. Although not anticipated, depending on final design, installation of the Ryan Ranch-Bishop Interconnection Improvements could require tree removal or construction within the driplines of trees located at this site.
	Monterey County	Monterey County Zoning Ordinance (Greater Monterey Peninsula Area Plan)	See above.	
	Monterey County	Monterey County Code	See above.	
Main System–Hidden Hills Interconnection Improvements	Monterey County	Monterey County Zoning Ordinance (Carmel Valley Master Plan)	See above.	Potentially Inconsistent. Although not anticipated, depending on final design, installation of the Main System-Hidden Hills Interconnection Improvements could require tree removal or construction within the driplines of trees located at this site.
	Monterey County	Monterey County Code	See above.	

Implementation of **Mitigation Measure 4.6-4 (Compliance with Local Tree Ordinances),** which summarizes the local tree ordinances and permit requirements that would be implemented if trees were removed, would reduce potential impacts from being inconsistent with local tree ordinances to less than significant by ensuring compliance with local tree ordinances. This measure would reduce impacts on local tree ordinances by requiring conformance with local tree policies and ordinances.

Consistency with Regulatory Requirements

In addition to the impacts described above, as noted in Section 4.6.2, Regulatory Framework, MPWSP construction could be inconsistent with applicable regulatory requirements related to the City of Marina LCLUP policy protecting Primary and Secondary Habitat and trees.

With respect to the City of Marina LCLUP policy protecting Primary and Secondary Habitat, the project would be inconsistent with the City of Marina LCLUP Policy 25, "Rare and Endangered Species: Habitat Protection." Implementation of **Mitigation Measure 4.6-1n: Habitat Mitigation and Monitoring Plan** would reduce impacts on special-status species habitat by requiring development and implementation of a mitigation and monitoring plan for temporarily and permanently impacted special-status species habitat to ensure that temporary and permanent losses are fully compensated as required;. However, given that project facilities proposed for such habitats are not resource-dependent, and because the LCLUP policy provides no exception to the requirement that developments within such habitats be resource-dependent, potential conflicts with this policy would remain unresolved. The effect would be would be significant and unavoidable.

Regarding tree protection requirements, the project could be inconsistent with City of Marina General Plan Policy 4.120, City of Marina Municipal Code Chapter 17.51, Monterey City Code Chapter 37, Seaside Municipal Code Chapter 8.54, Carmel Valley Master Plan Policy CV-3.11, Monterey County Greater Monterey Peninsula Area Plan Policy GMP-3.5, Monterey County Code Section 21.64.260, Monterey County General Plan Policy OS-5.11, and Monterey County North County Area Plan Policy NC-3.4, which were established to avoid or mitigate impacts on trees. As discussed in the preceding paragraphs, **Mitigation Measure 4.6-4 (Compliance with Local Tree Ordinances),** which summarizes the local tree ordinances and permit requirements that would be implemented if trees were removed, would reduce potential impacts related to conflicts with local tree ordinances to less than significant. This measure would reduce impacts on local tree ordinances by requiring conformance with local tree policies and ordinances. Therefore, with these measures implemented, the MPWSP would be brought into conformance with the above-noted regulatory requirements.

Impact Conclusion

Implementation and construction of the subsurface slant wells, Source Water Pipeline and Source Water Pipeline Optional alignment, and potentially the new Desalinated Water Pipeline and new Desalinated Water Pipeline Optional alignment, new Transmission Main and new Transmission Main Optional alignment, and the staging area located at Beach Road would be inconsistent with the City of Marina LCLUP and impacts would be significant and unavoidable.

Implementation and construction of the MPWSP Desalination Plant, Castroville Pipeline and Castroville Pipeline Optional alignments, Brine Discharge Pipeline and Pipeline to CSIP Pond, proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, and Main System-Hidden Hills Interconnection Improvements have the potential to be inconsistent with local tree ordinances. For these facilities, implementation of the proposed mitigation measures would reduce potential impacts from being inconsistent with local tree ordinances to less than significant.

Use of the remaining staging areas would be consistent with local tree ordinances. There would be no impact from these facilities and no mitigation is necessary.

Overall, the project would be inconsistent with local policies or ordinances protecting biological resources. The impact would be significant and unavoidable.

Mitigation Measures

Mitigation Measure 4.6-1n applies to the subsurface slant wells, Source Water Pipeline and Source Water Pipeline Optional alignment, new Desalinated Water Pipeline and new Desalinated Water Pipeline Optional alignment, new Transmission Main and new Transmission Main Optional alignment, and Staging Areas.

Mitigation Measure 4.6-1n: Habitat Mitigation and Monitoring Plan

(See Impact 4.6-1, above, for description)

Mitigation Measure 4.6-4 applies to the MPWSP Desalination Plant, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Brine Discharge Pipeline and Pipeline to CSIP Pond, New Transmission Main and New Transmission Main Optional Alignment, Terminal Reservoir, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, and Main System-Hidden Hills Interconnection Improvements.

Mitigation Measure 4.6-4: Compliance with Local Tree Ordinances.

1. The project applicant shall perform a comprehensive survey within the project footprint to identify, measure, and map trees subject to local tree removal ordinances (as specified in Table 4.6-10).

2. Any trees that are subject to local tree removal ordinances should be avoided to the extent practicable.

3. If tree removal cannot be avoided by project construction, then the applicant would comply with the applicable local tree policies or ordinances, obtain appropriate tree removal permits from applicable local agencies, and comply with those permits.

Impact 4.6-5: Introduce or spread an invasive non-native species during construction. (*Less than Significant with Mitigation*)

Project construction activities could contribute to the spread of invasive plants and/or introduce new invasive plants to the project area or adjacent lands with native plant communities through earth moving, transport of vehicles, equipment and materials, and unanticipated sediment dispersal during rain events, which would be a significant impact. Invasive species include those species that are rated by the California Invasive Plant Council as a 'high' or 'moderate' invasive species.[22]

Construction activities at the following facilities have potential to spread or introduce invasive species to native plant communities in or adjacent to the project area: subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline and Source Water Pipeline Optional alignment, new Desalinated Water Pipeline and new Desalinated Water Pipeline Optional alignment, Castroville Pipeline and Castroville Pipeline Optional alignments, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), new Transmission Main and new Transmission Main Optional alignment, and Terminal Reservoir. These facilities are either located within or are adjacent to native plant communities. Introducing or spreading invasive species to native plant communities is a significant impact. Implementation of **Mitigation Measure 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)** and **4.6-1p (Control Measures for Spread of Invasive Plants)** would reduce impacts to less than significant by designating a lead biologist to oversee and ensure implementation of special-status species and sensitive natural community protective measures and requiring implementation of measures, such as cleaning tools and equipment, to reduce the introduction or spread of invasive species.

Construction activities at the following facilities would not be expected to spread or introduce invasive species: Brine Discharge Pipeline and Pipeline to CSIP Pond, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and staging areas. The project areas for these facilities are either developed or largely surrounded by developed areas. Therefore, there would be no impact from the introduction or spread of the invasive species at these facilities and no mitigation is necessary.

Consistency with Regulatory Requirements

In addition to the physical impacts described above, as noted in Section 4.6.2, Regulatory Framework, MPWSP construction could be inconsistent with applicable regulatory requirements related to the introduction or spread of invasive species. Specifically, the project could be

[22] The California Invasive Plant Council defines high and moderate invasive species as follows (Cal-IPC, 2016):
High – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.
Moderate – These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, through establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

inconsistent with Executive Order 13112, which was established to avoid or mitigate impacts from the introduction or spread of invasive species. As discussed in the preceding paragraphs, **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)** and **4.6-1p (Control Measures for Spread of Invasive Plants)** would reduce impacts from the introduction or spread of invasive species by designating a lead biologist to oversee and ensure implementation of special-status species and sensitive natural community protective measures and requiring implementation of measures, such as cleaning tools and equipment, to reduce the introduction or spread of invasive species. Therefore, with these measures implemented, the MPWSP would be brought into conformance with the above-noted regulatory requirement.

Impact Conclusion

Implementation and construction of the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline and Source Water Pipeline Optional alignment, new Desalinated Water Pipeline and new Desalinated Water Pipeline Optional alignment, Castroville Pipeline and Castroville Pipeline Optional alignments, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), new Transmission Main and new Transmission Main Optional alignment, and Terminal Reservoir has the potential to introduce or spread invasive species. For these facilities, implementation of the proposed mitigation measures would reduce potential impacts from introducing or spreading invasive species to less than significant.

Implementation and construction of the Brine Discharge Pipeline and Pipeline to CSIP Pond, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and staging areas would not introduce or spread invasive species. There would be no impact from these facilities and no mitigation is necessary.

Overall, the project has potential to introduce or spread invasive species, which would be a significant impact. The impact would be less than significant with mitigation.

Mitigation Measures

Mitigation Measure 4.6-1a applies to the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), New Transmission Main and New Transmission Main Optional Alignment, and Terminal Reservoir.

> **Mitigation Measure 4.6-1a: Retain a Lead Biologist to Oversee Implementation of Protective Measures**
>
> (See Impact 4.6-1, above, for description)

Mitigation Measure 4.6-1p applies to the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline and Source Water Pipeline Optional Alignment, New Desalinated Water Pipeline and New Desalinated Water Pipeline Optional Alignment, Castroville Pipeline and Castroville Pipeline Optional Alignments, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), New Transmission Main and New Transmission Main Optional Alignment, and Terminal Reservoir.

Mitigation Measure 4.6-1p: Control Measures for Spread of Invasive Plants

(See Impact 4.6-1, above, for description)

4.6.5.2 Operational and Facility Siting Impacts

With the exception of the MPWSP Desalination Plant, which would be staffed 24 hours a day, 365 days a year, all other proposed project facilities would be operated remotely via Supervisory Control and Data Acquisition (SCADA) and would not be regularly manned. Approximately every 5 years, periodic maintenance of the subsurface slant wells would require use of heavy construction equipment and would result in substantial ground disturbance in the CEMEX active mining area. CalAm facility operators would conduct routine inspections and maintenance of all aboveground facilities but none of the other facilities would result in ground disturbance during routine operations.

It is assumed that CalAm maintenance staff would make pipelines repairs when needed. Because the location, nature, and extent of disturbance associated with future pipeline repairs cannot be predicted, it would be too speculative to analyze the potential site-specific adverse effects associated with future pipeline repairs at this time. However, certain pipeline repairs may be subject to future CEQA/NEPA review. For these reasons, only known, reasonably foreseeable, operational impacts are evaluated below.

Impact 4.6-6: Result in a substantial adverse effect on candidate, sensitive, or special-status species during project operations. (*Less than Significant with Mitigation*)

As described in Impact 4.6-1 and shown in **Table 4.6-2**, above, many special-status plants and animals are either known to occur, or have the potential to occur at the proposed facility sites. Operation of some project facilities would generate noise and increase ambient noise levels in the vicinity of the facility site. In addition, some of the aboveground facilities would include nighttime lighting. Depending on the existing conditions at the facility sites, operational noise and/or nighttime lighting could disturb migrating birds and other special-status wildlife species in the vicinity. These effects are described below. Routine site visits by CalAm facility operators to conduct inspections and monitor facility operations are not expected to generate substantial noise or result in adverse effects on special-status plants and wildlife.

Subsurface Slant Wells

CalAm facility operators would access the slant well sites using the existing CEMEX access road and the improved access road that would run north-south from Site 6 to the CEMEX access road (see **Figure 3-3a**). There is no proposed night lighting at this facility.

The slant wells would require periodic maintenance approximately every 5 years. During periodic maintenance, mechanical brushes would be lowered into the wells to mechanically clean the screens and, if needed, environmentally inert chemical cleaning products would be used. Periodic maintenance of the slant wells would result in approximately 6 acres of ground disturbance in the CEMEX active mining area. Maintenance of the 10 slant wells would occur over a period of 9 to 18 weeks every 5 years. Maintenance would be conducted between October and February to avoid the western snowy plover nesting season.

Several special-status species, as listed in **Table 4.6-2** and discussed in Impact 4.6-1, have potential to occur within central dune scrub in the immediate vicinity of the subsurface slant wells. These include Monterey spineflower, western snowy plover, Smith's blue butterfly, black legless lizard, and silvery legless lizard.

Additionally, western snowy plovers are known to breed and winter in this area and have potential to occur within the slant well site. As mentioned above, periodic maintenance would occur between October and February and outside of the western snowy plover breeding season (breeding season is typically between March and September), so this maintenance would have no impact on breeding western snowy plover individuals. The disturbance area is located in and around the wellheads. Although western snowy plovers have not been recently documented breeding in the back dune area, nests have been historically observed in the back dunes, and this area continues to provide potential breeding habitat for this species. Continual disturbance of this 6-acre area every 5 years may preclude plovers from nesting in this location in the future. Therefore, this would be a permanent loss of up to 6 acres of western snowy plover habitat, which includes a mix of relatively undisturbed central dune scrub, formerly disturbed sand dunes that are revegetating with native and non-native dune scrub vegetation, and unvegetated disturbed sandy soil in actively mined areas, which would be a significant impact.

Maintenance activities would largely occur within the backdunes, away from the beach and foredunes where flocks of plovers are typically found in this season. However, wintering plovers could occur throughout the maintenance area and noise or disturbance from maintenance activities could directly or indirectly impact wintering plovers, a potentially significant impact. Maintenance work may also displace wintering birds that may utilize the beach or back dunes. Abundant wintering habitat is available elsewhere along the Monterey Bay shoreline to support any wintering western snowy plovers displaced during maintenance, since they are not reliant on a stationary location, such as a nest, during winter. Permanent impacts to plover habitat were addressed in the previous paragraph.

Steelhead have potential to occur in the Salinas River and Tembladero Slough. As described in Impact 4.4-3 in Section 4.4.5.2, slant well pumping would not directly pull surface water from the Salinas River, but it could draw in groundwater that would otherwise discharge to the river. The

proposed project would remove approximately 400 afy of groundwater from the river recharge system. The annual volume of water flowing through the Salinas River to the ocean in 2012 was approximately 250,000 afy. Therefore, the 400 afy reduction would be approximately 0.16 percent of the total flow volume, a minor reduction in surface water supply. This same conclusion applies to Tembladero Slough where the removal of approximately 65 afy of groundwater discharge would constitute a minor reduction in surface water supply. Since project operations would not result in a substantial reduction in surface water supply in the Salinas River or Tembladero Slough, operations would not result in a substantial impact on steelhead or their habitat. Therefore, impacts on steelhead would be less than significant.

Coast buckwheat, host plant for Smith's blue butterfly, occurs within the proposed subsurface slant wells site (ESA, 2013; 2014). Removal of or impacts on these plants and associated soil during maintenance could impact individual adult butterflies, their eggs, or larvae, if present. Impacts to any life form of the Smith's blue butterfly would result in a significant impact. Additionally, maintenance activities have potential to impact up to approximately 1.6 acre of Smith's blue butterfly habitat. Since maintenance activities would disturb these areas every 5 years, it is considered a permanent loss of habitat, which would be a significant impact.

Monterey spineflower, black legless lizard, silvery legless lizard, and other special-status species listed under subsurface slant wells in **Table 4.6-6** could be directly or indirectly impacted during maintenance of the subsurface slant wells during the 9 to 18 week construction period every 5 years in a similar manner to the impacts described under the headings *Overview of Potential Construction Effects on Plants* and *Overview of Potential Construction Effects on Wildlife* in Impact 4.6-1. These impacts would be potentially significant.

Impacts from subsurface slant well maintenance on central dune scrub, which is habitat for black legless lizard, silvery legless lizard, and coast horned lizard, are addressed below under Impact 4.6-7.

Implementation of the following mitigation measures would ensure that impacts on sensitive species at this site are reduced to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1d (Protective Measures for Western Snowy Plover), 4.6-1e (Avoidance and Minimization Measures for Special-status Plants), 4.6-1f (Avoidance and Minimization Measures for Smith's Blue Butterfly), 4.6-1g (Avoidance and Minimization Measures for Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard), 4.6-1i (Avoidance and Minimization Measures for Nesting Birds), 4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1p (Control Measures for Spread of Invasive Plants)**, **4.12-1b (General Noise Controls for Construction Equipment)**, and **4.14-2 (Site-Specific Nighttime Lighting Measures).** These measures would reduce impacts on special-status species from maintenance of the subsurface slant wells as described for the subsurface slant wells in impact 4.6-1.

Operation of the well pumps in the subsurface slant wells would generate noise. As stated in Section 4.12, Noise and Vibration, noise from pump operations would attenuate as it passes

through both soil and the subsurface concrete casing. Simultaneous operation of 10 well pumps would conservatively generate a noise level of approximately 66 dBA at 50 feet. At 150 feet, this noise level would be no greater than the ambient noise generated by breaking waves (57 dBA). Since ambient noise levels at the CEMEX active mining area include noise generated from heavy machinery and mining vehicles associated with the CEMEX operations (85 dBA at 50 feet), crashing waves at the Pacific Ocean (57 dBA at 300 feet), and vehicle traffic along Highway 1, the 66 dBA attenuated noise level from pump operations would be less than the combination of these existing sources. Since the attenuated noise from the pumps would not exceed ambient noise levels, the pumps would not expected to impact migratory birds or other special-status wildlife at the site. Impacts would be less than significant.

MPWSP Desalination Plant

The 3-million-gallon brine storage basin at the MPWSP Desalination Plant would be approximately 1.5 acres in extent. Research on impacts of hypersaline waterbodies on birds indicates that waterfowl using large highly saline lakes or ponds can become sick or die, particularly if there is not a source of fresh water in the vicinity. These waterbodies varied in size between 140 to approximately 3,200 acres in size (Gordus et al., 2002; Windingstand et al., 1987; USGS, 2004).

In 1985, approximately 150 waterfowl died and 250 were sickened from salt poisoning in White Lake, an approximately 3,200-acre waterbody (Windingstand et al., 1987). Sodium concentrations at that time were over 17,000 mg/l. In 1998 and 1999, approximately 200 dead and sick ruddy ducks were collected from an approximately 140-acre agricultural evaporation basin located in the San Joaquin Valley. Sodium concentrations were approximately 39,000 mg/l in the basin that year (Gordus et al., 2002).

The salinity of the brine in the MPWSP brine storage basis is expected to range between 57 and 58 parts per thousand (ppt; Flow Science, Inc., 2014). Waterfowl using the brine storage basin over long periods of time could become sick or die from salt toxicosis. The brine storage basin would be much smaller in size compared to the large hypersaline ponds described above and it is unlikely that the brine storage basin would impact the same number of birds as the ponds described above. Additionally, the freshwater pond located within Locke-Paddon Park, approximately 2 miles south of the proposed brine storage basin, is similar in size to the proposed basin and would provide a freshwater alternative to the basin. Although it is unlikely that many birds would become sick or die at the brine storage basin annually, over the life of the project, some migratory waterfowl could become sick or die from use of the brine storage basin, a significant impact.

Implementation of **Mitigation Measure 4.6-6 (Installation and Monitoring of Bird Deterrents at the Brine Storage Basin)** would reduce potential impacts on migratory waterfowl by discouraging them from using the basin. Bird deterrent measures (such as use of a falconer, bird whistles, and fine ropes placed over the pond) are used at the adjacent MRWPCA Regional Wastewater Treatment Plant to successfully deter most birds from their ponds (Holden, 2015).

The MPWSP Desalination Plant would use lighting for safety and security. Lighting would be similar to the existing light sources in the vicinity and would not change existing night lighting conditions or impact special-status wildlife in the vicinity. Pumps for the RO system would be

located within the treatment building and would not generate substantial noise. Some noise would be generated from the emergency diesel-powered generator for approximately 20 to 30 minutes each week. As stated in Section 4.12, Noise and Vibration, generators of the size proposed typically generate a noise level of 81 dBA L_{max} at 50 feet, similar to that of a diesel truck. Given the existing volume of diesel truck pass-by events on Charles Benson Road currently occurring from operations of the adjacent Monterey County Landfill, relatively infrequent noise from the generator, coupled with the sites proximity to an existing landfill and water treatment facility, would not significantly impact special-status wildlife in the vicinity. Lighting and noise impacts on special-status wildlife would be less than significant.

Terminal Reservoir

Lighting would be installed at the proposed Terminal Reservoir site for safety and security purposes. As the Terminal Reservoir would be located in a relatively undeveloped area that provides potential habitat for migratory birds or bats, the new lighting would introduce a new source of substantial light to the area that could impact migratory birds or bats by causing them to abandon their nests or roosts, which is a significant impact. However, with implementation of **Mitigation Measure 4.14-2 (Site-Specific Nighttime Lighting Measures)**, the impact would be reduced to a less-than-significant level. The measure would reduce nighttime light and glare impacts on special-status wildlife species by requiring use of low-intensity lighting and that light be shielded or directed downward to prevent light spillage into adjoining areas where special-status wildlife species may occur.

ASR-5 and ASR-6 Wells

Nighttime lighting may need to be installed at the ASR-5 and ASR-6 Wells for site safety and security. Lighting would be similar to existing light sources adjacent to the site (from the adjacent street lights, the golf course on the opposite side of General Jim Moore Boulevard, and adjacent residences) and would not significantly add to existing light sources or impact special-status wildlife in the vicinity of this site. Lighting impacts would be less than significant.

Each of the ASR-5 and ASR-6 Wells would be equipped with a pump that would be enclosed in a standard concrete pump house to attenuate pump noise. As stated in Section 4.12, Noise and Vibration, placing the motors in a standard concrete pump house would result in a resultant noise level of 57.5 dBA L_{max} at 50 feet. Ambient noise levels at the ASR-5 and ASR-6 Well sites (52 dBA) are the result of recreational activities at the golf course and vehicle traffic along General Jim Moore Boulevard. Substantial increases in the ambient noise level could adversely affect special-status wildlife within 50 feet of the ASR-5 and ASR-6 Well sites, a potentially significant impact. As described in Impact 4.12-5 in Section 4.12.6.2, implementation of **Mitigation Measure 4.12-5 (Stationary Source Noise Controls)** would ensure that noise levels are maintained no greater than 5dBA above existing monitored ambient values. This would ensure that the pumps would not substantially increase noise levels and would not significantly impact special-status wildlife in the vicinity of the site. Noise impacts on special-status wildlife would be less than significant with mitigation.

Carmel Valley Pump Station

Minimal nighttime lighting would be used at the Carmel Valley Pump Station for security. As the Carmel Valley Pump Station is located in the vicinity of the Carmel River riparian corridor, which provides habitat for migratory birds and bats, the new lighting would introduce a new source of substantial light to the area that could impact migratory birds or bats by causing them to abandon their nests or roosts, which is a significant impact. However, with implementation of **Mitigation Measure 4.14-2 (Site-Specific Nighttime Lighting Measures)**, the impact would be reduced to a less-than-significant level. The measure would reduce nighttime light and glare impacts on special-status wildlife species by requiring use of low-intensity lighting and that light be shielded or directed downward to prevent light spillage into adjoining areas where special-status wildlife species may occur.

Although CalAm would operate the Carmel Valley Pump Station via SCADA, CalAm facility operators would make routine visits to inspect the facilities and monitor operations. Routine visits would not generate substantial noise levels.

Operational pump noise could increase ambient noise levels in the immediate vicinity of the concrete pump houses. The Carmel Valley Pump Station is bordered by Carmel Valley Road to the north, the Carmel River and associated riparian corridor to the south, and residences to the east and west, and the existing ambient noise level at the site is 61.5 dBA. As stated in Section 4.12, Noise and Vibration, placing the pumps in an enclosed building would result in a resultant noise level of 62.6 dBA L_{eq} at 50 feet. Operation of the pump would not generate noise substantially above ambient levels. Therefore, noise impacts on special-status wildlife species would be less than significant.

Main System-Hidden Hills Interconnection Improvements

There would be no changes to the nighttime lighting at the Upper Tierra Grande Booster Station and Middle Tierra Grande Booster Station.

Upgraded pumps would replace existing pumps at the Upper Tierra Grande Booster Station and the Middle Tierra Grande Booster Station. Although the new replacement pumps would generate more noise than the existing pumps, they would still be located within existing buildings that would attenuate noise. Both pumps would be located alongside existing roadways and within existing residential developments. As stated in Section 4.12, Noise and Vibration, placing the pumps in the building enclosure would result in resultant noise levels of 61.1 dBA L_{eq} at 50 feet and 55.4 dBA L_{eq} at 50 feet at the Upper Tierra Grande Booster Station and Middle Tierra Grande Booster Station, respectively. Ambient noise levels at the site (44.7 dBA) are the result of existing residential activities at the site. Noise from these upgraded pumps would substantially increase noise levels. Substantial increases in the ambient noise level could adversely affect special-status wildlife within 50 feet of the booster stations. As described in Impact 4.12-5 in Section 4.12.6.2, implementation of **Mitigation Measure 4.12-5 (Stationary Source Noise Controls)** would ensure that noise levels are maintained no greater than 5 dBA above existing monitored ambient values. This would ensure that the pumps would not substantially increase noise levels and would

not significantly impact special-status wildlife in the vicinity of the site. Noise impacts on special-status wildlife would be less than significant with mitigation.

All Pipelines

Operation of the Source Water Pipeline, new Desalinated Water Pipeline, Castroville Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, new Transmission Main, ASR Conveyance Pipeline, ASR Recirculation Pipeline, ASR Pump-to-Waste Pipeline, and Ryan Ranch-Bishop Interconnection Improvements would not generate noise because these pipelines and pipeline connections would be located underground and would not include pumps or any other noise-generating facilities. Pipeline operations would have no impact on special-status species. No mitigation is required.

Consistency with Regulatory Requirements

In addition to the physical impacts described above, as noted in Section 4.6.2, Regulatory Framework, MPWSP operations could be inconsistent with applicable regulatory requirements related to special-status species that were adopted for the purpose of avoiding or mitigating an environmental effect. Specifically, the project could be inconsistent with the FESA, Federal Migratory Bird Treaty Act, CESA, California Fish and Game Code, City of Marina General Plan Policies 4.112, 4.114, 4.118, 4.119, and 2.10; City of Marina Local Coastal Land Use Plan Policies 25 and 26 and Planning Guideline entitled Rare and Endangered Species: Habitat Protection, which were established to avoid or mitigate special-status species impacts, respectively. As discussed in the preceding paragraphs, **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures), 4.6-1d (Protective Measures for Western Snowy Plover), 4.6-1e (Avoidance and Minimization Measures for Special-status Plants), 4.6-1f (Avoidance and Minimization Measures for Smith's Blue Butterfly), 4.6-1g (Avoidance and Minimization Measures for Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard), 4.6-1i (Avoidance and Minimization Measures for Nesting Birds), 4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1p (Control Measures for Spread of Invasive Plants)**, **Mitigation Measure 4.6-6 (Installation and Monitoring of Bird Deterrents at the Brine Storage Basin), 4.12-1b (General Noise Controls for Construction Equipment)**, **Mitigation Measure 4.12-5 (Stationary Source Noise Controls)**, and **Mitigation Measure 4.14-2 (Site-Specific Nighttime Lighting Measures)** would reduce impacts on special-status species from MPWSP operations by designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring worker training regarding special-status species potentially present to ensure that workers are aware of special-status species that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as installation of an exclusion fencing to ensure special-status species do not occur within the construction area, a trash abatement program to ensure special-status species predators are not attracted to the site, and other measures to avoid and minimize impacts on special-status species; requiring specific measures to avoid, minimize, and compensate for impacts on the western snowy plover such as avoiding the breeding season,

installing a visual construction barrier for work conducted adjacent to breeding habitat during the breeding season to reduce human disturbance to plovers, conducting pre-construction surveys to determine if plovers are present and implementing minimization measures to minimize construction impacts on plovers, if present, and compensating for habitat loss to mitigate for temporary and permanent loss of habitat; requiring specific measures to avoid and minimize impacts on special-status plants such as avoiding individual plants to the extent feasible and compensating for temporary or permanent loss of special-status plants at a level acceptable to the applicable resource agencies; requiring specific measures to avoid and minimize impacts on Smith's blue butterfly such as avoiding host plants to the extent feasible to avoid impacts to individuals and providing compensatory mitigation for permanent impacts; requiring specific measures to avoid and minimize impacts on black legless lizard, silvery legless lizard, and coast horned lizard such as relocating individuals to areas outside of the construction area to avoid injury or mortality from construction; requiring specific measures to avoid and minimize impacts on nesting birds such as limiting construction to the non-nesting season when feasible to avoid impacts to active nests; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; requiring implementation of measures to reduce the introduction or spread of invasive species that may degrade habitat for special-status species; discouraging migratory waterfowl from using the Brine Storage Basin; requiring implementation of noise controls for construction equipment to reduce noise impacts on special-status wildlife species; ensuring that noise levels are maintained no greater than 5 dBA above existing monitored ambient values to reduce noise impacts on special-status wildlife species; and requiring use of low-intensity lighting and that light be shielded or directed downward to prevent light spillage into adjoining areas where special-status wildlife species may occur.

Therefore, with these measures implemented, the MPWSP would be brought into conformance with the above-noted regulatory requirements.

Impact Conclusion

Periodic maintenance of the subsurface slant wells and regular operation of the MPWSP Desalination Plant, Terminal Reservoir, and Carmel Valley Pump Station have the potential to impact special-status species. Implementation of the proposed mitigation measures would reduce impacts on special-status species to less than significant.

Operations and maintenance of the ASR-5 and ASR-6 Wells and Main System-Hidden Hills Interconnection Improvements would have less-than-significant impacts on special-status species. No mitigation is required.

Operations and maintenance of the Source Water Pipeline, new Desalinated Water Pipeline, Castroville Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, new Transmission Main, ASR Conveyance Pipeline, ASR Recirculation Pipeline, ASR Pump-to-Waste Pipeline, and Ryan Ranch-Bishop Interconnection Improvements, would not impact special-status species. Therefore, no impact would result and no mitigation is required.

Mitigation Measures

Mitigation Measure 4.6-1a applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1a: Retain a Lead Biologist to Oversee Implementation of Protective Measures.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1b applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1b: Construction Worker Environmental Awareness Training and Education Program.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1c applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1c: General Avoidance and Minimization Measures.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1d applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1d: Protective Measures for Western Snowy Plover.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1e applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1e: Avoidance and Minimization Measures for Special-status Plants.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1f applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1f: Avoidance and Minimization Measures for Smith's Blue Butterfly.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1g applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1g: Avoidance and Minimization Measures for Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1i applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1i: Avoidance and Minimization Measures for Nesting Birds.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1n applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1n: Habitat Mitigation and Monitoring Plan.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1p applies to periodic maintenance of the subsurface slant wells.

Mitigation Measure 4.6-1p: Control Measures for Spread of Invasive Plants

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-6 applies only to the MPWSP Desalination Plant.

Mitigation Measure 4.6-6: Installation and Monitoring of Bird Deterrents at the Brine Storage Basin.

Bird deterrents (such as reflective flagging, whistles, or a falconer) should be utilized at the Brine Storage Basin. The type of bird deterrent should be determined by the lead biologist and should be modified if, through monitoring (as described below), the bird deterrents are either not sufficient at deterring birds from the Brine Storage Basin or pose a risk to wildlife.

Monitoring of the Brine Storage Basin shall include the following:

- ***Monthly Monitoring*:** A qualified biologist and/or qualified biological monitor shall regularly survey the Brine Storage Basin at least once per month starting with the first month of operation of the Brine Storage Basin. The purpose of the surveys shall be to determine if the bird deterrents are effective in excluding birds and to assess whether the deterrents serve as a hazard to birds or wildlife. The monthly surveys shall be conducted in one day for a minimum of two hours following sunrise (i.e., dawn), a minimum of one hour mid-day (i.e., 1100 to 1300), and a minimum of two hours preceding sunset (i.e., dusk) in order to provide an accurate assessment of bird and wildlife use of the ponds during all seasons. Operations staff at the MPWSP Desalination Plant shall also report finding any dead birds or other wildlife at the Brine Storage Basin to the Lead Biologist within one day of the detection of the carcass. The Lead Biologists shall report any bird or other wildlife deaths or entanglements within two days of the discovery to CalAm, CDFW, and USFWS.

- ***Quarterly Monitoring*:** If after 12 consecutive monthly site visits (described above) no bird or wildlife deaths are detected at the Brine Storage Basin by or reported to the Lead Biologist, monitoring can be reduced to quarterly visits.

- ***Biannual Monitoring*:** If after 12 consecutive quarterly site visits (described above) no bird or wildlife deaths are detected by or reported to the Lead Biologist, future surveys may be reduced to two surveys per year, during the spring nesting season and during fall migration.

- ***Modification of Monitoring Program*:** As appropriate, the Lead Biologist shall modify the monitoring program based on information acquired during monitoring, and may also suggest adaptive management measures to remedy any problems that are detected during monitoring or modifications if bird impacts are not observed.

Mitigation Measure 4.12-1b applies to the subsurface slant wells.

Mitigation Measure 4.12-1b: General Noise Controls for Construction Equipment.

(See Impact 4.12-1 in Section 4.12, Noise and Vibration, for description.)

Mitigation Measure 4.15-5 applies to ASR-5 and ASR-6 Wells and Main System-Hidden Hills Interconnection Improvements

Mitigation Measure 4.12-5: Stationary-Source Noise Controls.

(See Impact 4.12-5 in Section 4.12, Noise and Vibration, for description.)

Mitigation Measure 4.14-2 applies to the subsurface slant wells, Terminal Reservoir, and Carmel Valley Pump Station.

Mitigation Measure 4.14-2: Site-Specific Nighttime Lighting Measures.

(See Impact 4.14-2 in Section 4.14, Aesthetic Resources, for description.)

Impact 4.6-7: Result in substantial adverse effects on riparian habitat, critical habitat, or other sensitive natural communities during project operations. (*Less than Significant with Mitigation*)

As described above under Impact 4.6-2, the following sensitive natural communities occur within or in the vicinity of the project area: central dune scrub, central maritime chaparral, northern coastal scrub, riparian woodland and scrub, freshwater marsh, and coast live oak woodland. Critical habitat is also considered a sensitive natural community for the purposes of this analysis. (Potential operational impacts on wetlands or other waters, which are also considered sensitive natural communities, are addressed below under Impact 4.6-8.)

Project operations would largely be confined to water transport within the new facilities and would not result in any new ground disturbance. Maintenance activities at the subsurface slant wells would include periodic ground disturbance, which may result in impacts on sensitive natural communities. Foreseeable maintenance activities at the remaining proposed facilities would not result in any new ground disturbance and would not result in impacts on sensitive natural communities.

Subsurface Slant Wells

Maintenance of the slant wells would be required approximately every 5 years and would disturb a total of up to 6 acres of central dune scrub and areas that are currently actively disturbed for sand mining activities. This disturbance area includes relatively undisturbed central dune scrub, formerly disturbed sand dunes that are revegetating with native and non-native dune scrub vegetation, and unvegetated disturbed sandy soil areas. The total duration for maintenance activities would be 9 to 18 weeks every 5 years. Disturbance every 5 years would keep these sites in a permanent state of recovery from disturbance and dune scrub vegetation would not be allowed to mature. Therefore this maintenance is considered a permanent impact. As stated above

under Impact 4.6-2, the site is in the Coastal Zone and central dune scrub in this area may be considered primary and secondary habitat under the City of Marina LCLUP. Impacts to central dune scrub would be potentially significant. Additionally, as described under Impact 4.6-2, western snowy plover critical habitat is located approximately 240 feet west of well Site 1. Slant well maintenance at well Site 1 could indirectly impact this critical habitat if worker foot traffic extends beyond the designated construction work area, if trash and debris is left behind following construction, and/or if invasive plant species are introduced or spread at the site. Indirect impacts on critical habitat would be significant.

Implementation of the following mitigation measures would ensure that maintenance impacts on sensitive natural communities, including critical habitat for western snowy plover, at this site are reduced to a less-than-significant level: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures)**, **4.6-1d (Protective Measures for Western Snowy Plover), 4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1p (Control Measures for Spread of Invasive Plants)**, **4.6-2a (Consultation with Local Agencies and the California Coastal Commission regarding Environmentally Sensitive Habitat Areas)**, and **4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities)**. These measures would reduce impacts on sensitive natural communities and critical habitat during maintenance activities at the subsurface slant well as described for subsurface slant wells in Impact 4.6-2.

All Other Facilities

Operations and maintenance of the MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Castroville Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), new Transmission Main, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, and Main System–Hidden Hills Interconnection Improvements would include periodic maintenance and inspections of existing facilities. Known maintenance efforts and inspections would be limited to already developed areas, which do not support sensitive natural communities or primary constituent elements of critical habitat. No impact on sensitive natural communities or critical habitat from operations and maintenance of these facilities are expected. No mitigation is required.

Consistency with Regulatory Requirements

In addition to the physical impacts described above, as noted in Section 4.6.2, Regulatory Framework, MPWSP operations could be inconsistent with applicable regulatory requirements related to sensitive natural communities, critical habitat, and ESHA that were adopted for the purpose of avoiding or mitigating an environmental effect. Specifically, the project could be inconsistent with the FESA, the Coastal Act, City of Marina General Plan Policies 4.112, 4.114, 4.116, 4.118, and 2.10; City of Marina LCLUP Policies 8, 19, 25, 26 and Planning Guideline entitled Rare and Endangered Species: Habitat Protection, which were established to avoid or mitigate sensitive natural community, critical habitat, and ESHA impacts. As discussed in the preceding paragraphs, **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee**

Implementation of Protective Measures), **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, **4.6-1c (General Avoidance and Minimization Measures), 4.6-1d (Protective Measures for Western Snowy Plover), 4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1p (Control Measures for Spread of Invasive Plants)**, **4.6-2a (Consultation with Local Agencies and the California Coastal Commission regarding Environmentally Sensitive Habitat Areas)**, and **4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities)** would reduce impacts on critical habitat and ESHA as described for subsurface slant wells in Impact 4.6-2. Therefore, with these measures implemented, the MPWSP would be brought into conformance with the above-noted regulatory requirements.

Impact Conclusion

Operations of underground components and project facilities within previously disturbed project footprints, which do not support sensitive natural communities or primary constituent elements of critical habitat, are not expected to impact on sensitive natural communities. No mitigation is required.

Maintenance of the subsurface slant wells has potential to impact sensitive natural communities and critical habitat. Implementation of the proposed mitigation measures would reduce impacts on sensitive natural communities and critical habitat to less than significant.

Foreseeable maintenance at the other facilities would not disturb any new areas. Therefore, no impact would result. No mitigation is required.

Overall, the project has potential to impact sensitive communities, which would be a significant impact. The impact would be less than significant with mitigation.

Mitigation Measures

Mitigation Measure 4.6-1a applies to the subsurface slant wells.

> **Mitigation Measure 4.6-1a: Retain a Lead Biologist to Oversee Implementation of Protective Measures.**
>
> (See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1b applies to the subsurface slant wells.

> **Mitigation Measure 4.6-1b: Construction Worker Environmental Awareness Training and Education Program.**
>
> (See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1c applies to the subsurface slant wells.

> **Mitigation Measure 4.6-1c: General Avoidance and Minimization Measures.**
>
> (See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1d applies to the subsurface slant wells.

Mitigation Measure 4.6-1d: Protective Measures for Western Snowy Plover.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1n applies to the subsurface slant wells.

Mitigation Measure 4.6-1n: Habitat Mitigation and Monitoring Plan.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-2a applies to subsurface slant wells.

Mitigation Measure 4.6-1p: Control Measures for Spread of Invasive Plants.

(See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-2a applies to subsurface slant wells.

Mitigation Measure 4.6-2a: Consultation with Local Agencies and the California Coastal Commission regarding Environmentally Sensitive Habitat Areas.

(See Impact 4.6-2, above, for description.)

Mitigation Measure 4.6-2b applies to subsurface slant wells.

Mitigation Measure 4.6-2b: Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities.

(See Impact 4.6-2, above, for description.

Impact 4.6-8: Result in substantial adverse effects on federal wetlands, federal other waters, and/or waters of the state during project operations. (*Less than Significant with Mitigation*)

As described in Impact 4.6-3, waters of the U.S./waters of the state under the jurisdiction of the CCC, RWQCB, and/or USACE occur within and adjacent to the project area. Project operations would largely be confined to water transport within the new facilities and would not result in any new ground disturbance. Maintenance activities at the subsurface slant wells would include ground disturbance, which may result in impacts on waters of the U.S./waters of the state within or adjacent to the project area. Foreseeable maintenance activities at the remaining proposed facilities would not result in any new ground disturbance and would not result in impacts on waters of the U.S./waters of the state.

Subsurface Slant Wells

Maintenance of the subsurface slant wells would require cleaning of well heads approximately for a total duration of 9 to 18 weeks every 5 years. Maintenance activities would not occur in potential waters of the U.S./waters of the state.

The CEMEX settling ponds, potentially waters of the U.S./waters of the state, are located approximately 50 feet from the slant well Site 1. Indirect impacts on water quality are not expected as these ponds are surrounded by berms and slope should attenuate any potential project related discharges to these features. Furthermore, maintenance activities would disturb approximately 6 acres of land, and similar to construction activities, would require coverage under the NPDES Construction General Permit and preparation and implementation of a SWPPP. Mandatory compliance with the NPDES Construction General Permit, including implementation of the project-specific SWPPP, would further reduce the potential for water quality impacts. However, due to proximity, construction crews could inadvertently impact wetlands by walking or driving through them during maintenance, which would be a significant impact.

Implementation of the following mitigation measures would ensure that potential impacts on adjacent waters of the U.S./waters of the state would be reduced to less-than-significant levels: **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1b (Construction Worker Environmental Awareness Training and Education Program)**, and **4.6-1c (General Avoidance and Minimization Measures).** These measures would reduce impacts on waters of the U.S./waters of the state from maintenance of the subsurface slant wells as described for subsurface slant wells in Impact 4.6-3.

All Other Facilities

Operations and maintenance of the MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Castroville Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline), new Transmission Main, Terminal Reservoir, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, and Main System–Hidden Hills Interconnection Improvements would include periodic inspections and repairs when needed. Any foreseeable disturbance associated with facility inspections, maintenance, and operations would be limited to developed areas that do not support waters of the U.S/waters of the state. No impact on waters of the U.S./waters of the state would result from maintenance and operations activities. No mitigation is required.

Consistency with Regulatory Requirements

In addition to the physical impacts described above, as noted in Section 4.6.2, Regulatory Framework, MPWSP operations could be inconsistent with applicable regulatory requirements related to waters of the U.S. and/or waters of the state. Specifically, the project could be inconsistent with the Sections 404 and 401 of the CWA, Section 10 of the Rivers and Harbors Act, the Porter-Cologne Act, the Coastal Act, City of Marina General Plan Policies 4.112, 4.114, 4.116, 4.118, and 2.10; City of Marina LCLUP Policy 26 and Planning Guidelines entitled Rare and Endangered Species: Habitat Protection, which were established to avoid or mitigate impacts on waters of the U.S. and/or waters of the state. As discussed in the preceding paragraphs, **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1b (Construction Worker Environmental Awareness Training and Education Program),** and **4.6-1c (General Avoidance and Minimization Measures)** would reduce impacts on waters of the U.S. and/or waters of the state as described for subsurface

slant wells in Impact 4.6-3. Therefore, with these measures implemented, the MPWSP would be brought into conformance with the above-noted regulatory requirements.

Impact Conclusion

Operations of underground components and project facilities within previously disturbed project footprints, which do not contain waters of the U.S./waters of the state, would result in no impact on waters of the U.S./waters of the state. No mitigation is required.

Maintenance of the subsurface slant wells has potential to impact potential waters of the U.S./waters of the state. Implementation of the proposed mitigation measures would reduce impacts on waters of the U.S/waters of the state to less than significant.

Foreseeable maintenance at the other facilities are not expected to disturb any new areas. Therefore, no impact is expected. No mitigation is required.

Overall, the project has potential to impact waters of the U.S./waters of the state, which would be a significant impact. The impact would be less than significant with mitigation.

Mitigation Measures

Mitigation Measure 4.6-1a applies to the subsurface slant wells.

> **Mitigation Measure 4.6-1a: Retain a Lead Biologist to Oversee Implementation of Protective Measures.**
>
> (See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1b applies to the subsurface slant wells.

> **Mitigation Measure 4.6-1b: Construction Worker Environmental Awareness Training and Education Program.**
>
> (See Impact 4.6-1, above, for description.)

Mitigation Measure 4.6-1c applies to the subsurface slant wells.

> **Mitigation Measure 4.6-1c: General Avoidance and Minimization Measures.**
>
> (See Impact 4.6-1, above, for description.)

Impact 4.6-9: Introduce or spread an invasive non-native species during project operations. (*Less than Significant with Mitigation*)

Periodic maintenance activities at the subsurface slant wells would include ground disturbance, which could contribute to the spread of invasive plants and/or introduce new invasive plants to the project area or adjacent lands with native plant communities through earth moving, transport

of vehicles, equipment and materials, and unanticipated sediment dispersal during rain events, which would be a significant impact.

Implementation of Mitigation Measure 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures) and 4.6-1p (Control Measures for Spread of Invasive Plants) would reduce impacts to less than significant by designating a lead biologist to oversee and ensure implementation of special-status species and sensitive natural community protective measures and requiring implementation of measures, such as cleaning tools and equipment, to reduce the introduction or spread of invasive species.

Foreseeable maintenance activities at the remaining proposed facilities would not result in any new ground disturbance and would not spread or introduce invasive species.

Consistency with Regulatory Requirements

In addition to the physical impacts described above, as noted in Section 4.6.2, Regulatory Framework, MPWSP operations could be inconsistent with applicable regulatory requirements related to the introduction or spread of invasive species. Specifically, the project could be inconsistent with Executive Order 13112, which was established to avoid or mitigate impacts from the introduction or spread of invasive species. As discussed in the preceding paragraphs, **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)** and **4.6-1p (Control Measures for Spread of Invasive Plants)** would reduce impacts from the introduction or spread of invasive species by designating a lead biologist to oversee and ensure implementation of special-status species and sensitive natural community protective measures and requiring implementation of measures, such as cleaning tools and equipment, to reduce the introduction or spread of invasive species. Therefore, with these measures implemented, the MPWSP would be brought into conformance with Executive Order 13112.

Impact Conclusion

Operations of underground components and project facilities within previously disturbed project footprints would not have the potential to introduce or spread invasive species into native plant communities. Therefore no impact would result from operations of these facilities and no mitigation is required.

Maintenance of the subsurface slant wells has potential to introduce or spread invasive species into native plant communities. Implementation of the proposed mitigation measures would reduce impacts from the introduction or spread of invasive species to less than significant.

Foreseeable maintenance at the other facilities would not disturb any new areas. Therefore no impact is expected. No mitigation is required.

Overall, the project has potential to introduce or spread invasive species, which would be a significant impact. The impact would be less than significant with mitigation.

Mitigation Measures

Mitigation Measure 4.6-1a applies to the subsurface slant wells.

> **Mitigation Measure 4.6-1a: Retain a Lead Biologist to Oversee Implementation of Protective Measures.**
>
> (See Impact 4.6-1, above, for description)

Mitigation Measure 4.6-1p applies to the subsurface slant wells.

> **Mitigation Measure 4.6-1p: Control Measures for Spread of Invasive Plants.**
>
> (See Impact 4.6-1, above, for description)

Impact 4.6-10: Be inconsistent with the provisions of an adopted Habitat Conservation Plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan during construction or operations. (*Less than Significant with Mitigation*)

The proposed project's consistency with the provisions of an adopted Habitat Conservation Plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan during construction or operations is addressed below. Impacts to HMP special-status species and sensitive natural communities with potential to occur and be impacted by the proposed project are addressed in Impacts 4.6-1, 4.6-2, 4.6-6, and 4.6-7 above.

Terminal Reservoir

The entire Terminal Reservoir site is located within the *1997 Installation-Wide Multispecies Habitat Management Plan* (HMP; USACE, 1997) for the former Fort Ord area. This proposed facility is located within a Borderland Development Area along a Natural Resource Management Area (NRMA) Interface, which means it is located in designated development areas that border a NRMA. Borderland Development Areas along a NRMA have no management restrictions except along the development/reserve interface. Per the HMP, as these areas are developed, certain management requirements would be implemented, which include invasive species control and the use of firebreaks. The proposed Terminal Reservoir does not include controls for invasive species or firebreaks. Therefore, these facilities would be inconsistent with the HMP, a significant impact.

Implementation of **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures)**, **4.6-1p (Control Measures for Spread of Invasive Plants),** and **4.6-8 (Management Requirements within Borderland Development Areas along Natural Resource Management Area Interface)** would ensure that the proposed project is not inconsistent with the provisions of an adopted Habitat Conservation Plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan and would reduce potential impacts to a less-than-significant level. These measures would reduce impacts by designating a lead biologist to oversee and ensure implementation of special-status species and sensitive natural community protective measures; requiring implementation of measures, such as

cleaning tools and equipment, to reduce the introduction or spread of invasive species; and ensuring that measures that are required to be implemented as part of the HMP are implemented for the proposed project.

Preparation of a HCP is currently underway for the former Fort Ord military base (Draft HCP; Fort Ord Reuse Authority, 2012). The Draft HCP is currently undergoing internal review and has not been released to the public. It is expected to be complete in late 2016. Once approved, the Draft HCP will supersede the HMP. Similar to the HMP, the Terminal Reservoir site is located within Borderlands that are Designated Development Areas in the Draft HCP. If the Draft HCP is approved and permitted before the proposed project is implemented, these facilities may be subject to additional mitigation measures required under the approved HCP, which cannot be known at this time.

New Transmission Main

The portion of the new Transmission Main along the Monterey Peninsula Recreational Trail is located within the HMP area. It is located within an area designated as Development with Reserve Areas or Development with Restrictions. This designation includes lands that are slated for development in the HMP that contain inholdings of habitat reserve land or require development restrictions to protect habitat within or adjacent to the parcel. The new Transmission Main would pass through the HMP's Caltrans State Route 1 Area within the Development with Reserve Areas or Development with Restrictions category. The management requirements for these parcels specify that in conjunction with any transportation work conducted by Caltrans, Caltrans will restore and enhance native coastal strand, dune scrub, and sand hill maritime chaparral habitats in the road shoulders and medians in areas that will not conflict with anticipated highway expansion, improvements, operations, or maintenance. Even though the HMP only describes the potential for Caltrans transportation in this corridor, for the purpose of this analysis, we assume that the intent of the measure was to ensure that any projects that temporarily disturbed native habitat would restore and enhance these areas following construction. Construction of the new Transmission Main would temporarily impact central dune scrub habitat, which would be inconsistent with the HMP, which is a significant impact.

Implementation of **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1n (Habitat Mitigation and Monitoring Plan),** and **4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities)** would ensure that the proposed project is not inconsistent with the provisions of an adopted Habitat Conservation Plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan and would reduce potential impacts to a less-than-significant level. These measures would reduce impacts by designating a lead biologist to oversee and ensure implementation of special-status species and sensitive natural community protective measures; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; and requiring measures to minimize and/or mitigate impacts on sensitive natural communities such as restoration of temporarily impacted sensitive communities, to ensure no net loss of habitat; and ensuring that measures that may be required to be implemented as part of the HMP are implemented for the proposed project.

Similar to the HMP, the new Transmission Main alignment is located within an area designated as a Development with Reserve Areas or Development with Restrictions. If the Draft HCP is approved and permitted before the proposed project is implemented, this facility may be subject to additional mitigation measures required under the approved HCP, which cannot be known at this time.

Since the new Transmission Main and the new Transmission Main using the optional alignment would have the same potential impacts, the same impacts and mitigation measures would apply to the new Transmission Main using the optional alignment as apply to the new Transmission Main.

Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline) and Staging Areas

The proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline) and some staging areas are located within the HMP area. However, these proposed facilities are located within designated development areas that do not border a NRMA. Per the HMP, no resource conservation or resource management requirements are associated with projects in these parcels. Therefore, construction of these facilities would be consistent with adopted habitat conservation plans or natural community conservation plans or other approved local, regional, or state habitat conservation plans. No impact is expected. Impacts to HMP special-status species and sensitive natural communities with potential to occur and be impacted by the proposed ASR Facilities are addressed in Impacts 4.6-1, 4.6-2, 4.6-6, and 4.6-7 above.

Similar to the HMP, the proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline) and some staging areas are located within Designated Development Areas in the Draft HCP. If the Draft HCP is approved and permitted before the proposed project is implemented, these facilities may be subject to additional mitigation measures required under the approved HCP, which cannot be known at this time.

All Other Proposed Project Facilities

Implementation of the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline, new Desalinated Water Pipeline, Castroville Pipeline, Brine Discharge Pipeline, Pipeline to CSIP Pond, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, and Main System–Hidden Hills Interconnection Improvements are not located within the HMP or HCP areas and therefore would not be subject to conformance with adopted habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plans during construction as none occur at these facility sites. No impact is expected.

Consistency with Regulatory Requirements

In addition to the physical impacts described above, as noted in Section 4.6.2, Regulatory Framework, MPWSP construction and operations could be inconsistent with applicable regulatory requirements related to an approved HMP or HCP. Specifically, the project could be inconsistent with the City of Marina General Plan Policy 4.115, which was established to reduce impacts on species and habitat areas within an approved HMP or HCP. As discussed in the

preceding paragraphs, **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), 4.6-1n (Habitat Mitigation and Monitoring Plan),** and **4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities)** would reduce potential inconsistencies with an approved HMP or HCP as described above for the new Transmission Main. Therefore, with these measures implemented, the MPWSP would be consistent with the above-noted regulatory requirements.

Impact Conclusion

The Terminal Reservoir site and the portion of the new Transmission Main along the Monterey Peninsula Recreational Trail are located within the approved HMP area and construction and operations of these facilities could be inconsistent with the HMP; which would be a significant impact. Implementation of **4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), Mitigation Measures 4.6-1p (Control Measures for Spread of Invasive Plants), 4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities),** and **4.6-8 (Management Requirements within Borderland Development Areas along Natural Resource Management Area Interface)** would reduce potential impacts to a less-than-significant level by designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring implementation of measures, such as cleaning tools and equipment, to reduce the introduction or spread of invasive species; developing and implementing a mitigation and monitoring plan for temporarily and permanently impacted sensitive habitats to ensure that temporary and permanent losses are fully compensated as required; and requiring measures to minimize and/or mitigate impacts on sensitive natural communities such as restoration of temporarily impacted sensitive communities, to ensure no net loss of habitat; and ensuring that measures that may be required to be implemented as part of the HMP are implemented for the proposed project.

The proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline) and some staging areas are located within the HMP area. However, these proposed facilities are located within designated development areas and construction and operations of these facilities would be consistent with the HMP. The remaining facilities are not located within the HMP area and would not be subject to conformance with the HMP. No impact and no mitigation required.

Overall, the project would be inconsistent with the HMP, which would be a significant impact. The impact would be less than significant with mitigation.

Mitigation Measures

Mitigation Measure 4.6-1a applies to the New Transmission Main, New Transmission Main Optional alignment, and Terminal Reservoir

> **Mitigation Measure 4.6-1a: Retain a Lead Biologist to Oversee Implementation of Protective Measures.**
>
> (See Impact 4.6-1, above, for description)

Mitigation Measure 4.6-1p applies to the Terminal Reservoir.

Mitigation Measure 4.6-1p: Control Measures for Spread of Invasive Plants.

(See Impact 4.6-1, above, for description)

Mitigation Measure 4.6-1n applies to the New Transmission Main and New Transmission Main Optional alignment.

Mitigation Measure 4.6-1n: Habitat Mitigation and Monitoring Plan.

(See Impact 4.6-1, above, for description)

Mitigation Measure 4.6-2b applies to the New Transmission Main and New Transmission Main Optional alignment.

Mitigation Measure 4.6-2b: Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities

(See Impact 4.6-2, above, for description)

Mitigation Measure 4.6-8 applies to the Terminal Reservoir.

Mitigation Measure 4.6-8: Management Requirements within Borderland Development Areas along Natural Resource Management Area Interface.

Within Borderland Development Areas along Natural Resource Management Areas (NRMA) Interface as defined in the 1997 *Installation-Wide Multispecies Habitat Management Plan* for the former Fort Ord area, CalAm shall implement the following measures (unless otherwise negotiated between CalAm and FORA), prior to, concurrently with, or following project construction, as applicable:

1. Weed control measures for ice plant, scotch broom, and pampas grass to avoid their spread into the NRMA.
2. Parking lots, greenbelts, or other nonflammable or fire-resistant land uses shall be located as a buffer between the NRMA and development to minimize the possibility of fire damage to the NRMA as well as structures on the development parcels.
3. Structures shall be sited entirely behind a land use that is developed as a firebreak.
4. Reduce erosion so as not to affect the NRMA parcel from stormwater runoff. The method to reduce erosion shall be determined by the Lead Biologist.

4.6.6 Cumulative Effects of the Proposed Project

Impact 4.6-C: Cumulative impacts related to terrestrial biological resources (*Significant and Unavoidable*)

The geographic scope of analysis for cumulative impacts on terrestrial biological resources includes sites proposed for MPWSP components, as well as biologically linked terrestrial areas within approximately 5 miles of these sites. This cumulative impact analysis considers the incremental effects of the proposed project, when combined with the effects of past, present, and reasonably foreseeable projects (as listed in **Table 4.1-2** and shown on **Figure 4-1**) on special-status species, riparian habitat, critical habitat, or other sensitive natural communities, wetlands or other waters of the U.S. or state, and trees protected by local tree ordinances.

Special-Status Species and Sensitive Natural Communities

Many of the projects within the geographic scope of analysis occur on former Fort Ord lands, including the East Garrison Specific Plan (No. 2), Cypress Knolls Senior Residential Project (No. 8), Marina Heights (No. 9), Marina Airport Economic Development Area (No. 11), Rockrose Gardens (No. 39), CSUMB North Campus Housing Master Plan (No. 13), ITCD Academic Building (CSUMB) (No. 40), The Seaside Resort (No. 16), Monterey Downs and Horse Park and Central Coast Veteran's Cemetery Specific Plan (No. 17), Main Gate Specific Plan (No. 18), Seaside Groundwater Basin Aquifer Storage and Recovery (Phase 1) (No. 29), Seaside Groundwater Basin Aquifer Storage and Recovery (Phase 2) (No. 30), and Fort Ord Dunes State Park Campground (No. 46). The Fort Ord HMP, which cover the former Fort Ord lands, has established designated development areas and habitat reserves on former Fort Ord lands to mitigate impacts from projects within development areas on biological resources, such as Monterey spineflower, sandmat manzanita, Smith's blue butterfly, black legless lizard, California red-legged frog, California tiger salamander, and western snowy plover, on a regional scale. The preservation of certain habitat types such as maritime chaparral and central dune scrub within these habitat reserves also protects habitat for other species not directly impacted by the HMP, such as coast horned lizard and badger. The preservation of habitat reserves not only benefits these species within the former Fort Ord, but also benefits these same species on a regional scale within the southern Monterey Bay Area.

As noted, the HMP proposes actions that mitigate the effects of projects within the Fort Ord Reuse Plan area on habitat communities and associated species explicitly identified for conservation in the HMP. It is possible that the MPWSP and additional projects proposed within the HMP area could affect other habitat types that are not explicitly identified for conservation in the HMP (e.g., non-native grassland, coastal sage scrub, and oak woodland). If not properly mitigated, cumulative impacts from these projects on such habitats and dependent special-status species could be significant, and the proposed project could have a cumulatively considerable contribution. As discussed in Impacts 4.6-1, 4.6-2, 4.6-6, and 4.6-7, most of the impacts from the MPWSP on such habitat communities would be temporary, although some permanent impact would result. As summarized in the following subsections, with mitigation, the residual effect of the MPWSP on these habitat types would be negligible. As a result, after implementation of

mitigation, the MPWSP would not have a considerable contribution to a cumulatively significant impact on habitats within the HMP area. Therefore, the above-listed projects are not considered further in this cumulative impacts analysis.

Western Snowy Plover

As described in Impacts 4.6-1, 4.6-2, 4.6-6, and 4.6-7, and as summarized in **Table 4.6-6**, construction and operation of the MPWSP components could impact special-status species and the sensitive natural communities that support these species. The MPWSP would result in temporary impacts on western snowy plover that, given the sensitivity of this species, could result in a cumulatively considerable contribution to a significant cumulative impact. Cumulative projects identified in **Table 4.1-2** and within the geographic scope of cumulative impact analysis could also impact western snowy plover. Specifically, the Monterey Shores Resort (No. 19), 90-Inch Bay Avenue Outfall Phase 1 (No. 43), Slant Test Well Project (No. 47), Moss Landing Community Plan (No. 37), and The Collection at Monterey Bay Resort (No. 56) would affect beach or dune areas that may support western snowy plover. Implementation of the Monterey Bay Shores Resort and Moss Landing Community Plan projects could occur at the same time as the proposed MPWSP construction and therefore could adversely affect western snowy plover and its habitat through heavy equipment use, dust generation, elevated noise levels, and increased human activity. These effects would be cumulatively significant. However, implementation of **Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures); 4.6-1b (Construction Worker Environmental Awareness Training and Education Program); 4.6-1c (General Avoidance and Minimization Measures); 4.6-1d (Protective Measures for Western Snowy Plover); 4.6-1n (Habitat Mitigation and Monitoring Plan); 4.6-1p (Control Measures for Spread of Invasive Plants); 4.6-2a (Consultation with Local Agencies and the California Coastal Commission regarding Environmentally Sensitive Habitat Areas); 4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities); 4.6-6 (Installation and Monitoring of Bird Deterrents at the Brine Storage Basin); 4.12-1b (General Noise Controls for Construction Equipment);** and **4.14-2 (Site-Specific Nighttime Lighting Measures)** would reduce the significance of project-specific impacts to a less-than-significant level as described above under Impact 4.6-1, 4.6-2, 4.6-6, and 4.6-7. The residual effects of the MPWSP after mitigation would not be cumulatively considerable. The subsurface slant wells would be located within and adjacent to potential western snowy plover nesting habitat, and operation of the wells, including maintenance around the well heads could prevent use of the backdune habitat for nesting, which has been documented previously. Following implementation of **Mitigation Measure 4.6-1d**, residual temporary impacts on snowy plovers (i.e., during construction and subsurface slant well maintenance) would be minimal, and permanent loss of western snowy plover habitat would be compensated at a ratio acceptable to USFWS (minimum 2:1) through actions to enhance existing degraded habitat. Thus, after mitigation, the permanent loss of snowy plover habitat attributable to the proposed project would not be cumulatively considerable. The MPWSP Desalination Plant, Terminal Reservoir, and Carmel Valley Pump Station also would have operational impacts beyond the construction phase, but are not located in western snowy plover habitat. For these reasons, the incremental effects of the MPWSP would not have a cumulatively considerable contribution to a significant cumulative effect on western snowy plover (*less than significant with mitigation*).

Migrating Waterfowl

As described in Impact 4.6-6, operation of the brine storage basin at the MPWSP Desalination Plant could impact migrating waterfowl. The Dredge Laguna Grande and Roberts Lake Project (No. 42) could potentially impact migratory waterfowl by disturbing them during dredging activities, but this would be a short-term effect. Nonetheless, these lake dregding efforts could contribute to a significant cumulative impact on migrating waterfowl, when viewed in combination with the proposed project's significant impact. Implementation of **Mitigation Measure 4.6-6 (Installation and Monitoring of Bird Deterrents at the Brine Storage Basin)** would reduce project-specific impacts to a less-than-significant level as described above under Impact 4.6-6. Additionally, the potential residual impacts from the brine pond, which may include illness or mortality of a few birds that aren't deterred from the brine storage basin, would only occur when it is in use periodically. Thus, after mitigation the effects of these projects would not combine to result in a significant cumulative impact on migrating waterfowl due to the intermittent and/or short-term nature of the impacts. Therefore, the residual effects of the MPWSP would not have a cumulatively considerable contribution to a significant cumulative effect (*less than significant with mitigation*).

Sensitive Vegetation Types and Wildlife Habitat

Construction of MPWSP components would affect non-native grassland, central dune scrub, northern coastal scrub, central maritime chaparral, and oak woodland. Operation of MPWSP components (at the subsurface slant wells) could affect central dune scrub. Disruption to these habitat communities could also affect special-status species that rely upon these habitats, including: Monterey spineflower, robust spineflower, seaside bird's beak, Menzies' wallflower, sand gilia, Yadon's rein orchid, Smith's blue butterfly, California tiger salamander, California red-legged frog, Hickman's onion, Hooker's manzanita, Toro manzanita, Pajaro manzanita, sandmat manzanita, Monterey Coast paintbrush, Monterey ceanothus, Congdon's tarplant, branching beach aster, Eastwood's goldenbush, sand-loving wallflower, Kellogg's horkelia, Carmel Valley bush-mallow, marsh microseris, northern curly-leaved monardella, south coast branching phacelia, Michael's rein orchid, Monterey pine, Santa Cruz microseris, Santa Cruz clover, Pacific Grove clover, black legless lizard, silvery legless lizard, coast horned lizard, Coast Range newt, western burrowing owl, Monterey dusky-footed woodrat, Monterey shrew, American badger, and special-status bats and birds (Impact 4.6-1). Cumulative projects identified in **Table 4.1-2** and within the geographic scope of cumulative impact analysis could also adversely affect the above-listed habitat communities and associated species. Specifically, the Salinas Valley Water Project Phase II (No. 1), Laguna Seca Villas (No. 3), Omni Enterprises, LLC (No. 4), Ferrini Ranch Subdivision (No. 5), Marina Downtown Vitalization Specific Plan (No. 10), Marina Station (No. 12), Monterey Bay Shores Resort (No. 19), Rancho Canada Village (No. 27), Rancho Canada Golf Club (No. 28), RUWAP Desalination Element (No. 31), RUWAP Recycled Water Element (No. 35), Moss Landing Community Plan (No. 37), TAMC Monterey Peninsula Light Rail Project (No. 38), and 90-Inch Bay Avenue Outfall Phase 1 (No. 43) could have impacts on non-native grassland, central dune scrub, northern coastal scrub, central maritime chaparral, and/or oak woodland. Concurrent construction and/or operation of these projects could result in a significant cumulative impact on sensitive habitat communities and associated special-status species through vegetation trimming or removal, elevated noise and dust

levels, and increased human presence. Most MPWSP effects would be limited to the 30-month construction phase, with restoration of temporarily disturbed areas to previous conditions or better at the end of construction; however, during construction, or following construction for long-term project impacts, the proposed project could have a cumulatively considerable incremental impact. Implementation of **Mitigation Measures 4.6-1a; 4.6-1b; 4.6-1c; 4.6-1e (Avoidance and Minimization Measures for Special-status Plants); 4.6-1f (Avoidance and Minimization Measures for Smith's Blue Butterfly); 4.6-1g (Avoidance and Minimization Measures for Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard); 4.6-1h (Avoidance and Minimization Measures for Western Burrowing Owl); 4.6-1i (Avoidance and Minimization Measures for Nesting Birds); 4.6-1j (Avoidance and Minimization Measures for American Badger); 4.6-1k (Avoidance and Minimization Measures for Monterey Dusky-Footed Woodrat); 4.6-1l (Avoidance and Minimization Measures for Special-Status Bats); 4.6-1m (Avoidance and Minimization Measures for Native Stands of Monterey Pine); 4.6-1n; 4.6-1o (Avoidance and Minimization Measures for California red-legged frog and California tiger salamander); 4.6-1p (Control Measures for Spread of Invasive Plants), 4.6-2a; 4.6-2b; 4.6-6; 4.12-5 (Stationary Source Noise Controls)** and **4.14-2** would mitigate for any potential permanent effects and reduce project-specific impacts to less-than-significant levels as described in Impacts 4.6-1, 4.6-2, 4.6-6, and 4.6-7 above. Given the limited extent and duration of effects at any given MPWSP component site, the prevalence of such habitats within the geographic scope of analysis relative to the areas of MPWSP effect, and the nearby availability of such habitats for use by species displaced during the construction period, the MPWSP's residual incremental effects on sensitive natural communities would not be cumulatively considerable (*less than significant with mitigation*).

Construction of MPWSP components would affect freshwater marsh and riparian woodland and scrub. Disruption to these habitat communities could also affect special-status species reliant upon these habitats, such as western pond turtle and tricolored blackbird. Two foreseeable projects within the geographic scope of cumulative analysis could also affect freshwater marsh and riparian woodland and scrub habitats: the Ferrini Ranch Subdivision (No. 5), and TAMC Monterey Peninsula Light Rail Project (No. 38). Construction of these projects could cause direct or indirect impacts on the sensitive freshwater marsh and riparian vegetation and wildlife habitat, and associated special-status species, resulting in a significant cumulative effect to which the proposed project could have a cumulatively considerable contribution. However, the MPWSP would avoid two perennial water features (the Salinas River and Tembladero Slough) through horizontal directional drilling (an option not available to the two cumulative projects), which would substantially minimize its contribution to cumulative impacts. Additionally, implementation of **Mitigation Measures 4.6-1a, 4.6-1b, 4.6-1c, 4.6-1i, 4.6-1n, 4.6-1p, 4.6-2a,** and **4.6-2b** would reduce the significance of project-specific impacts to less-than-significant levels as described in Impacts 4.6-1 and 4.6-2 above. Implementation of these mitigation measures would also reduce any direct and indirect impacts on freshwater marsh and riparian woodland and scrub from the proposed project to less-than-significant levels by requiring restoration of temporarily impacted areas and compensation for permanent impacts. Further, the Ferrini Ranch Subdivision is located over 5 miles from the MPWSP and, because of this distance, construction of these two projects would not impact the same specific sensitive habitat feature,

although it could affect the same habitat type. Additionally, due to the limited duration of potential effects, the restoration of disturbed areas following construction, and the availability of other similar habitats for use by displaced species during construction, the cumulative effects from the MPWSP would not be significant (*less than significant with mitigation).*

Wetlands or Other Waters

As described in Impacts 4.6-3 and 4.6-8, MPWSP construction and operation could affect federal wetlands, federal other waters, and/or waters of the state. These impacts would be temporary and, upon completion of construction, any affected wetlands would be restored to their approximate pre-construction condition. Many of the projects listed in **Table 4.1-2** could cause temporary or permanent impacts on federal wetlands, federal other waters, and/or waters of the state. Specifically, the TAMC Monterey Peninsula Light Rail Project (No. 38), Ferrini Ranch Subdivision (No. 5), Marina Station (No. 12), Moss Landing Community Plan (No. 37), Dredge Laguna and Roberts Lake (No. 42), Monterey Pacific Grove ASBS Stormwater Management Project (No. 45), and Route 156 West Corridor Project (No. 53) would result in temporary or permanent impacts on wetlands and other waters. Other projects listed in **Table 4.1-2** may have similar effects. Concurrent construction and/or operation of these projects could result in significant cumulative impacts on these resources through wetlands fill or draining and increased human presence, to which the proposed project could have a cumulatively considerable contribution. However, implementation of **Mitigation Measures 4.6-1a, 4.6-1b, 4.6-1c,** and **4.6-3 (Avoid, Minimize, and or Mitigate Impacts to Wetlands)** would reduce the project-specific impacts to less-than-significant levels as described in Impacts 4.6-3 and 4.6-8, above. The MPWSP's residual effects on federal wetlands, federal other waters, and/or waters of the state would be temporary and limited to a small percentage of wetlands habitat in the geographic scope of analysis – the MPWSP would potentially temporarily impact a maximum of approximately 1.5 acre of wetlands or other waters compared to approximately 5,500 acres of potential freshwater wetlands within the geographic scope of analysis as mapped by the National Wetland Inventory (USFWS, 2016). Additionally, a considerable amount of nearby wetlands habitat available for displaced species and ecological function would remain within the geographic scope of analysis, and the MPWSP effects would be temporary and fully restored upon completion of construction. Also, the Corps, RWQCB, CDFW, and/or the CCC may take jurisdiction over many of the water features that could be impacted by these other cumulative projects. If these other cumulative projects impact jurisdictional wetland or water features those actions would be regulated by the Corps, RWQCB, CDFW, and/or the CCC and these agencies would impose measures to minimize and/or compensate for impacts on jurisdictional resources. Therefore, the MPWSP's incremental contribution to adverse a cumulative impact on wetlands habitat would not be cumulatively considerable (*less than significant with mitigation*).

City of Marina Local Coastal Program Land Use Plan

As described in Impact 4.6-4, construction of MPWSP components would be inconsistent with the City of Marina LCLUP since the project is not a resource-dependent use. Implementation of **Mitigation Measure 4.6-1n: Habitat Mitigation and Monitoring Plan** would reduce impacts on special-status species habitat, as described in Impact 4.6-4 above, but the project would still be inconsistent with the LCLUP.

The test slant well at the CEMEX site is a cumulative project that is within the geographic scope of this analysis. The test slant well was also found to be inconsistent with the City of Marina LCLUP. Implementation of the proposed project would have a cumulatively considerable contribution to this test slant well impact related to inconsistencies with the city of Marina LCLUP. No mitigation measures are available that would reduce this impact on less than significant (*significant and unavoidable*).

Local Tree Ordinances

A significant cumulative impact would result if the incremental effects of the MPWSP combined with those of cumulative projects to be inconsistent with local tree ordinances. As described in Impact 4.6-4, construction of MPWSP components could require trimming or removal of protected trees, inconsistent with local tree ordinances. Other projects identified in **Table 4.1-2** that are within the geographic scope of cumulative impacts analysis may also need to trim or remove trees that are subject to local tree protection ordinances. For example, the Monterey Downs and Horse Park and Central Coast Veteran's Cemetery Specific Plan (No. 17) and Route 156 West Corridor Project (No. 53) would involve removal of a substantial number of trees. Local governments with jurisdiction over the geographic scope of cumulative impacts analysis (e.g., Seaside and Monterey County) have tree ordinances established for the purpose of protecting important trees and compensating for their removal. If the MPWSP and cumulative projects within the geographic scope of cumulative impact analysis involved tree removal and failed to comply with applicable tree ordinances, a significant cumulative effect would result, to which the proposed project could have a cumulatively considerable contribution. However, implementation of **Mitigation Measure 4.6-4 (Compliance with Local Tree Ordinances)** would reduce the project-level impacts to less-than-significant levels as described in Impact 4.6-4, above. Avoiding the removal of trees, or compliance with tree removal permit requirements by replacing protected trees at a minimum one-to-one ratio as described in Table 4.6-10, would minimize or mitigate impacts on locally protected trees such that residual impacts on trees would be minimal and would no longer be inconsistent with local tree ordinances. Therefore, the residual effects of the MPWSP regarding being inconsistent with local tree ordinances would be minimal and would not have a cumulatively considerable contribution to a significant cumulative impact (*less than significant with mitigation)*.

Inconsistent with an adopted Habitat Conservation Plan

As described in Impact 4.6-10, the Terminal Reservoir and portions of the Proposed ASR Facilities (ASR-5 and ASR-6 Wells, ASR Pump-to-Waste Pipeline, ASR Conveyance Pipeline, and ASR Recirculation Pipeline) located east of General Jim Moore Boulevard, and portions of the new Transmission Main and new Transmission Main using the optional alignment are located within the *1997 Installation-Wide Multispecies* HMP. As described above, many cumulative projects occur on former Fort Ord lands within the boundaries of the HMP. Construction and operation of these projects may include activities subject to HMP resource conservation and management requirements. Failure of the MPWSP and one or more cumulative project to implement an applicable HMP conservation and/or management requirement would constitute a significant cumulative impact to which the proposed project could have a cumulatively considerable contribution. However, installation of the Terminal Reservoir and new Transmission

Main facilities would be required to comply with HMP-prescribed measures, such as firebreaks and control of invasive species, which would be implemented through project-level mitigation, including **4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective Measures), Mitigation Measures 4.6-1p (Control Measures for Spread of Invasive Plants), 4.6-2b (Avoid, Minimize, and Compensate for Construction Impacts to Sensitive Communities),** and **4.6-8 (Management Requirements within Borderland Development Areas along Natural Resource Management Area Interface)**. These measures would reduce the significance of project-level impacts to less-than-significant levels as described in Impact 4.6-10 above. Therefore, the effects of the MPWSP regarding being inconsistent with an adopted Habitat Conservation Plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan would not be cumulatively considerable (*less than significant with mitigation)*.

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