

BIOLOGICAL RESOURCES

11.1 INTRODUCTION

This section addresses the potential impacts to existing biological resources from implementation of the proposed Santa Clarita Valley Sanitation District (SCVSD) Chloride Compliance Project (proposed project). This section provides an overview of the environmental setting describing the existing biological resources, summarizing the applicable regulatory framework and the potential impacts to biological resources from the proposed project, and identifies mitigation measures to minimize potential effects. The analysis in this section is based in part on the findings and conclusions made in the Biological Resources Technical Report (ESA 2013) and the Reduced Discharge Technical Study (ESA 2010). The former was prepared for all components of the proposed project, and the latter was prepared to evaluate the effects of reducing existing recycled water discharges from the Valencia Water Reclamation Plant (VWRP) and Saugus Water Reclamation Plant (SWRP) on biological resources within the study area. The study area for the Technical Study encompasses a segment of the Upper Santa Clara River (USCR) within Reaches 4B, 5, and 6, specifically the river area between the SWRP and the Piru Dry Gap located just upstream of the Piru Creek confluence. The Biological Resources Technical Report and Reduced Discharge Technical Study are included as Appendices 11-A and 6-A, respectively.

11.2 ENVIRONMENTAL SETTING

11.2.1 Regional Setting

The proposed project area is centered in northwest Los Angeles County within the Santa Clarita Valley (SCV). The various alternatives include portions of the San Fernando Valley (SFV), the Los Angeles Basin (LAB), and Ventura County to the west of the Los Angeles-Ventura County line. The SCV spans approximately 250 square miles and is bounded by the San Gabriel Mountains to the east and southeast, the Santa Susana Mountains to the south, the Topatopa and Piru Mountains to the north and northwest, and the Sierra Pelona Mountains to the northeast. The majority of the surrounding area is characterized by steep-sided canyon lands and rugged topography. This unique topographic landscape separates the City of Santa Clarita and other surrounding communities within the SCV from adjacent developments including the SFV to the south and the Antelope Valley to the northeast.

The SFV is an urbanized valley encircled by the Transverse Ranges, which span approximately 260 square miles and are bounded by the Santa Susana Mountains to the northwest, the Simi Hills to the west, the Santa Monica Mountains to the south, the Verdugo Mountains to the east, and the San Gabriel Mountains to the northeast. Most of the SFV is located within the City of Los

Angeles, although several incorporated cities are also located in the SFV including Burbank, Glendale, Hidden Hills, Calabasas, and San Fernando.

The LAB is the coastal, sediment-filled plain between the Peninsular and Transverse ranges. The basin is approximately 35 miles long and 15 miles wide, and bounded on the north by the Santa Monica Mountains and Puente Hills, and on the east and south by the Santa Ana Mountains and San Joaquin Hills. The confluence of the Los Angeles and Rio Hondo rivers lies at the center of the basin. The LAB is highly urbanized and contains the central portion of the City of Los Angeles as well as its southern and southeastern suburbs.

Ventura County covers an area of 1,873 square miles, and is bordered by Los Angeles County to the east and southeast, Kern County to the north, Santa Barbara County to the northwest, and the Pacific Ocean to the southwest. Ventura County includes built-up population centers in the southern part of the county, including the Oxnard Plain, Simi Valley, and Conejo Valley. The northern portion of Ventura County contains the Los Padres National Forest, which accounts for approximately 860 square miles. Ventura County includes 10 incorporated cities and 9 unincorporated areas. The proposed project area in Ventura County is in the vicinity of the Santa Clara River Valley (SCRV).

The climate in the region can be characterized as Mediterranean, with average high and low temperatures of 77.1 degrees Fahrenheit (°F) and 49.5°F, respectively. The annual precipitation averages 18.2 inches, with the majority of precipitation accumulating between the months of November and March (WRCC 2011). The majority of the proposed project area lies within the Santa Clara River (SCR) watershed, which encompasses approximately 1,030 square miles of which approximately 786 square miles are in Los Angeles County, 243 square miles in the County of Ventura, and 1 square mile in Kern County. The SCR originates in the Angeles National Forest near the community of Acton and flows westward for approximately 84 miles to the Pacific Ocean. The SCR is one of the few natural river systems remaining in Southern California.

11.2.2 Local Setting

The SCR is one of the largest rivers in Southern California and one of the last major rivers in the region that exists in a relatively natural state. The SCR originates on the northern slope of the San Gabriel Mountains in Los Angeles County, traverses the County of Ventura, and flows into the Pacific Ocean at the border of the Cities of Ventura and Oxnard. Its total length is approximately 84 miles.

The headwaters of the SCR and all of its major tributaries originate on National Forest lands. The estuary at the river mouth is protected as a natural preserve within McGrath State Beach. The portion of the river in Los Angeles County is designated as a significant ecological area (SEA) by Los Angeles County. The majority of the river corridor is privately owned. Elevations in the SCR watershed range from 8,831 feet above mean sea level on Mount San Piños to sea level at McGrath State Beach.

The VWRP is located in unincorporated Los Angeles County and is bordered by The Old Road and adjacent commercial businesses to the north and east, the SCR to the west and south, and Six Flags Magic Mountain amusement park to the southwest beyond the SCR. The VWRP site is immediately surrounded by various land uses including open space, commercial, and industrial

uses. The VWRP is a developed industrial site containing numerous structures that vary in height, mass, and function.

The SWRP is located within the City of Santa Clarita. The nearest streets bordering the plant are Bouquet Canyon Road to the west and northwest and Soledad Canyon Road to the north. Directly adjacent to the SWRP at a higher grade is an active railway that parallels Bouquet Canyon Road. The SWRP property is bounded by parcels owned by a number of public entities, including the City of Santa Clarita, the Metropolitan Transportation Authority (MTA), and the Metropolitan Water District of Southern California. Surrounding land uses include commercial uses to the north and west, industrial uses further south, and open space (Los Padres National Forest) to the east.

The brine disposal system for Alternative 1 consists of a 37-mile brine pipeline that would traverse through several jurisdictions that can be characterized as mainly urbanized and developed. Land uses along this alignment include commercial, industrial, residential, and open space areas. The pipeline segment that follows The Old Road south of the City of Santa Clarita over the mountains to the SFV parallels roadways across mountainous open space and rural land uses. The brine pipeline would be located in public right-of-way (ROW) to the maximum extent practicable.

The brine disposal system for Alternative 2 consists of deep well injection (DWI) located in an unincorporated area of Los Angeles County. The DWI site would be located in an undeveloped open space area between Valencia Boulevard and Stevenson Ranch Parkway, west of Interstate 5 (I-5) Freeway in unincorporated Los Angeles County.

The brine disposal system for Alternative 3 consists of trucking from a loading terminal just north of the VWRP in unincorporated Los Angeles County to an unloading terminal in the City Terrace area of unincorporated Los Angeles County. The surrounding land uses for the VWRP are described above. The unloading terminal is surrounded by industrial land uses.

The Phased Alternative Water Resources Management Plan (AWRM) facilities described under Alternative 4 would be located in Ventura and Los Angeles counties. Phase I components would be located at the VWRP, SWRP, near the VWRP in existing road public ROW, and in unincorporated Ventura County areas previously disturbed by agricultural activities and open space. Phase II components would be located within the VWRP and in public ROW along State Route 126 (SR-126) within Ventura County. Phase II would also have a brine disposal system consisting of a brine pipeline, DWI, or trucking as described previously.

11.2.3 Existing WRP Discharges to the Santa Clara River

Wastewater flow rates feeding the wastewater treatment plant and discharges to the river vary throughout the day in response to the pattern of water use in the service area. Typical daily wastewater flow rates peak in the morning, then drop through the day until the evening when another increase is seen, and then dropping to a daily low at night.

Equalization tanks installed at the two water reclamation plants (WRPs) buffer the variation in the hourly effluent flow rates to the SCR. Fluctuations in flow rate due to a combination of influent flow rate and plant operations are still experienced at the SCVSD WRPs. At the VWRP, the effluent flow rate fluctuates by about 2.5 million gallons a day (mgd) around the average flow

rate. The fluctuations at the SWRP are lower at about 0.75 mgd because the overall plant flow rate is lower.

Each plant does experience a daily low point due to various process operations; this low point typically occurs in the early morning (around 5 to 7 AM). The minimum instantaneous discharge from the VWRP at this point is approximately 5.0 mgd. The SWRP discharge rate does not affect downstream water flow rates beyond the McBean Dry Gap because of upwelling groundwater in that location.

11.2.4 Plant Communities and Habitats Within the Proposed Project Area

The microfiltration/reverse osmosis (MF/RO) facilities, ultraviolet (UV) disinfection facilities, and many of the pump stations would be located on the existing WRPs in previously disturbed areas. The reverse osmosis (RO) product water and brine disposal pipelines would be placed within disturbed areas along public ROW to the maximum extent practicable. However, many of the proposed project facilities would be in close proximity to a variety of natural habitats, including oak woodland and riparian. Surrounding land uses, topography, and habitat types in the vicinity of the pipeline routes vary greatly.

As discussed in the Biological Resources Technical Report (ESA 2013), ESA biologists mapped the plant communities and habitats near proposed project components in 2012 and 2013. The areas that were mapped included all proposed project features for each alternative, including a 200-foot-wide buffer for all pipeline routes. Where appropriate, plant communities were characterized in the field based on the Manual of California Vegetation (MCV) (Sawyer et al. 2009) and List of Vegetation Alliances and Associations (CDFW 2010); however, in some instances, plant communities were characterized based on the Holland System (Holland 1986). The proposed project features that occur within each plant community/habitat are described in the following subsections.

11.2.4.1 Coast Live Oak Woodland

This community occurs within the Newhall Pass. The dominant species in this community is the coast live oak tree (*Quercus agrifolia*), which is evergreen and reaches 33-82 feet (10-25 meters) in height. The understory is characterized by annual grasses, spiny redberry (*Rhamnus crocea*), skunkbrush (*Rhus trilobata*), blue elderberry, holly-leaf cherry (*Prunus ilicifolia* ssp. *ilicifolia*), wild cucumber (*Marah macrocarpus* var. *macrocarpus*), eucrypta (*Eucrypta chrysanthemifolia*), clarkias (*Clarkia* spp.), and bedstraw (*Galium* spp.), whereas native and non-native grasses and forbes typically dominate the ground cover.

11.2.4.2 Valley Oak Woodland

This community occurs to the west of the DWI Site, north of Stevenson Ranch Parkway and west of The Old Road in the SCV. This community is known as one of the last remaining stands of valley oak woodland in the SCV. This community is dominated by valley oak trees (*Quercus lobata*) with a generally open grassy-understory comprised of native and non-native grasses. Valley oaks are a winter-deciduous species and are California's largest broad-leaved tree, with mature individuals reaching 49-115 feet (15-35 meters) in height.

11.2.4.3 Coastal Sage Chaparral Scrub

This native community generally occurs in the SCV on undisturbed slopes to the west of The Old Road. Dominant native species found in this plant community include California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), California sagebrush (*Artemisia californica*), chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), toyon (*Heteromeles arbutifolia*), California encelia (*Encelia californica*), bush monkey flower (*Mimulus aurantiacus*), blue elderberry, and heart-leaved penstemon (*Keckiella cordifolia*). Other common plants include purple sage (*S. leucophylla*), white sage (*S. apiana*), California broom (*Lotus scoparius*), California aster (*Lessingia filaginifolia* var. *filaginifolia*), giant wild-rye (*Leymus condensatus*), and chaparral mallow (*Malacothamnus fasciculatus*). The understory is generally poorly developed and contains native grasses, including foothill needlegrass (*Nassella lepida*) and native herbs such as wishbone bush (*Mirabilis californica*) and morning-glory (*Calystegia macrostegia*).

11.2.4.4 Valley-Foothill Riparian

This community occurs on low terraces above the main channel of the SCR. Transition to adjacent non-riparian vegetation is usually abrupt, especially near agriculture (Cheatham and Haller 1975). The Valley-Foothill Riparian habitat is often found in association with riverine, grassland, and agriculture. The habitat may intergrade upstream with montane riparian. The habitat consists of tall, open, broadleaved, winter-deciduous trees and is dominated by Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), willows (*Salix laevigata*, *S. exigua*, *S. lasiolepis*), and California sycamore (*Platanus racemosa*). Understory plants include mulefat (*Baccharis salicifolia*), arrow weed (*Pluchea sericea*), blue elderberry (*Sambucus mexicana*), mugwort (*Artemisia douglasiana*), hoary nettle (*Urtica dioica* ssp. *holosericea*), ripgut grass (*Bromus diandrus*), and alkali rye (*Leymus triticoides*). A variety of sedges (Cyperaceae) and rushes (Juncaceae) can occur in this community, too.

11.2.4.5 California Buckwheat

This community occurs along a portion of The Old Road. This association is comprised of homogeneous stands of California buckwheat (*Eriogonum fasciculatum*) with some mixed native/nonnative grasses comprising the groundcover and in between the shrubs.

11.2.4.6 Native/Nonnative Grassland

This community occurs in open areas of the SCV. This community also occurs interspersed between other native vegetation communities. These areas are dominated by non-native grasses such as brome grasses (*Bromus diandrus*, *B. madritensis* ssp. *rubens*, *B. hordeaceus*), wild oats (*Avena fatua*, *A. barbata*) and rat-tail fescue (*Vulpia myuros* ssp. *myuros*), but also include herbaceous ruderal species such as red-stemmed filaree (*Erodium cicutarium*), black mustard (*Brassica nigra*), milk thistle (*Silybum marianum*) and star-thistle (*Centaurea* spp.), as well as native grass species (less than ten percent) such as purple needlegrass (*Nasella pulchra*), valley needlegrass (*Nasella lepida*), deer grass (*Muhlenbergia rigens*), one-sided bluegrass (*Poa segunda*), foxtail fescue (*Vulpia myuros*), and few-flowered fescue (*Vulpia microstachys*). Dominant native grasses adjacent to the proposed project site include purple needle-grass (*Nassella pulchra*), California fescue (*Festuca californica*), and deer grass (*Muhlenbergia rigens*), while dominant nonnative species include red-stem filaree (*Erodium cicutarium*), wild oats (*Avena fatua*), red brome (*Bromus madritensis* ssp. *rubens*), and storksbill filaree (*Erodium cicutarium*).

11.2.4.7 River Wash

Portions of the SCR and Piru Creek are sparsely vegetated and subject to scouring by seasonal storm flows. Soils are sandy riverwash and gravel, and in places form sand bars and low terraces within the channels. Shrub species occurring in and adjacent to these channels generally include mulefat, sandbar willow, tamarisk, scale-broom, sandwash groundsel (*Senecio flaccidus* var. *douglasii*), big saltbush (*Atriplex lentiformis* ssp. *lentiformis*), and Great Basin sagebrush (*Artemisia tridentata*). Smaller species growing in the riverbed/creekbed include white sweetclover (*Melilotus albus*), buckwheat (*Eriogonum baileyi*), cocklebur (*Xanthium strumarium*), California croton (*Croton californicus*), California evening primrose (*Oenothera californica* ssp. *californica*), Mediterranean schismus (*Schismus barbata*), foxtail chess (*Bromus madritensis* ssp. *rubens*) and annual bur-sage (*Ambrosia acanthicarpa*).

11.2.4.8 Agriculture

Active and fallow agricultural lands are located along the SR-126 corridor. The East and West Piru well fields included in Alternative 4 are also located within agricultural lands. These areas generally consist of citrus orchards, row crops, and fallow field. Crops observed during the field assessment include citrus trees, alfalfa, onion, safflower, and legumes. The row crops and fallow field are assumed to be disked regularly. Several agricultural ditches exist within these areas as well.

11.2.4.9 Ruderal

Ruderal areas are located along roadway medians, with compacted soils that are mostly void of vegetation or that support non-native “weed” species such as black mustard and red-stemmed filaree.

11.2.4.10 Ornamental/Landscaped

Areas of urbanized landscaping occur along The Old Road. These areas consist of a mixture of native and non-native shrub, tree, and grass species that are maintained for aesthetic value. Species observed within these areas include coast live oak, valley oak, California buckwheat, California sagebrush, deerweed, and black sage. Non-natives consist of a variety of ornamental species.

11.2.4.11 Disturbed/Developed

These areas consist of developed lands in the proposed project area or disturbed areas with impermeable surfaces or heavily compacted soils. Examples include roads and road medians, commercial development, and utility corridors.

11.2.4.12 Sensitive Natural Communities

Coast Live Oak Woodland

Oak Woodland is not considered a sensitive plant community by California Department of Fish and Wildlife (CDFW). However, the County of Los Angeles General Plan (General Plan) contains policies aimed at protecting this biological resource due to its ecological importance in the region and thus considers coast live oak woodland an important community. California Public Resource Code 21083.4 includes several important mitigation components that apply

where a county determines there may be a significant effect on oak woodlands and where an existing mitigation program does not exist. Lastly, the state enacted legislation in 2001, the Oak Woodland Conservation Act, to emphasize that oak woodlands are a vital and threatened statewide resource. In response, the County of Ventura prepared and adopted an Oak Woodland Management Plan that identifies oak woodlands as a locally important community.

Valley Oak Woodland

The valley oak woodland located to the west of The Old Road is one of the last remaining stands known to occur in the SCV. Valley oak woodland is considered a sensitive natural community by the CDFW.

Coastal Sage (Chaparral) Scrub

Although coastal sage scrub is not considered a sensitive plant community by CDFW, the plant community is known to provide habitat for an array of wildlife species, including several special-status species. Once widespread throughout coastal Southern California (and still the dominant native plant community), this plant community has declined substantially as a result of urban development. Therefore, Los Angeles County considers coastal sage scrub an important community.

Los Angeles County Sensitive Ecological Areas

Sensitive natural communities are those that are considered sensitive due to their decline in the region and/or their ability to support special-status plant and/or wildlife species. Los Angeles County has designated specific areas as SEAs. The SEA designations are based on habitat linkages necessary to sustain the biologically diverse plant and animal species that are found within Los Angeles County. SEA Nos. 23, 20, and 64 are adjacent to proposed project components.

SEA No. 23 (Santa Clara River) includes the SCR. The SCR is unique in that the water feature is the only major river draining the San Gabriel Mountains that has not been channelized. The vegetation in the riparian corridor consists of fresh water marsh, coastal sage scrub, oak woodland, and riparian woodland communities. The broad wash association supported by the SCR is unlike that found in steeper mountain canyons and is exceedingly difficult to find in the LAB. The habitat in the SCR riparian corridor also supports a number of listed species, including the federal and state endangered unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*).

SEA No. 20 (Santa Susana Mountains/Simi Hills) is located south of SR-126 and the SCR, west of I-5, and includes much of the Santa Susana Mountains to the north, the Santa Susana Pass, Chatsworth Reservoir, and the eastern portion of the Simi Hills in the south. The Santa Susana Mountains are one of several relatively small ridges that form the western end of the Transverse Ranges and blend eastward into the larger San Gabriel and San Bernardino Mountains. The Santa Susana Mountains are the main representative of the small, dry interior mountain ranges of Los Angeles County. The core of this range is in relatively good condition and has not been heavily disturbed by human use, even as urban growth continues in the San Fernando and Simi Valleys and the Saugus-Newhall area.

SEA No. 64 (Valley Oaks Savannah, Newhall) contains one of the last remaining stands of valley oak (*Quercus lobata*) in the SCV. Valley oaks are scattered over the southerly 75 percent of SEA

No. 64. The northerly 25 percent consists of a mixture of plants from the coastal sage scrub and chaparral communities typical of those found in the SCV.

11.2.5 Wildlife Within the Proposed Project Area

Wildlife expected to occur in the vicinity of the facilities and pipeline alignments includes those species commonly found in urbanized areas of the region, such as common reptile (snakes and lizards), mammal (mice, rats, and ground squirrels), and passerine bird species.

The SCR provides habitat for amphibians. Western toad (*Bufo boreas*) and chorus frogs (*Pseudacris*) are common in the SCR. Common reptile species expected to occur in the undisturbed habitats in the vicinity of the site include western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), red coachwhip (*Masticophis flagellum piceus*), San Diego alligator lizard (*Elgaria multicarinata webbii*), western skink (*Eumeces skiltonianus*), San Diego gopher snake (*Pituophis catenifer annectens*), common kingsnake (*Lampropeltis getulus*), and southwestern rattlesnake (*Crotalus viridis helleri*).

The agricultural and scattered grassland areas provide foraging habitat for a number of raptor species, including turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), Cooper's hawk (*Accipiter cooperii*), and American kestrel (*Falco sparverius*). Larger trees in the vicinity, such as *Eucalyptus* sp. provide nesting habitat for raptors. Other bird species expected within the agricultural and grassland portions of the proposed project site include American robin (*Turdus migratorius*), house finch (*Carpodacus mexicanus*), savannah sparrow (*Passerculus sandwichensis*), Brewer's blackbird (*Euphagus cyanocephalus*), house sparrow (*Passer domesticus*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), European starling (*Sturnus vulgaris*), and white-throated swift (*Aeronautes saxatalis*).

The riparian habitats bordering the proposed project site provide nesting and foraging habitat for numerous bird species. Bird species expected within the riparian plant communities include bushtit (*Psaltriparus minimus*), Wilson's warbler (*Wilsonia pusilla*), orange-crowned warbler (*Vermivora celata*), black phoebe (*Sayornis nigricans*), Bewick's wren (*Thryomanes bewickii*), brown-headed cowbird (*Molothrus ater*), wrentit (*Chamaea fasciata*), and numerous other species. Bird species expected within the upland habitats (i.e., coastal sage scrub and chaparral) include California towhee (*Pipilo crissalis*), canyon wren (*Catherpes mexicanus*), rock wren (*Salpinctes obsoletus*), western scrub-jay (*Aphelocoma californica*), California thrasher (*Toxostoma redivivum*), and hermit thrush (*Catharus guttatus*). In addition, cliff swallow (*Petrochelidon pyrrhonota*) have been observed nesting under the SR-126/Castaic Creek Bridge.

A variety of common mammal species occur in the vicinity of the proposed project site. The following species are expected to forage or nest in the natural areas in the vicinity of the proposed project site, primarily along the SR-126 corridor, in the SCR, and in the coastal sage chaparral scrub and oak woodlands in the SCV: mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), desert cottontail (*Sylvilagus auduboni*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), raccoon (*Procyon lotor*), gray fox (*Urocyon cinereoargenteus*), striped skunk (*Mephitis mephitis*), western harvest mouse (*Reithrodontomys megalotis*), deer mouse (*Peromyscus maniculatus*), dusky-footed woodrat (*Neotoma fuscipes*), California mouse (*Peromyscus californicus*), California pocket mouse (*Chaetodipus californicus*), California vole (*Microtus californicus*), and Pacific kangaroo rat (*Dipodomys agilis*).

11.2.5.1 Wildlife Movement Corridors

Wildlife movement corridors provide a connection between two or more habitat areas that are often larger or superior in quality to the linkage. Such linkages can be quite small or constricted, but can be vital to the long-term health of connected habitats. Linkage values are often addressed in terms of “gene flow” between populations, with movement taking potentially many generations. The U.S. Court of Appeals, Ninth Circuit, has defined wildlife corridors as

...avenues along which wide-ranging animals can travel, plants can propagate, genetic interchange can occur, populations can move in response to environmental changes and natural disasters, and threatened species can be replenished from other areas.

The County of Ventura General Plan specifically includes wildlife migration corridors as an element of the region’s significant biological resources.

In 2006, the South Coast Missing Linkages Project was developed among a group of government and non-government organizations to develop designs for major landscape linkages to ensure a functioning wildland network for the South Coast Ecoregion, along with connections to neighboring ecoregions. A total of 16 well-documented corridors occur within designated SEAs, based on the Missing Linkages report written and compiled by the South Coast Wildlands Project. The proposed project area is within the Santa Monica Mountains-Sierra Madre Connection and the SCR is recognized as a significant wildlife movement corridor. Newhall Pass separates the Santa Susana Mountains from the San Gabriel Mountains and would constitute the main linkage corridor between these two ranges if not for I-5, the Antelope Valley Freeway (SR-14), and urban development functioning as major impediments to wildlife movement to the east into the LAB.

The Santa Monica Mountains-Sierra Madre Connection features several important linkages for wildlife movement. The Simi Hills and Santa Susana Mountains to the south and west provide a vast open space corridor to foster wildlife movement between the Santa Monica Mountains to the south, San Gabriel Mountains to the east, and Los Padres National Forest to the north. Dense, natural habitat associated with the majority of the open spaces in these mountain ranges provide excellent opportunities for concealment and water sources while the grasslands provide an abundance of prey.

The native undisturbed habitats located to the west of the proposed project site in the SCV and within the SCR corridor provide habitat and movement opportunities for a number of small, medium, and large wildlife species. Wildlife is expected to use these areas for local movement. While a few wildlife species are entirely dependent on a single vegetative community, the entire mosaic of all the vegetation communities within the undisturbed areas in the vicinity and adjoining areas constitutes a functional ecosystem for a variety of wildlife species.

11.2.6 Special-Status Species

Special-status species are those that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, state, or other agencies as under threat from human-associated developments. Some of these species receive specific protection that is defined by federal or state endangered species legislation. Others have been designated as special-status on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local

governmental agencies such as counties, cities, and special districts to meet local conservation objectives. Special-status species include:

- Species listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the federal Endangered Species Act or the California Endangered Species Act
- Species that meet the definitions of rare or endangered under the California Environmental Quality Act (CEQA; CEQA Guidelines §15380)
- Species covered under an adopted natural community conservation plan (NCCP)/habitat conservation plan (HCP)
- Species considered sensitive by the Bureau of Land Management (BLM)
- Wildlife species of special concern to the CDFW
- Wildlife species fully protected in California (CDFW Code §§3511, 4700, and 5050)
- A plant species considered by the California Native Plant Society (CNPS) to be “rare, threatened, or endangered in California” (CNPS List 1A, 1B, and 2) as well as CNPS List 3 and 4 plant species
- A plant listed as rare under the California Native Plant Protection Act
- A locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region or is so designated in local or regional plans, policies, or ordinances

Lists of special-status plant species (and sensitive communities) and wildlife species are provided in Tables 11-1 and 11-2, respectively. These species have been previously recorded in the region within the California Natural Diversity Database (CNDDDB) and have the potential to occur in the proposed project vicinity; however, many of these species are not expected to occur within the project’s construction footprint.

Tables 11-1 and 11-2 include a “Potential for Occurrence” category. These categories are defined as follows:

- **Unlikely:** The project site and/or immediate area do not support suitable habitat for a particular species, and therefore the project is unlikely to impact this species.
- **Low Potential:** The project site and/or immediate area only provide limited habitat for a particular species. In addition, the known range for a particular species may be outside of the immediate project area.
- **Medium Potential:** The project site and/or immediate area provide suitable habitat for a particular species, and proposed development may impact this species.
- **High Potential:** The project site and/or immediate area provide ideal habitat conditions for a particular species and/or known populations occur in the immediate area.

Table 11-1. Rare Plants With Potential to Occur in the Project Area

Species	Status/ CNPS List	Growth Habit/ Flowering Period	Elevation (ft (m))	Habitat	Potential for Occurrence
Davidson's bush-mallow <i>Malocothamnus davidsonii</i>	-/1B.2	Perennial deciduous shrub/June-January	590-2,800 (180-855)	Found in sandy washes in coastal scrub, riparian woodland, and chaparral habitats.	Low. Historical occurrences recorded in formerly-suitable habitat near San Fernando Road in San Fernando. These habitats have since been largely developed and no recent occurrences have been recorded in the proposed project area.
Nevin's barberry <i>Berberis nevinii</i>	Endangered/ 1B.1	Perennial evergreen shrub/March-June.	950-5,165 (290-1,575)	Found on steep, north-facing slopes or in low-grade sandy washes in chaparral, cismontane woodland, coastal scrub, and riparian scrub habitats.	Medium. Suitable habitat occurs in the SCR and local tributaries. Occurrences recorded in San Francisquito Creek near the confluence with the SCR.
Plummer's mariposa lily <i>Calochortus plummerae</i>	-/1B.2	Perennial bulbiferous herb/May-July	295-5,250 (90-1,600)	Found in rocky and sandy sites, usually of granitic or alluvial material, within coastal sage scrub, chaparral, valley and foothill grassland, and forests and woodlands.	Medium. Colonies known to occur in suitable habitat in the Santa Clarita/Newhall area. Marginal habitat is present within the valley oak woodland at the DWI site associated with Alternative 2.
Robinson's pepper-grass <i>Lepidium virginicum</i> L. var. <i>robinsonii</i>	-/1B.2	Annual herb/January-July	3-3,100 (1-945)	Found in dry soils and shrubland in chaparral and coastal scrub habitats.	Low. Historical occurrence recorded in Los Angeles; however, no recent occurrences recorded in the proposed project area. Suitable habitat in proposed project footprint is sparse and marginal at best.

Table 11-1 (cont.)

Species	Status/ CNPS List	Growth Habit/ Flowering Period	Elevation (ft (m))	Habitat	Potential for Occurrence
San Fernando Valley spineflower (<i>Chorizanthe parryi</i> var. <i>Fernandina</i>)	Federal Candidate/ Endangered/ 1B.1	Annual herb/April-July	295-1,640 (90-500)	Found in sandy substrates on foothills, mixed grassland and chaparral communities.	Low. Recent occurrences recorded in the SCV (i.e., Newhall Ranch); however, no suitable habitat is present in the immediate vicinity of the proposed project.
Slender mariposa lily (<i>Calochortus clavatus</i> var. <i>gracilis</i>)	-/1B.2	Perennial bulbiferous herb/March-June	1,375-2,500 (420-760)	Found in chaparral and coastal scrub habitats. Shaded foothill canyons; often on grassy slopes within other habitat.	Medium. Known to occur in suitable habitat throughout the SCV. Suitable habitat occurs near the proposed project area in chaparral scrub habitats and openings in woodlands adjacent to the pipeline alignments. Marginal habitat is present within the valley oak woodland at the DWI site associated with Alternative 2.
Slender-horned spineflower (<i>Dodecahema leptoceras</i>)	Endangered/ 1B.1	Annual herb/April-June	660-2,500 (200-760)	Found in flood-deposited terraces and washes in chaparral, coastal scrub, and alluvial fan sage scrub habitats.	Medium. Historically known to the Newhall area. Recent occurrences recorded in Bee Canyon adjacent to Soledad Canyon east of the SCR portion of the proposed project area. Marginal habitat is present within the valley oak woodland at the DWI site associated with Alternative 2.

Source: ESA 2012.

Table 11-2. Special-Status Wildlife Species With Potential to Occur in the Project Area

Species	Status: Federal/State	Preferred Habitat	Potential for Occurrence
Amphibians			
arroyo toad (<i>Anaxyrus californicus</i>)	Endangered/Sp. of Special Concern	Sandy/gravelly areas of permanent and intermittent rivers and creeks with sandy banks.	High. Known to occur in the SCR and tributaries. May occur in the vicinity of the SCR where water would be discharged from the blended groundwater pipeline.
western spadefoot (<i>Spea hammondi</i>)	Sp. of Special Concern	Occurs primarily in grassland habitats, but can be found in valley- foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Medium. Suitable habitat occurs in the SCR and tributaries. Recent occurrences have been recorded in the SCR and San Francisquito Creek 1 mile east of the SWRP. May occur in the vicinity of the SCR where water would be discharged from the blended groundwater pipeline.
Fish			
arroyo chub (<i>Gila orcuttii</i>)	Sp. of Special Concern	South coast flowing streams. Adapted to hypoxic conditions and large temperature fluctuations.	High. Widespread throughout the SCR mainstream and tributaries. May occur in the vicinity of the SCR where water would be discharged from the blended groundwater pipeline.
Santa Ana sucker (<i>Catostomas santaanae</i>)	Threatened/Sp. of Special Concern	South coast flowing waters. Prefers small to medium streams with higher gradients, clear water, and coarse substrates.	High. Species, as well as hybrids occur throughout the SCR mainstream. May occur in the vicinity of the SCR where water would be discharged from the blended groundwater pipeline.
Pacific Lamprey (<i>Entosphenus tridentata</i>)	-/-	South coast flowing waters. Endemic to the USCR. An anadromous species and uses the SCR to migrate, spawn, and rear.	High. This species is endemic to the lower reaches of the SCR and populations have declined dramatically from water diversions and development. The SCR and its primary tributaries are within critical habitat. Discharges from the blended groundwater pipeline could impact downstream populations.

Table 11-2 (cont.)

Species	Status: Federal/State	Preferred Habitat	Potential for Occurrence
unarmored threespine stickleback (<i>Gasterosteus aculeatus williamsoni</i>)	Endangered/Endangered-Fully Protected Species	South coast flowing waters. Endemic to the USCR.	High. This species is endemic to the upper reaches of the SCR from the confluence with Piru Creek to the Bouquet Road Bridge.
southern California steelhead (<i>Oncorhynchus mykiss irideus</i>)	Endangered/Sp. of Special Concern	South coast flowing waters. An anadromous species. Steelhead use the SCR to migrate to tributaries to spawn and rear.	High. This species is endemic to the lower reaches of the SCR and populations have declined dramatically from water diversions and development. The SCR and its primary tributaries are within critical habitat. May occur in the vicinity of the SCR where water would be discharged from the blended groundwater pipeline and discharges could impact downstream populations.
Birds			
burrowing owl (<i>Athene cunicularia</i>)	Sp. of Special Concern	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. A subterranean nester dependent upon burrowing mammals, particularly the California ground squirrel.	Medium. Suitable habitat occurs in agricultural and open fields in the vicinity of the RO product water pipeline, the northern reach of the brine disposal pipelines, and the facilities in Ventura County; however, this species is not expected in urbanized areas.
yellow-breasted chat (<i>Icteria virens</i>)	Sp. of Special Concern	Summer resident of riparian thickets of willow or other brushy tangles near watercourses. Nests in low, dense riparian habitat.	Medium. Suitable habitat occurs in the SCR riparian corridor near the blended groundwater pipeline to SCR discharge. However, no occurrences, including nesting sites, have been recorded in the vicinity of the proposed project area.

Table 11-2 (cont.)

Species	Status: Federal/State	Preferred Habitat	Potential for Occurrence
least Bell's vireo (<i>Vireo bellii pusillus</i>)	Endangered/Endangered	Riparian forest, scrub, and woodland habitats. Nests primarily in willow riparian habitats.	High. This species is known to nest in riparian habitat within the SCR corridor. One occurrence recorded in the vicinity of Van Norman reservoir in San Fernando near I-5. May occur in the vicinity of the blended groundwater pipeline to SCR discharge.
coastal California gnatcatcher (<i>Polioptila californica californica</i>)	Threatened/Sp. of Special Concern	Obligate, permanent resident of coastal sage scrub below 2,500 ft (760 m) in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	Medium. Known to occur in suitable habitat in the region. Occurrences recorded in the vicinity of the proposed project area. However, not expected to occur in the immediate vicinity of the proposed project site due to sparse habitat, poor habitat quality, and urbanization.
southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	Endangered/Endangered	Neotropical migrant. Breeds in Southern California in willow-dominated riparian habitat.	Medium. Species known to migrate through riparian corridors of the SCR. Only one recorded breeding occurrence near Fillmore in 2000. Migrants may occur in suitable riparian habitat in the spring/summer, but not expected to breed in the vicinity of the proposed project site. May occur in the vicinity of the blended groundwater pipeline to SCR discharge.
western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	Candidate/Endangered	Riparian forests along broad, low flood-bottoms of larger river systems. Nests in riparian jungles of willow and cottonwoods with dense understories.	Medium. Marginally suitable habitat occurs in portions of the SCR with thick riparian vegetation. Historically recorded in the area. However, no recent occurrences recorded in the vicinity of the proposed project area. May occur in the vicinity of the blended groundwater pipeline to SCR discharge.

Table 11-2 (cont.)

Species	Status: Federal/State	Preferred Habitat	Potential for Occurrence
loggerhead shrike (<i>Lanius ludovicianus</i>)	Sp. of Special Concern	Lowlands and foothills throughout California. Prefers open habitats with scattered shrubs, trees, posts, fences, and other perches.	High. Expected to forage or nest in oak woodland, agricultural fields, and other open areas in the proposed project vicinity; however, not expected to occur within the proposed project footprint.
Cooper's hawk (<i>Accipiter cooperii</i>)	CDFW Watch List	Occurs in dense stands of live oak, riparian, deciduous, or other forest habitats near water. Nests in woodlands and sometimes suburban settings if mature trees are present.	High. Expected to occur in suitable habitat throughout the proposed project vicinity. Potential to nest in mature tall trees in the vicinity.
yellow warbler (<i>Dendroica petechia brewsteri</i>)	Sp. of Special Concern	Summer resident found in riparian deciduous habitats featuring cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodland.	Medium. Suitable habitat occurs in the SCR riparian corridor. However, no occurrences, including nesting sites, have been recorded in the vicinity of the proposed project area and no suitable nesting habitat exists within the proposed project footprint.
white-tailed kite (<i>Elanus leucurus</i>)	Fully Protected	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Often forages in agricultural fields.	High. Suitable habitat occurs within and around the SCR. Nesting sites recorded within close proximity to the proposed project area. No suitable nesting habitat exists within the proposed project footprint.
Mammals			
American badger (<i>Taxidea taxus</i>)	Sp. of Special Concern	Most abundant in drier, open stages of most shrub, forest, and herbaceous habitats with friable soils. Requires open, uncultivated ground and sufficient burrowing rodent prey.	Low. Species known to the region; however, not expected to occur in the proposed project footprint. No occurrences recorded in the immediate vicinity.

Table 11-2 (cont.)

Species	Status: Federal/State	Preferred Habitat	Potential for Occurrence
pallid bat (<i>Antrozous pallidus</i>)	Sp. of Special Concern	Occurs throughout California at low elevations; occupies a wide variety of habitats including grasslands, shrublands, woodlands, and coniferous forests; most common in open, dry habitats with rocky areas for roosting. Maternity roosts can occur under bridges, abandoned structures, and hollow trees.	Medium. May forage in suitable habitat in the vicinity of the proposed project. No roosting or breeding sites have been recorded in the vicinity. No suitable roosting habitat within the proposed project footprint.
hoary bat (<i>Lasiurus cinereus</i>)	-/-	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Medium. Historically known to occur in the SFV; however, no recent occurrences recorded in the vicinity. Potential habitat occurs in dense woodlands adjacent to the proposed project site in the SCV and in the riparian woodland in the SCR. However, no suitable roosting habitat within proposed project footprint.
western mastiff bat (<i>Eumops perotis californicus</i>)	Sp. of Special Concern	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	Medium. Suitable habitat exists in the vicinity of the proposed project area. Occurrences have been recorded near the proposed project in Newhall and Glendale; however, no suitable roosting habitat within proposed project footprint.
San Diego desert woodrat (<i>Neotoma lepida intermedia</i>)	Sp. of Special Concern	Coastal scrub of Southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops and rocky cliffs and slopes.	Medium. Suitable habitat occurs in the vicinity of the northern stretches of the pipeline alignments; however, no suitable habitat within proposed project footprint. Occurrences recorded in dense sage scrub and chaparral habitats in the vicinity of I-5 in the proposed project area.

Table 11-2 (cont.)

Species	Status: Federal/State	Preferred Habitat	Potential for Occurrence
Reptiles			
Coast horned lizard (<i>Phrynosoma blainvillii</i>)	Sp. of Special Concern	A wide variety of habitats, most common in sandy washes with scattered, low bushes. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	High. Expected to occur in suitable habitat throughout the proposed project vicinity. Occurrences recorded in the SCR as well as in coastal sage scrub habitat in the vicinity of the VWRP.
Coastal western whiptail (<i>Aspidoscelis tigris stejnegeri</i>)	Sp. of Special Concern	Found in deserts and semiarid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	Medium. Known to occur in suitable habitat in the region. However, no occurrences recorded in the vicinity of the proposed project area. May occur in areas with suitable substrate.
western pond turtle (<i>Emys marmorata</i>)	Sp. of Special Concern	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter.	High. Suitable habitat occurs in the SCR and the species is known to occur in streams in the vicinity of the VWRP and SWRP. However, no suitable habitat occurs within the proposed project footprint.
coast patch-nosed snake (<i>Salvadora hexalepis virgultea</i>)	Sp. of Special Concern	Brushy or shrubby vegetation and riparian areas.	Medium. Species known to occur in the region. Suitable habitat occurs in the SCR riparian corridor.
silvery legless lizard (<i>Anniella pulchra pulchra</i>)	Sp. of Special Concern	Sandy or loose loamy soils in chaparral, coastal dunes, and coastal scrub. Requires soils with a high moisture content.	Low. Species known to the region in suitable habitats. However, no suitable habitat occurs within the proposed project footprint.
two-striped garter snake (<i>Thamnophis hammondi</i>)	Sp. of Special Concern	Marshes, meadows, sloughs, ponds, and slow-moving water courses.	High. Suitable habitat exists in the SCR and tributaries with flowing water. Known to occur in suitable habitat in the proposed project area. May occur in the vicinity of the SCR where water would be discharged from the blended groundwater pipeline.
Source: ESA 2012.			

Arroyo Chub (*Gila orcuttii*)

The arroyo chub is a California Species of Special Concern. The arroyo chub is a small fish that averages 5 inches (120 mm) total length, although occasionally large individuals may reach 12 inches (300 mm) total length. Once common and widespread, its distribution has been significantly reduced (San Marino Environmental Associates 1995). The arroyo chub is native to the rivers of the LAB. Populations within the SCR are thought to have been introduced (ESA 2010).

The arroyo chub preferentially inhabits low gradient but flowing water, however, the species is also found in slow water areas within high gradient streams. The association with low flow areas means that this species is usually found over sand or mud substrates (San Marino Environmental Associates 1995). Laboratory studies demonstrate that the arroyo chub is physiologically adapted to survive hypoxic conditions and large temperature fluctuations (Castleberry and Cech 1986).

The arroyo chub is known to breed primarily during March and April although some reproduction may occur into July (San Marino Environmental Associates 1995). Spawning typically occurs in pools in association with aquatic vegetation.

Santa Ana Sucker (*Catostomas santaanae*)

The Santa Ana sucker is a federally threatened species and a California Species of Special Concern that is native to the rivers of the LAB. The Santa Ana sucker is a small fish species with adults commonly less than 7 inches (175 mm) standard length. The Santa Ana suckers is found in small- to medium-sized streams, usually less than 23 feet (7 meters) in width, with depths ranging from a few inches to over a few feet (San Marino Environmental Associates 1995). Flow must be present ranging from slight to swift. The native streams were all subject to severe periodic flooding, thus suckers prefer clear water but can tolerate seasonal turbidity. The preferred substrates are gravel and cobble but may also include sand. The Santa Ana sucker is associated with algae but not macrophytes. An introduced population exists in the SCR; however, this population is in decline throughout the lower portion of the river and is thought to have hybridized with another introduced sucker, the Owens River sucker, *Catostomus fumeiventris* (San Marino Environmental Associates 1995).

Unarmored Threespine Stickleback (*Gasterosteus aculeatus williamsoni*)

The unarmored threespine stickleback is a federal and state-listed endangered species and a fully protected state species that is a small, laterally compressed fish. The stickleback occurs throughout the SCR but tend to gather in areas of slow flow or standing water. In fast flowing sections, the stickleback is found in eddies behind obstructions or along the edge of the river where vegetation slows the flow. Critical habitat for the endangered unarmored threespine stickleback in the SCR was proposed in 1980 (Federal Register 45:76012).

During breeding season, male sticklebacks develop a distinctive nuptial coloration (red throat, blue sides and a blue eye). Males defend territories adjacent to vegetation where they construct a nest. The nest is constructed by excavating a depression in the substrate, placing a mound of algal strands and other plant material in the depression, and gluing the material together with a sticky kidney secretion. Once formed, the male creates a tunnel in the nest by wriggling his way through the mound. Once the nest has been completed the male performs an elaborate courtship ritual which entices females to lay their eggs in the nest. Males attract several females to the nest, each of which can lay from 50 to 300 eggs. After the courtship phase has passed males defend

the eggs and care for them while they develop. One activity during this period is “fanning.” “Fanning” males use their pectoral fins to create water currents that flow over the eggs. This activity is apparently necessary for normal development of the eggs. The eggs take approximately 6 to 8 days to hatch at 64-68°F (18 to 20°C). The fry remain in the nest for the first couple of days during which time the male continues to guard them (San Marino Environmental Associates 1995).

Two features of the stickleback’s habitat appear to be essential for the survival of the young. First, a slow flow of clear water is necessary for the proper development of the eggs. Any form of pollution or even small amounts of turbidity may interfere with normal development. Second, once the fry emerge, aquatic vegetation must be present along the shoreline to supply cover and abundant microscopic food organisms (San Marino Environmental Associates 1995).

There is some reproduction in most months if stream flows remain low. There is, however, a peak reproductive time in the spring, beginning in about March. This reproductive peak continues into the early summer then attenuates through late summer and fall. Minimum reproduction occurs in the winter months (San Marino Environmental Associates 1995). The species apparently lives for only 1 year. Therefore, stickleback populations tend to decline in the winter due to natural mortality and low recruitment.

Southern California Steelhead (Oncorhynchus mykiss irideus)

Southern California steelhead is a federally endangered species and a California Species of Special Concern. Southern California steelhead is one of six Pacific salmon in the genus *Oncorhynchus* that are native to the North American coast. Southern California steelhead, along with other species of Pacific salmon exhibit an anadromous life history, which means that juveniles of the species undergo a change that allows them to migrate to and mature in salt water before returning to their natal rivers or streams (i.e., streams where they were spawned) to reproduce.

Steelhead are a highly migratory species. Adult steelhead spawn in coastal watersheds; their progeny rear in freshwater or estuarine habitats prior to migrating to the sea. Within this basic life history pattern, the species exhibits a greater variation in the time and location spent at each life history stage than other Pacific salmon within the genus *Oncorhynchus* (NMFS 2012).

The life cycle of steelhead generally involves rearing in freshwater for 1 to 3 years before migrating to the ocean and spending from 1 to 4 years maturing in the marine environment before returning to spawn in freshwater. The ocean phase provides a reproductive advantage because individuals that feed and mature in the ocean grow substantially larger than freshwater residents, and larger females produce proportionately more eggs; however, the freshwater phase provides a protected rearing environment, relatively free of competition and predators. This life history strategy is referred to as “fluvialanadromous.” Out-migration to the ocean (i.e., emigration) usually occurs in the late winter and spring. In some watersheds, juveniles may rear in a lagoon or estuary for several weeks or months prior to entering the ocean. The timing of emigration is influenced by a variety of factors such as photoperiod, streamflow, temperature, and breaching of the sandbar at the river’s mouth. These out-migrating juveniles, termed “smolts,” live and grow to maturity in the ocean for two to four years before returning to freshwater to reproduce (NMFS 2012).

Returning adults (from the ocean to the stream) may migrate from several to hundreds of miles upstream to reach their spawning grounds. The specific timing of spawning can vary by a month

or more among streams within a region, occurring in winter and early spring, depending on factors such as runoff and sand bar breaching (NMFS 2012). Once they reach their spawning grounds, females use their caudal fin to excavate a nest (redd) in streambed gravels where they deposit their eggs. After fertilization by the male, the female covers the redd (often during construction of additional upstream redds) with a layer of gravel, where the embryos and alevins incubate within the gravel. Hatching time varies from about three weeks to two months, depending on water temperature. The young fish emerge from the gravel two to six weeks after hatching. Adult steelhead do not necessarily die after spawning and may return to the ocean, sometimes repeating their spawning migration one or more times. Steelhead rarely spawn more than twice before dying, and most that do so are females (NMFS 2012).

This species may also display a nonanadromous life history pattern (.e., a “freshwater residentery pattern”) where nonanadromous individuals complete their entire life history cycle (incubating, hatching, rearing, maturing, reproducing, and dying) in freshwater as rainbow trout do. This species can complete their life history cycle completely in freshwater, or they can migrate to the ocean after 1 to 3 years, and spend two to four years in the marine environment before returning to freshwater rivers and streams to spawn.

Some steelhead in the SCR are switching between freshwater (nonanadromous) and anadromous life cycles (NMFS 2012). The cues that trigger this phenomenon are unknown, but may be linked to environmental variation (NMFS 2012). For example, juvenile residency can be strongly influenced by the hydrologic cycle in the SCR, where extended droughts can cause juveniles to become landlocked and therefore unable to reach the ocean (NMFS 2012).

Lastly, there is a third type of life history strategy displayed by steelhead that is referred to as “lagoon anadromous.” Lagoon¹ habitat has been demonstrated to play a critical role in the life cycle of California’s southern steelhead populations (Smith 1990; Bond et al. 2008; Hayes et al. 2008). According to the Steelhead Recovery Plan (NMFS 2012), there is a working study site in northern Santa Cruz County that has recently shown that each summer a fraction of juvenile steelhead over summer in the estuary of their natal creek. Like Southern California estuaries, this estuary was cut off from the ocean during the summer by the formation of a sandbar spit, creating a seasonal lagoon. Lagoon habitat provides high quality rearing habitat for juvenile steelhead and offers many of the same benefits to rearing fish as compared to estuarine habitat (Smith 1990; Bond et al. 2008). Coastal lagoons are characterized by high productivity of forage organisms during summer months as compared to upstream reaches and provide unique growth opportunities for juvenile steelhead during critical seasonal rearing periods (Thorpe 1994; Hayes et al. 2008; Sogard et al. 2009). The study showed that many juveniles grow fast enough after their first year of lagoon rearing to migrate to the ocean, and most enter the ocean at a larger size than the same year class fish rearing in freshwater habitats of the stream system. Larger size generally enhances survival in the ocean, and the lagoon reared fish represented a large majority of the returning adult spawning population. Steelhead populations in the Recovery Planning area have not been investigated to determine whether or to what extent they may exhibit this life history strategy; however, steelhead smolts have been documented in the SCR estuary (NMFS 2012).

Closely related to these life history strategies is the use by steelhead of a wide variety of habitats over their lifespan, including river mainstems, small montane tributaries, estuaries, and the ocean. Steelhead move between these habitats because each habitat supports only certain aspects of what the fish require to complete their life cycle. Different populations frequently differ in the details

¹ Inland water bodies intermittently under tidal influence.

on the time and habitats that they utilize while pursuing the general pattern of the anadromous life cycle; these differences can reflect the evolutionary response of populations to environmental opportunities, subject to a variety of biological constraints that are also a product of evolution (NMFS 2012).

Pacific Lamprey (Lampetra tridentata)

Lampreys belong to a primitive group of fishes that are eel-like in form but lack the jaws and paired fins of true fishes. As adults in the marine environment, Pacific lampreys are parasitic and feed on a variety of marine and anadromous fish including Pacific salmon, flatfish, rockfish, and pollock, and are preyed upon by sharks, sea lions, and other marine animals. They have been caught in depths ranging from 300 to 2,600 feet, and as far off the west coast as 62 miles in ocean haul nets. After spending 1 to 3 years in the marine environment, Pacific lampreys cease feeding and migrate to freshwater between February and June. They are thought to overwinter and remain in freshwater habitat for approximately 1 year before spawning where they may shrink in size up to 20 percent.

Most upstream migration takes place at night. Adult size at the time of migration ranges from about 15 to 25 inches. Pacific lampreys spawn in similar habitats to steelhead. Spawning occurs between March and July depending upon location within their range. After the eggs are deposited and fertilized, the adults typically die within 3 to 36 days after spawning. Embryos hatch in approximately 19 days at 59°F and the larvae (ammocoetes) drift downstream to areas of low velocity and fine substrates where they burrow, grow and live as filter feeders for 3 to 7 years and feed primarily on diatoms and algae. Several generations and age classes of ammocoetes may occur in high densities. Ammocoetes move downstream as they age and during high flow events. Little is known about movement and locations of ammocoetes within the substrates.

Metamorphosis to macrophthalmia (juvenile phase) occurs gradually over several months as developmental changes occur, including the appearance of eyes and teeth, and they leave the substrate to enter the water column. Transformation from ammocoetes to macrophthalmia typically begins in the summer and is complete by winter. They move downstream as they emigrate to the ocean between late fall and spring where they mature into adults (USFWS 2008).

Least Bell's Vireo (Vireo bellii pusillus)

The least Bell's vireo is a federally and state-listed endangered species. A number of historical records document the presence of least Bell's vireo near and in the SCR watershed (California State Coastal Conservancy 2006). Multiple active least Bell's vireo nests have been observed on the SCR at the Fillmore Fish Hatchery since 1991. Hundreds of least Bell's vireo individuals have been captured and banded between 1991 and 1996 in the lower half of the SCR between I-5 downstream to the State Route 118 (SR-118) bridge near Saticoy watershed (California State Coastal Conservancy 2006). Between 1994 and 1999, 81 nesting pairs were recorded in the lower SCR, including 25 pairs from the Fillmore Fish Hatchery downstream to the State Route 23 (SR-23) bridge, three pairs from just downstream of the confluence with Sespe Creek to 1.2 miles (2 km) east of Santa Paula. Breeding pairs were also found in these areas in 2000 (California State Coastal Conservancy 2006).

The United States Fish and Wildlife Service (USFWS) has designated critical habitat for the species along the SCR between Ventura and Los Angeles counties, including "all land within 3,500 feet perpendicularly and generally southward or westward" of SR-126 between approximately Piru and I-5 near Castaic Junction (California State Coastal Conservancy 2006).

Least Bell's vireos winter in southern Baja California, Mexico. Birds begin returning to Southern California breeding sites in mid- to late-March and are generally present on the breeding grounds until late September, although they may begin departing by late July (California State Coastal Conservancy 2006). Least Bell's vireo primarily nest in small remnant segments of vegetation typically dominated by willows (*Salix* spp.) and mulefat (*Baccharis salicifolia*) but may also use a variety of shrubs, trees, and vines. Nests are typically built within 3.3 ft (1 meter) of the ground in the fork of understory vegetation. Cover surrounding nests is moderately open midstory with an overstory of willow, cottonwood (*Populus* sp.), California sycamore (*Platanus racemosa*), or oak (*Quercus* sp.). Crown cover is usually more than 50 percent and contains occasional small openings. On the SCR, dominant plant species used for nest support were most often willows (*Salix lasiolepis*, *S. exigua*, *S. laevigata*, and *S. lasiandra*), followed by mulefat, poison oak (*Toxicodendron diversilobum*), white alder (*Alnus rhombifolia*), and mugwort (*Artemisia douglasiana*). Vireos have also been found nesting in two invasive, non-native plants: giant reed (*Arundo donax*) and tamarisk (*Tamarix* sp.) (California State Coastal Conservancy 2006).

Loggerhead Shrike (*Lanius leudovicianus*), Cooper's Hawk (*Accipiter cooperii*), and White-Tailed Kite (*Elanus leucurus*)

The loggerhead shrike is a California Species of Special Concern, the Cooper's hawk is on the CDFW's watch list, and the white-tailed kite is a state fully protected species. Loggerhead shrikes, Cooper's hawks, and white-tailed kites are resident species in upland habitats in the SCV and along the SCR riparian corridor. The Loggerhead shrike is a medium shrike, most notably identified by its black mask that is contrasted with its gray body and white throat. Loggerhead shrikes generally nest in medium-size trees, but are also known to nest in large shrubs (Ainsworth pers. obs., 2013). Loggerhead shrikes are resident in the coastal sage habitat adjacent to the SCR and are known to enter the riparian zone of the SCR in late summer seeking water and insects (Guthrie 2000).

Cooper's hawk is a medium-sized hawk with broad, rounded wings and a very long tail. They are common woodland hawks that tear through cluttered tree canopies in high speed pursuit of other birds and are also common in urban areas. Cooper's hawks build nests in pines, oaks, Douglas-firs, beeches, spruces, and other tree species, often on flat ground rather than hillsides, and in dense woods. Nests are typically 25 to 50 feet high, often about two-thirds of the way up the tree in a crotch or on a horizontal branch. Cooper's hawks are known to forage in the SCR; however, nesting sites are unknown (Guthrie 2000). Cooper's hawk is expected to be present within the valley oak and coast live oak woodland areas in the proposed project vicinity and within the SCR riparian corridor.

White-tailed kite is a California Fully Protected Species. The species is a medium-sized raptor of open grasslands and savannahs. The white-tailed kite is readily identified by its bright plumage and its habit of hovering while hunting for small mammals. The white-tailed kite is commonly found in savannah, open woodlands, marshes, desert grassland, partially cleared lands, and cultivated fields. White-tailed kites hunt over lightly grazed or ungrazed fields where there may be larger prey populations than in more heavily grazed areas. They typically nest in the upper third of trees that may be 10 to 160 feet tall. These can be open-country trees growing in isolation, or at the edge of or within a forest. Nests have been reported in more than 20 tree species. Rarely, white-tailed kites build nests on top of old, unused nests of other species (Cornell Lab of Ornithology 2000). Within the proposed project area, white-tailed kites are expected to occur foraging within adjacent agricultural fields and have the potential to nest within the upper canopies found in the SCR riparian corridor and within valley or coast live oak woodland areas.

Coast Horned Lizard (*Phrynosoma blainvillii*)

The coast horned lizard is a California Species of Special Concern. The species is uncommon to common in suitable habitat and occurs in valley-foothill hardwood, conifer, and riparian habitats, as well as in pine-cypress, juniper, and annual grassland habitats. They eat arthropods, including ants, beetles, and spiders. They usually are observed in close proximity to ant hills. Many non-native ant species have moved into their habitats displacing or eradicating the native ant species that the Coast horned lizard feeds on. The horned lizard prefers bare soil free of non-native grasses and weeds (i.e., yellow star thistle, brome grasses and annual grasses). They like chaparral uninfected with European weeds with loose areas of soil for burrowing. Coast horned lizards have been documented on the Newhall Ranch near the proposed project area (Ainsworth pers. obs., 2013). In the proposed project area, coast horned lizards are expected in woodland and coastal sage scrub chaparral areas with bare ground, and could be present on the dirt access roads near the blended groundwater pipeline to SCR discharge location.

Arroyo Toad (*Anaxyrus californicus*)

The arroyo toad is a federally endangered species. The species is a relatively small toad with coloration ranging from olive green or gray to light brown. The arroyo toad lacks a middorsal stripe, distinguishing the species from the California toad (*Anaxyrus boreas halophilus*) which is larger in size at maturity than the arroyo toad. The arroyo toad was historically found from the upper Salinas River system in Monterey County to about 10 miles (16 kilometers) southeast of San Quintin, Baja California, Mexico (Sweet 1992). Arroyo toads are primarily documented in coastal drainages including the Santa Ynez, Santa Clara, and Los Angeles River Basins and drainages of Orange, Riverside, and San Diego Counties to the Arroyo San Simeon system, but they also inhabit desert slopes of the Transverse and Peninsular Ranges south of the SCR in Los Angeles County.

The arroyo toad prefers sandy washes and creeks with swift currents and large sedimentary deposits. Terrestrial and aquatic vegetation is sparse or absent from breeding pools. These pools are situated adjacent to open sandy banks where foraging occurs. Foraging also occurs on adjacent elevated terraces with a low to moderate cover composed predominantly of cottonwoods, sycamores, willows, and coast live oaks.

Adult and subadult toads are primarily nocturnal, remaining burrowed in dry or slightly damp fine sands within old flood channels or along the canopy edge of willow or cottonwood trees during the daylight hours. Aestivation occurs during the winter and summer months to avoid adverse climatic conditions, although toads are known to emerge to forage or hydrate after rain events or in response to disturbance.

Arroyo toads generally breed between late March and June in shallow streams or pools with little or no vegetative cover. Breeding sites can usually be found in 0.4 to 0.8 inch (1 to 2 centimeters) depth of water or in side channels or open shorelines. Eggs are usually deposited in shallow pools with fine sand/gravel substrates. A stream velocity of less than 2 inches per second (5 centimeters per second) is important for successful egg deposition and creates an optimal environment for larval development.

Western Pond Turtle (*Emys marmorata*)

In California, western pond turtle populations have experienced extensive population declines as conversion of wetland and riparian habitats to urban and agricultural use has accelerated. Local

population trends in the SCR watershed are currently unknown; however, most turtles currently observed in the SCR mainstem are likely primarily fossil populations of old animals and immigrants from tributaries such as Sespe Creek. It is unlikely that there has been much western pond turtle reproduction in the mainstem SCR in recent years, due to a lack of suitable habitat and high densities of raccoons. Several known western pond turtle populations occur in the USCR watershed near Santa Clarita and in the vicinity of Piru Creek.

Suitable aquatic habitat for western pond turtles generally consists of standing (lentic) and slow-moving (lotic) water, which typically occurs in off-channel areas, such as side channels and backwater areas.

Although primarily an aquatic reptile, the western pond turtle needs terrestrial habitat for basking, overwintering, nesting, and traveling between ephemeral sources of water. Breeding activity peaks in June and July, but may occur throughout the year. Western pond turtles are philopatric (tendency of a migrating animal to return to a specific location to breed or feed). Western pond turtles lay 1 to 14 eggs per clutch. The incubation period for western pond turtle eggs averages 80 days. Hatchlings spend much of their time in shallow water, within dense vegetation of submergent or short emergent macrophytes.

Western pond turtles have a widely variable home range, and although they may disperse overland due to environmental stressors such as droughts or floods, most movement is associated with normal movement within a terrestrial home range. They inhabit a wide range of fresh or brackish water habitats including ponds, lakes, ditches, perennially filled pools of intermittent streams, and backwater and low flow areas of perennial streams and rivers. A key requirement is proximity to potential nesting sites. Nests are generally located in grassy meadows, away from trees and shrubs. Whereas adults and older juveniles are considered aquatic habitat generalists, hatchlings and young juveniles require specialized habitat for survival through their first few years. Juveniles prefer habitats similar to adults, but generally with lower water flow.

Two-striped Garter Snake (Thamnophis hammondi)

The two-striped garter snake is a California Species of Special Concern. The species occurs from southern Baja California north to central Monterey and western Fresno Counties. These snakes are found most frequently along the margins of rocky and sandy streams with fairly fast water, and they were formerly ubiquitous and abundant in association with such habitat throughout coastal Southern California (Jennings and Hayes 1994). The two-striped garter snake is a California Species of Concern because most of its characteristic habitat in the lowlands of Southern California has been severely degraded and consequently this species has disappeared from substantial portions of its range (Entrix 2006). Two-striped garter snakes are believed to feed almost exclusively on fish and tadpoles, which they catch in shallow water by stalking, ambushing, or by cornering against submerged rocks or root masses. Thus, even though they are fundamentally terrestrial, they depend entirely on aquatic habitat for forage. Two-striped garter snakes are active nearly year-round in the Southern California lowlands. Two-striped garter snakes are known to occur in the SCR and are expected to be present within the SCR at the discharge site of the blended groundwater pipeline.

11.3 REGULATORY BACKGROUND

11.3.1 Federal Endangered Species Act

The USFWS administers the federal Endangered Species Act (FESA) (16 USC [U.S. Code] §§153 et seq.) and thereby has jurisdiction over federally-listed threatened, endangered, and proposed species. Projects that may result in take of a listed species must consult with USFWS. Federal agencies that propose a project that may affect a listed species are required to consult with USFWS under §7 of the FESA. §9 of the FESA prohibits take of listed threatened or endangered species. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. Harm under the definition of take includes disturbance or loss of habitat used by a threatened or endangered species whereby wildlife are killed or injured by impairment of essential behavior patterns, including breeding, feeding, or sheltering. Under FESA regulations, the USFWS may authorize take when the take is incidental to, but not the purpose of, an otherwise lawful act. §10 of the FESA is the mechanism that may allow take of such species. If a federally listed species may be adversely affected by a federal action, USFWS will issue a biological opinion to the federal agency that describes minimization and avoidance measures that must be implemented as part of the federal action. Projects in which take is expected that do not have a federal nexus must apply for a take permit under §10 of the FESA, which requires that the project applicant prepare an HCP as part of the permit application.

11.3.2 Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA), first enacted in 1916, prohibits any person unless permitted by regulations, 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, included in the terms of this Convention...for the protection of migratory birds...or any part, nest, or egg of any such bird. (16 USC §703).

The list of migratory birds includes nearly all bird species native to the United States; non-native species such as European starlings, house sparrows, and rock pigeons are not included. The statute was extended in 1974 to include parts of birds, as well as eggs and nests. Therefore, it is illegal under the MBTA to directly kill any native bird species. Activities that result in removal or destruction of an active nest (a nest with eggs or young being attended by one or more adults) of a native bird would also violate the MBTA. Removal of unoccupied nests, or bird mortality resulting indirectly from a project, is not considered a violation of the MBTA. Any activity, such as grading or grubbing for construction of the project site resulting in destruction of one or more active nests of native birds, whether or not the species is listed as an endangered species, would be a violation of the MBTA.

11.3.3 California Endangered Species Act

The CDFW administers the California Endangered Species Act (CESA) of 1984 (State of California Fish and Game Code §2080), which regulates the listing and take of endangered and threatened species. A take may be permitted by CDFW through implementing a management agreement. Under state laws, CDFW is empowered to review projects for their potential impacts to listed species and their habitats.

CDFW also maintains lists for candidate endangered species and candidate threatened species. California candidate species are afforded the same level of protection as listed species. California also designates Species of Special Concern, which are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species, but may be added to official lists in the future.

11.3.4 CEQA Guidelines §15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(b) 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 § of the 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 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. Examples of species that may be considered under CEQA Guidelines §15380 include some vascular plants.

11.3.5 Other Statutes, Codes, and Policies Affording Limited Species Protection

Vascular plants listed as rare or endangered by the CNPS (CNPS 2011), but which have no designated status or protection under federal or state endangered species legislation, are defined as follows:

- **List 1A:** Plants Believed Extinct
- **List 1B:** Plants Rare, Threatened, or Endangered in California and elsewhere
- **List 2:** Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere
- **List 3:** Plants About Which More Information is Needed – A Review List
- **List 4:** Plants of Limited Distribution – A Watch List

In general, plants appearing on CNPS List 1 or 2 are considered to meet CEQA Guidelines §15380 criteria. Effects to these species would therefore be considered “significant,” requiring mitigation.

11.3.6 Clean Water Act §404

Wetlands and other waters of the United States (waters of the U.S.) are subject to jurisdiction by the U.S. Army Corps of Engineers (Corps) under §404 of the Clean Water Act (CWA). Wet areas that are not regulated through this act would include stock watering ponds, agricultural ditches created in upland areas, and isolated wetlands that do not have a hydrologic link to other waters of the U.S. either through surface or subsurface flow. The discharge of fill into a jurisdictional water requires a permit from the Corps. The Corps has the option to issue a permit on a case-by-case basis (individual permit) or on a programmatic level (general permit). Nationwide permits (NWPs) are an example of general permits; they cover specific activities that generally have minimal environmental effects. Activities covered under a particular NWP must fulfill several general and specific conditions, as defined by the NWP. If a project cannot meet these conditions, an individual permit is required.

11.3.7 California Fish and Game Code §§1601 to 1616

CDFW regulates the modification of streams, rivers, and lakes under §§1601-1616 of the Fish and Game Code . Modification includes diverting, obstructing, or changing the natural flow or bed, channel, or bank of a regulated feature. While most of the features regulated by the Fish and Game Code meet the definition of other waters of the U.S., the CDFW may regulate some ephemeral features that do not meet all the criteria to qualify as waters of the U.S. A project proponent that proposes an activity that may modify a feature regulated by Fish and Game Code must notify CDFW before project construction. The CDFW requires a Lake or Streambed Alteration Agreement (SAA) for activities within its jurisdictional area.

11.3.8 California Fish and Game Code §3503: Bird and Nest Protection

Fish and Game Code §3503 prohibits the killing of birds or the destruction of bird nests. Birds of prey are protected in California under Fish and Game Code §3503.5, which provides that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” It is generally recognized that construction disturbances during the breeding season may result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbances that cause nest abandonment and/or loss of reproductive effort are considered a take by CDFW. Any loss of fertile eggs, nesting raptors, or any activities resulting in nest abandonment would constitute a significant impact. This approach would apply to red-tailed hawks, American kestrels, barn owls, and other birds of prey.

11.3.9 County of Los Angeles General Plan

The Biological Resources section of the County of Los Angeles General Plan identifies the valuable biological resources within Los Angeles County and establishes the goals and policy direction to utilize and conserve these resources for existing and future generations. The section identifies the biological resources in Los Angeles County and discusses SEAs, Species Conservation, Wildlife Corridors, Areas of Special Biological Significance, Wetlands and Wetland Protection, and National Forests.

11.3.9.1 Goals and Policies of the General Plan

Goal C/OS-5: Significant ecological systems, biotic communities, and imperiled species preserved in perpetuity.

Policy C/OS 5.1: Require applicants to consult with County staff early in the development process for assistance in project designs that maximize natural features and preserve biological resources.

Policy C/OS 5.2: Participate in inter-jurisdictional collaborative strategies that protect biological resources.

Policy C/OS 5.3: Maximize the ecological function of the County's diverse natural habitats, such as Coastal sage scrub, Valley needlegrass and other perennial grasslands, Joshua trees, California walnut, Western Sycamore, and native Oak woodlands.

Policy C/OS 5.4: Support the restoration and preservation of degraded streams, rivers, wetlands, and other areas with significant biological resources.

Policy C/OS 5.5: Maintain and monitor the SEAs and other programs to conserve special-status species, their associated habitat, and wildlife movement corridors.

Policy C/OS 5.6: Require that development within an SEA be designed to meet the Significant Ecological Area Technical Advisory Committee (SEATAC) recommendations, to the greatest extent possible, and to:

- Preserve sensitive ecological resources
- Maintain sufficient natural vegetative cover and open spaces to buffer sensitive resource areas
- Maintain water bodies and watercourses in a natural state
- Preserve wildlife movement corridors
- Site roads and utilities to avoid sensitive habitat areas or migratory paths
- Control light pollution
- Reduce erosion
- Limit noise-producing uses
- Provide open or permeable fencing

Policy C/OS 5.7: Require that development mitigate "in-kind" for unavoidable impacts on biologically sensitive areas and permanently preserve mitigation sites.

Policy C/OS 5.8: Maintain watercourses and wetlands in a natural state, unaltered by grading, fill, or diversion activities.

11.3.10 County of Los Angeles Sensitive Ecological Areas

Los Angeles County has designated specific areas as SEAs. The SEA designations are based on habitat linkages necessary to sustain the biologically diverse plant and animal species that are

found within Los Angeles County. SEAs meet one or more of the following criteria, which set them apart from other biological resources in Los Angeles County:

- Areas that provide habitat for core populations of endangered or threatened species
- On a regional basis, areas that support biotic communities, vegetative associations, and habitats of plant or animal species that are either unique or are restricted in distribution
- Within Los Angeles County, areas that support biotic communities, vegetative associations, and habitat of plant or animal species that are unique or are restricted in distribution
- Areas that support habitat that at some point in the life cycle of a species or group of species serves as concentrated breeding, feeding, resting, and/or migrating grounds, and is limited in availability either regionally or in Los Angeles County
- Areas that support biotic resources that are of scientific interest because they occur at the extremes of the species' physical/geological distributions/limitations, or represent unusual variations in a population or community
- Areas that would provide for the preservation of relatively undisturbed examples of the original biotic communities in Los Angeles County

Los Angeles County requires an additional level of environmental and design review for a project that disturbs an SEA. This review is conducted by SEATAC. Through the review process, Los Angeles County places limitations and conditions on a project to ensure that the project is consistent with policies of the General Plan and the recommendations of SEATAC.

11.3.11 County of Los Angeles Oak Tree Ordinance

The County of Los Angeles Oak Tree Ordinance has been established to recognize oak trees as significant historical, aesthetic, and ecological resources. The goal of the ordinance is to create favorable conditions for the preservation and propagation of the trees by making compliance with the ordinance part of the development process. The County of Los Angeles Oak Tree Ordinance applies to all unincorporated areas within Los Angeles County.

Under the County of Los Angeles Ordinance, a person shall not:

...cut, destroy, remove, relocate, inflict damage, or encroach into the protected zone of any tree of the oak tree genus with a trunk diameter of 8 inches or more measured 4.5 feet above mean natural grade, or in the case of oaks with multiple trunks, a combined diameter of twelve inches or more of the two largest trunks, without first obtaining a permit.

Many kinds of oak trees are native to Los Angeles County. All oak species are covered by the oak tree ordinance. Older oak trees that have thrived under natural rainfall patterns of dry summers and wet winters often cannot tolerate the extra water of a garden setting. These trees must be treated with special care if they are to survive. Oaks that have been planted into the landscape or have sprouted as volunteers tend to be more tolerant of watered landscapes. While these vigorous young trees may grow 1.5 to 4 feet a year in height under the best conditions, they are not as long-lived as indigenous oaks.

11.3.12 County of Ventura General Plan

The County of Ventura General Plan, amended in 2011, provides comprehensive, long-term development guidelines for Ventura County. The General Plan is organized into four chapters: resources, hazards, land use, and public facilities and services. The Biological Resources Element of the General Plan discusses goals, policies, and programs that work to preserve and protect significant biological resources in Ventura County from incompatible land uses and development (County of Ventura Planning Division 2011).

11.3.12.1 Goals and Policies of the General Plan

Goal: Preserve and protect significant biological resources in Ventura County from incompatible land uses and development. Significant biological resources include endangered, threatened or rare species and their habitats, wetland habitats, coastal habitats, wildlife migration corridors, and locally important species/communities.

Policy 1: Discretionary development which could potentially impact biological resources shall be evaluated by a qualified biologist to assess impacts and, if necessary, develop mitigation measures.

Policy 2: Discretionary development shall be sited and designed to incorporate all feasible measures to mitigate any significant impacts to biological resources. If the impacts cannot be reduced to a less than significant level, findings of overriding considerations must be made by the decision-making body.

Policy 3: Discretionary development that is proposed to be located within 300 feet of a marsh, small wash, intermittent lake, intermittent stream, spring, or perennial stream (as identified on the latest United States Geologic Survey 7½ minute quad map), shall be evaluated by a County-approved biologist for potential impacts on wetland habitats. Discretionary development that would have a significant impact on significant wetland habitats shall be prohibited, unless mitigation measures are adopted that would reduce the impact to a less than significant level; or for lands designated "Urban" or "Existing Community," a statement of overriding considerations is adopted by the decision-making body.

Policy 4: Discretionary development shall be sited a minimum of 100 feet from significant wetland habitats to mitigate the potential impacts on said habitats. Buffer areas may be increased or decreased upon evaluation and recommendation by a qualified biologist and approval by the decision-making body. Factors to be used in determining adjustment of the 100-foot buffer include soil type, slope stability, drainage patterns, presence or absence of endangered, threatened or rare plants or animals, and compatibility of the proposed development with the wildlife use of the wetland habitat area. The requirement of a buffer (setback) shall not preclude the use of replacement as mitigation when there is no other feasible alternative to allowing a permitted use, and if the replacement results in no net loss of wetland habitat. Such replacement shall be "in kind" (i.e., same type and acreage), and provide wetland habitat of comparable biological value. On-site replacement shall be preferred wherever possible. The replacement plan shall be developed in consultation with California Department of Fish and Game [California Department of Fish and Wildlife].

Policy 5: The California Department of Fish and Game [California Department of Fish and Wildlife], the U.S. Fish and Wildlife Service, National Audubon Society, and the California Native Plant Society shall be consulted when discretionary development may affect significant

biological resources. The National Park Service shall also be consulted regarding discretionary development within the Santa Monica Mountains or Oak Park Area.

Policy 6: Based on the review and recommendation of a qualified biologist, the design of road and floodplain improvements shall incorporate all feasible measures to accommodate wildlife passage.

11.3.13 Piru Area Plan

The Piru Area Plan, adopted in 1988 and last amended in 2011, serves as the Land Use Plan for the Piru area of interest. The Area Plan also governs the distribution, general location, and extent of land uses for housing, business, industry, open space, agriculture, and community facilities. The Biological Resources section contains specific goals, policies, and programs that pertain to biological resources in the area. Goals and policies ensure that scenic resources are protected to serve the needs of the existing and future Piru residents.

11.3.13.1 Goals and Policies of the Area Plan

Goal 1: Protect and enhance the significant biological resources in the Piru area.

Goal 2: Protect the Piru Creek wildlife migration corridor between the Los Padres National Forest on the north and the Santa Clara River and Oak Ridge Big Mountain habitat on the south.

Goal 3: Encourage and support the management policies of the U.S. Fish and Wildlife Services, California Department of Fish and Game [California Department of Fish and Wildlife], and the Los Padres National Forest in its attempt to preserve and protect the California Condor and its habitat.

Policy 1: All discretionary permits in Open Space designated areas shall be consistent with the preservation and development of an environment suitable to wildlife and flora indigenous to the area.

Policy 2: All discretionary development located within 100 feet of Piru Creek or the Santa Clara River shall be sited and designed to prevent impacts which would significantly degrade riparian habitats. Discretionary projects located within or adjacent to these watercourses shall be conditioned to dedicate wildlife corridor easements if deemed necessary by the County to protect biological resources.

Policy 3: The California Department of Fish and Game [California Department of Fish and Wildlife], the U.S. Fish and Wildlife Service, and the National Audubon Society at the Condor Research Center shall be consulted when discretionary development proposals are submitted which may affect biological resources.

11.3.14 County of Ventura Tree Protection Ordinance §8107-25.2

The County of Ventura Non-Coastal Zoning Ordinance includes the Tree Protection Ordinance that regulates the removal, trimming of branches or roots, or grading or excavating within the root zone of a “protected tree” (County of Ventura 2011). The County of Ventura Tree Protection Ordinance identifies 13 species of protected trees. The list of protected trees includes: Alder, Ash, Bay, Cottonwood, Elderberry, Big Cone Douglas Fir, White Fir, Juniper, Maple,

Oak, Pine, Sycamore, and Walnut. Any oak or sycamore with a single trunk measurement of 9.5 inches or more in circumference measured 4.5 feet above the ground, or an oak tree with two or more trunks when at least one of the trunks is 6.25 inches in circumference is protected. Any tree with a single trunk circumference of 90 inches or more, or with multiple trunks, two of which add up to 72 inches in circumference, is characterized as a Heritage Tree. Other species are protected if they are growing in a Scenic Highway Protection Overlay Zone or Scenic Resource Protection Overlay Zone and are 9.5 inches or more in circumference. Historical Trees that are identified as a landmark by Ventura County or the City of Ventura, on the Federal or California Historic Resources Inventory, or contribute to a site or structure of historic or cultural significance, are protected.

Trees that are dead, threaten public safety or property, or the health of other protected trees, can be removed fairly quickly if the property owner can demonstrate the need for a tree's removal. Mitigation is required for the removal of protected and heritage trees based on the square inches of cross-sectional area of the tree trunk. Although all protected and heritage trees are likely to have some biological value, other non-protected trees as defined by the Ordinance may also have biological value. In addition, the County of Ventura Tree Protection Ordinance and offset requirements only apply to protected trees outside of County ROW and not within County ROW.

11.3.15 County of Ventura Oak Woodlands Management Plan

The County of Ventura Oak Woodlands Management Plan was prepared pursuant to guidelines and goals set forth in the California Oak Woodlands Conservation Program. The California Oak Woodlands Conservation Program serves as the Legislature's formal recognition that oak woodlands are a vital statewide resource. The Oak Woodlands Conservation Act of 2001 states that healthy oak woodlands provide ecological and social benefits, including but not limited to, providing crucial habitat for hundreds of species, increasing the monetary and ecological value of property, reducing soil erosion and enhancing water quality, and moderating temperature. There are approximately 77,000 acres of oak woodlands and oak forest in Ventura County, of which approximately half are located within the Los Padres National Forest and the remaining acreage is on privately-owned land (County of Ventura 2007). Oak species have not been designated as endangered, threatened, or rare by the State of California; however, oak woodlands are present along several wildlife migration corridors throughout Ventura County, including Ojai Valley, Santa Clara River Valley, Santa Monica Mountains, and the open space east of the City of Simi Valley, including the Santa Susana Knolls.

11.4 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

11.4.1 Thresholds of Significance

The criteria used to determine the significance of impacts related to biological resources are based on Appendix G of the CEQA Guidelines. The proposed project would result in a significant impact if it would result in any of the following:

- 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 or USFWS.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS.
- Have a substantial adverse effect on federally protected wetlands as defined by §404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) 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.
- Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policies or ordinances.
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.

11.4.2 Methodology

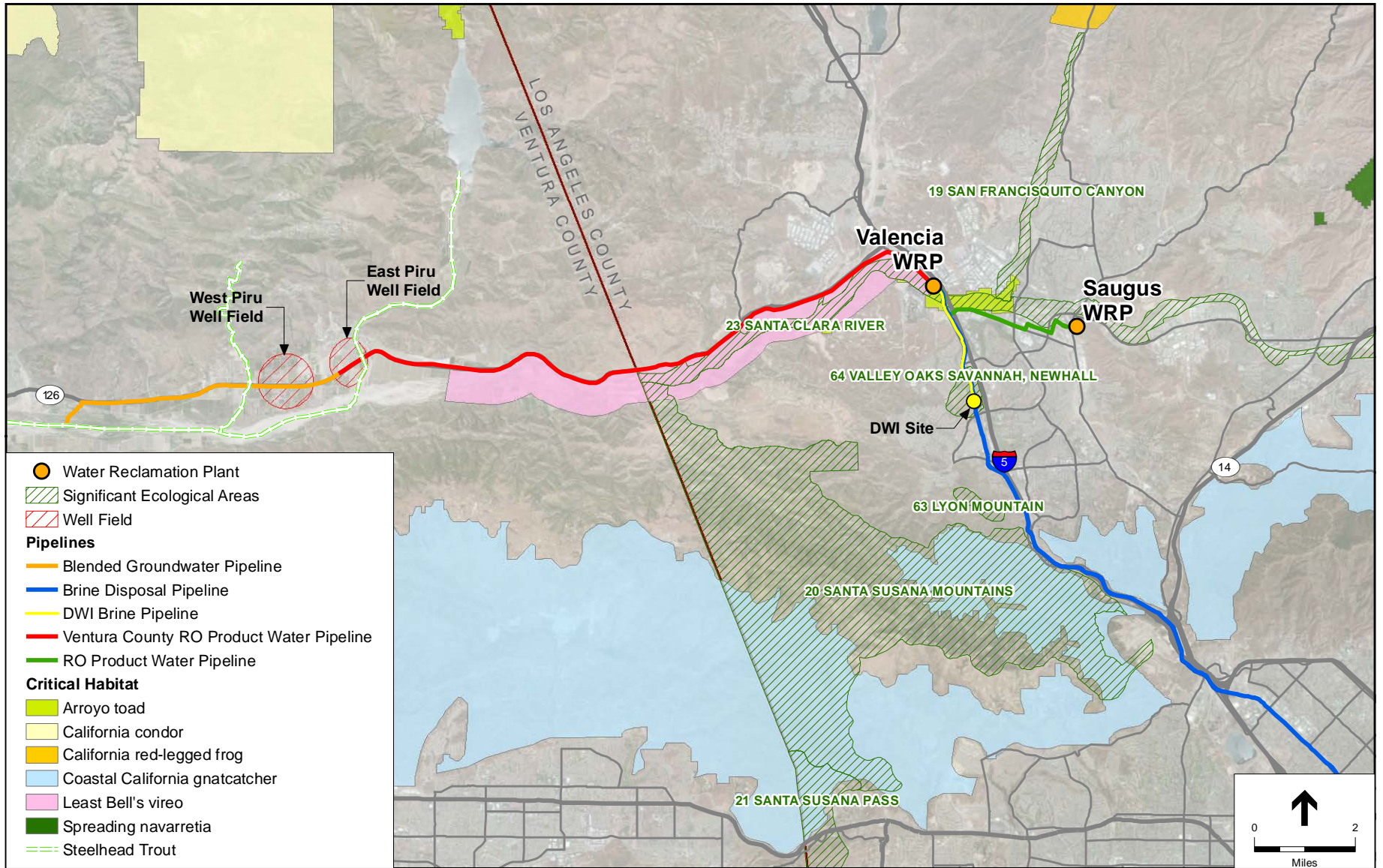
The impact analysis relies upon information contained within the Biological Resources Technical Report and Technical Study prepared for the proposed project (see Appendices 11-A and 6-A), which included both primary (field reconnaissance) and secondary (data base research) information.

Biological resources may be either directly or indirectly affected by a project. Impacts may occur as a result of construction of the project and/or as a result of operation after construction is complete. Furthermore, direct and indirect impacts may be either permanent or temporary. These impacts are defined below:

- Direct impacts occur at the same time and place as the project. Any alteration, disturbance, or destruction of biological resources that would result from project-related activities would be considered a direct impact.
- Indirect impacts occur later in time or are farther removed in distance, but are still reasonably foreseeable and attributable to project-related activities.
- Permanent impacts are impacts that result in irreversible impacts or irreversible removal of biological resources, such as the elimination of a plant or animal community or habitat loss.
- Temporary impacts are those considered reversible, such that biological resources can be successfully restored.

Critical Habitat and Special-Status Species

As shown on Figure 11-1, the SCR is within critical habitat for the unarmored three spine stickleback, southern California steelhead, and least Bell's vireo. A review of the CNDDDB, CNPS electronic database, and other relevant literature sources for the proposed project area found a number of special-status plant and animal species with potential to occur along the pipeline alignments (Figures 11-2a through 11-2l).



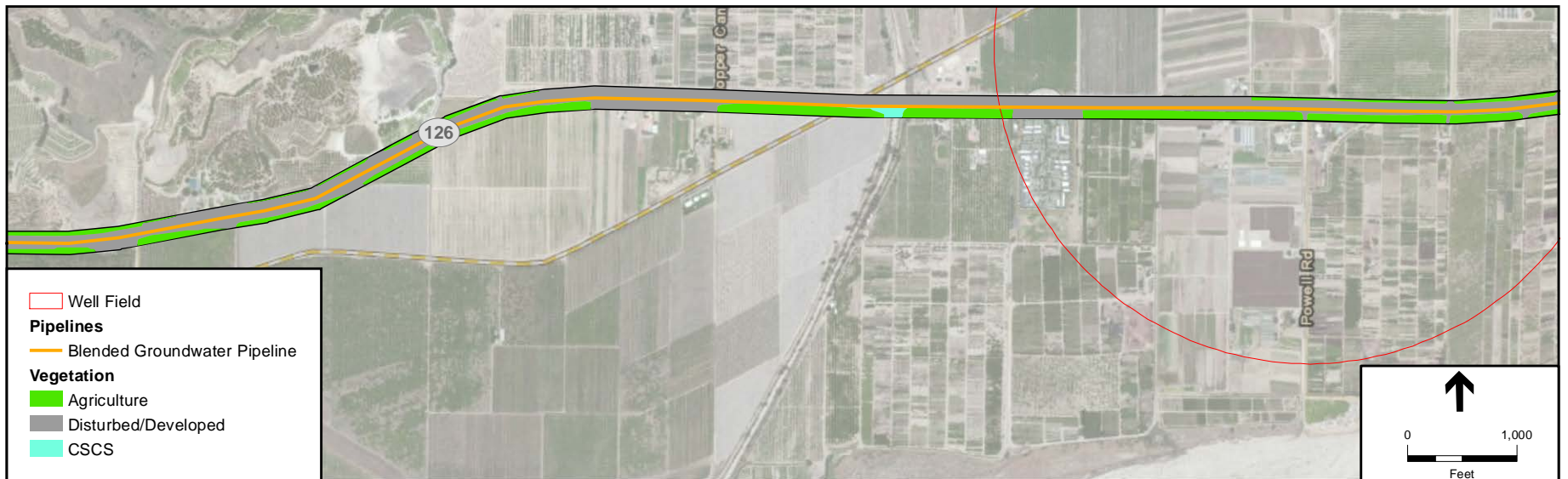


Figure 11-2a
 Vegetation Along Pipeline Routes

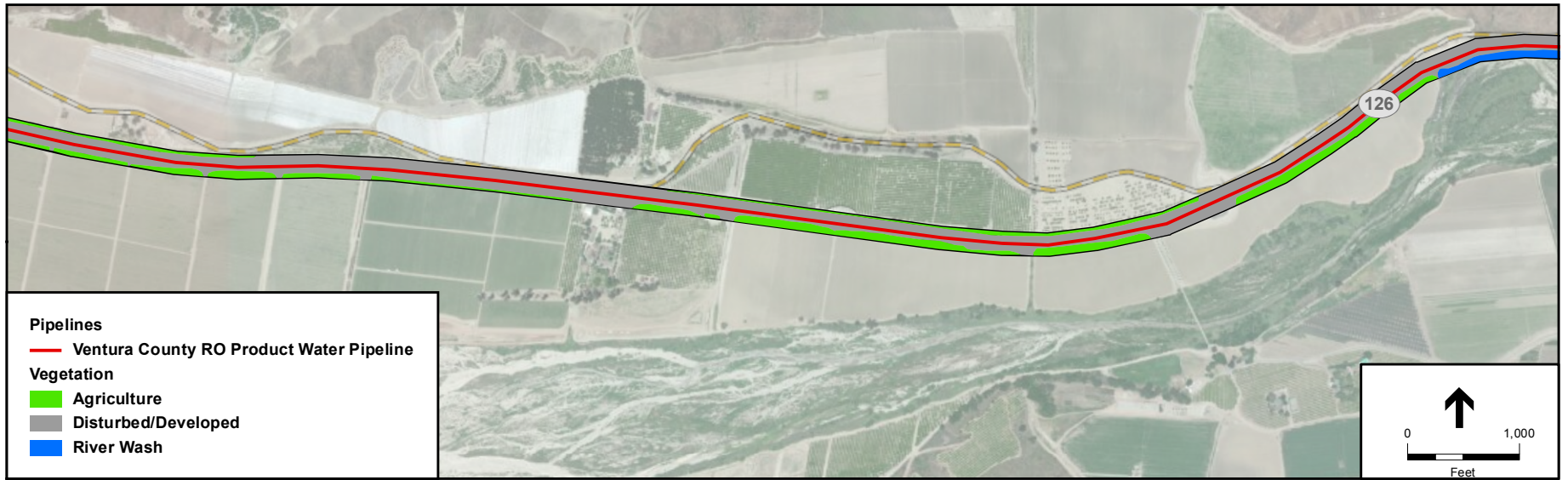
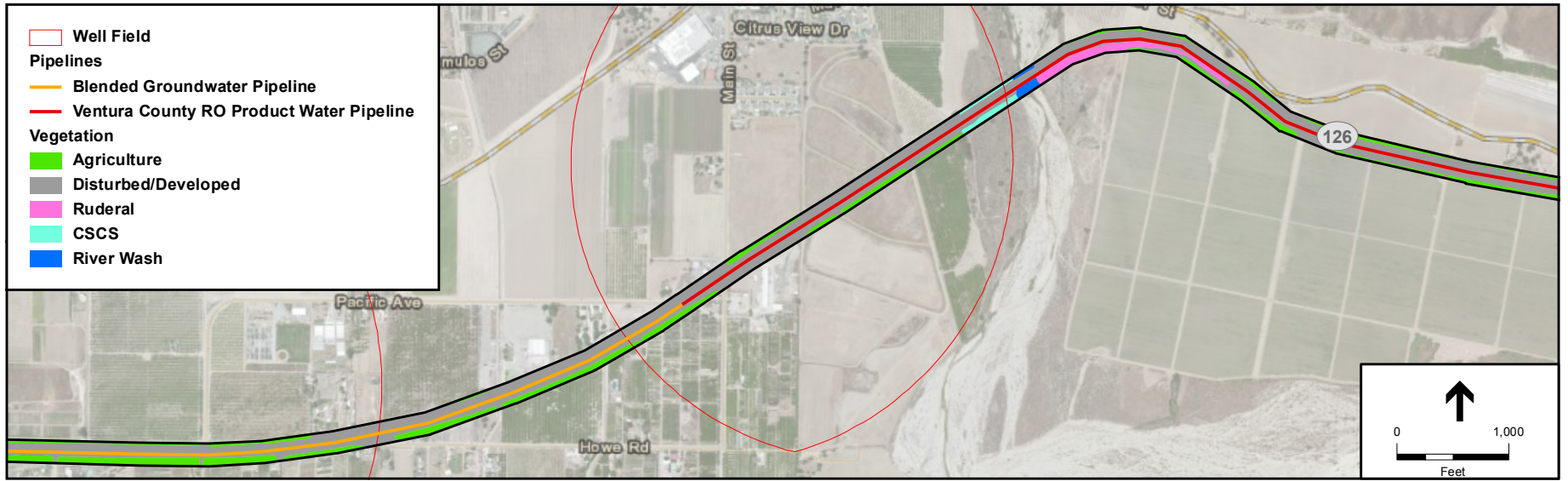
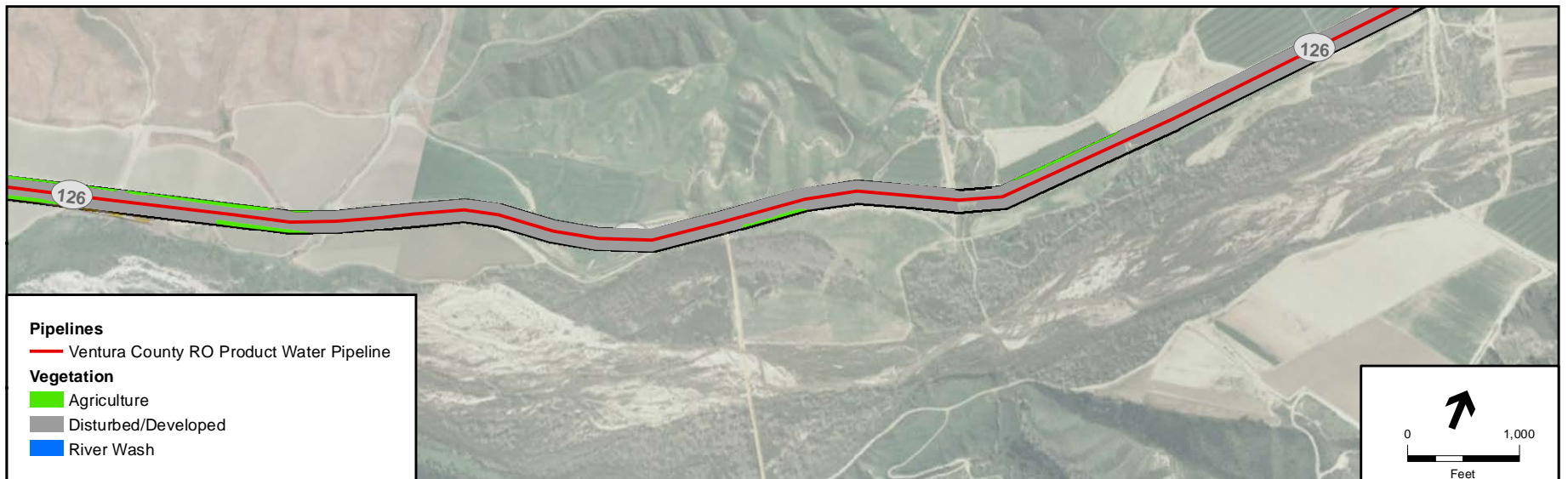
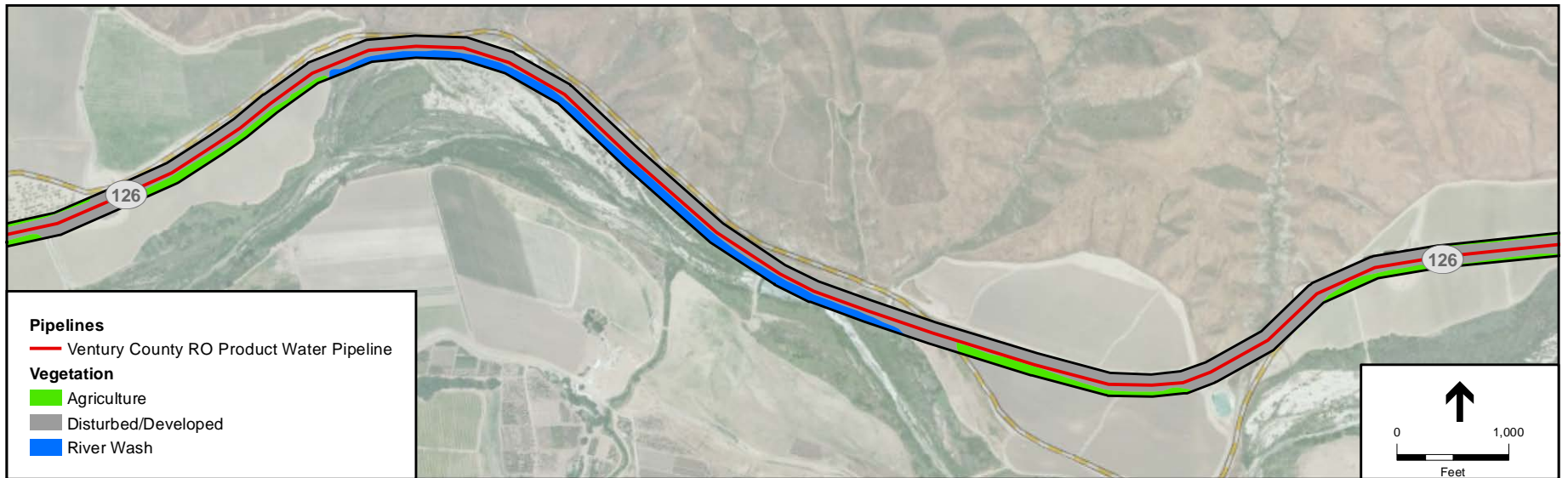


Figure 11-2b
Vegetation Along Pipeline Routes



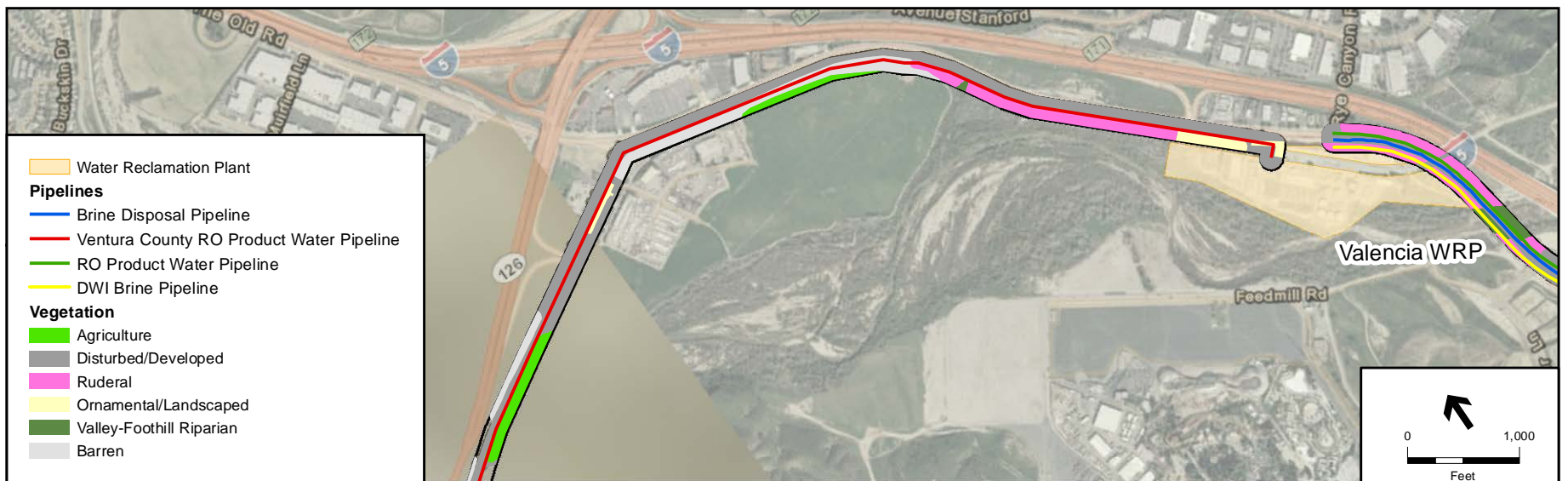
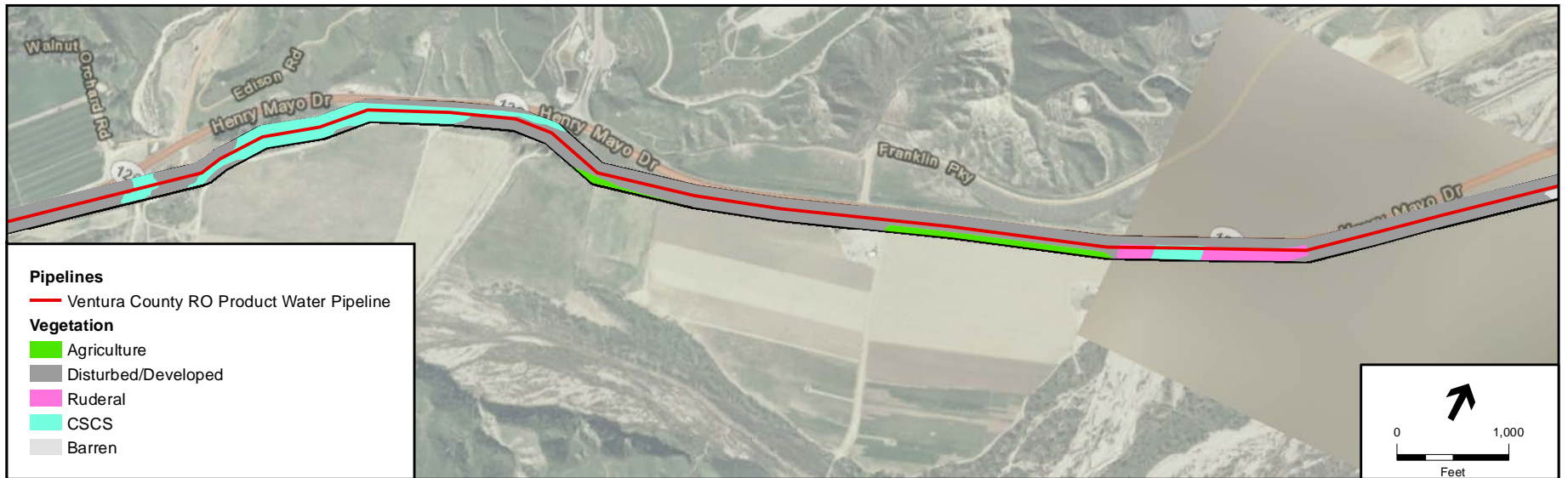


Figure 11-2d
Vegetation Along Pipeline Routes

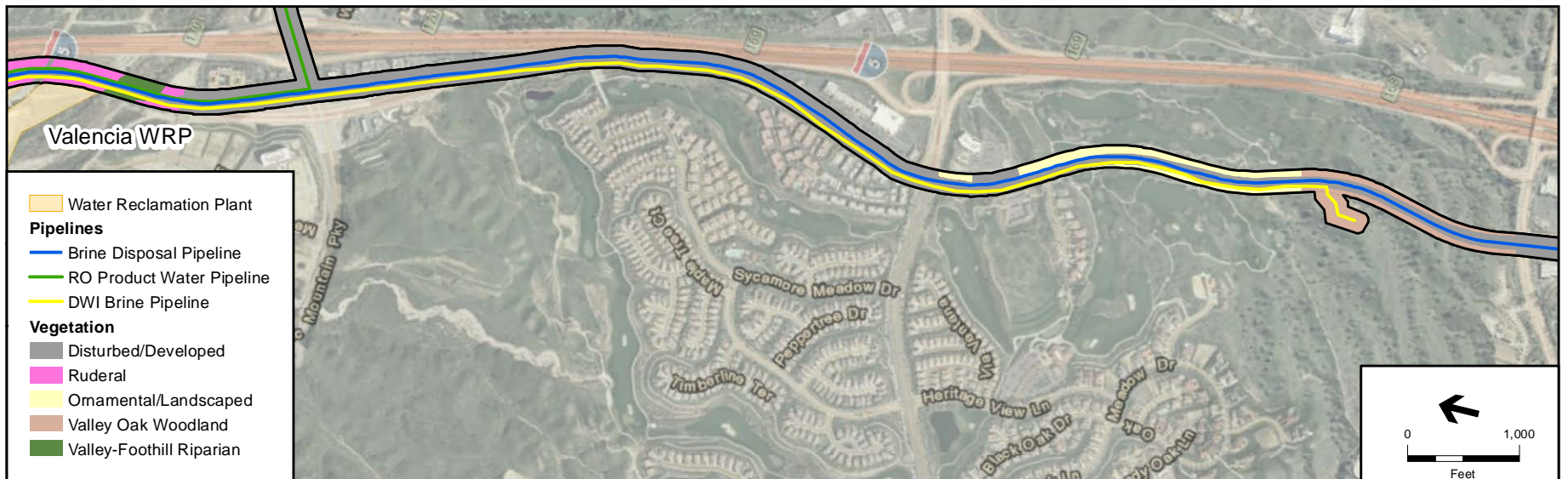
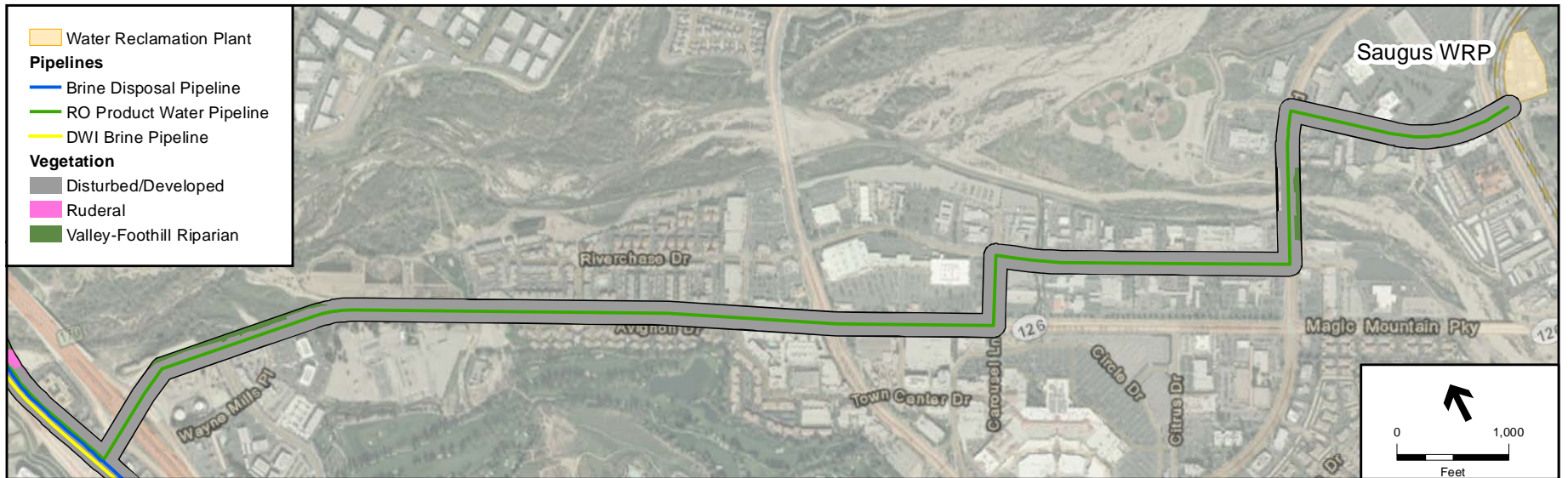
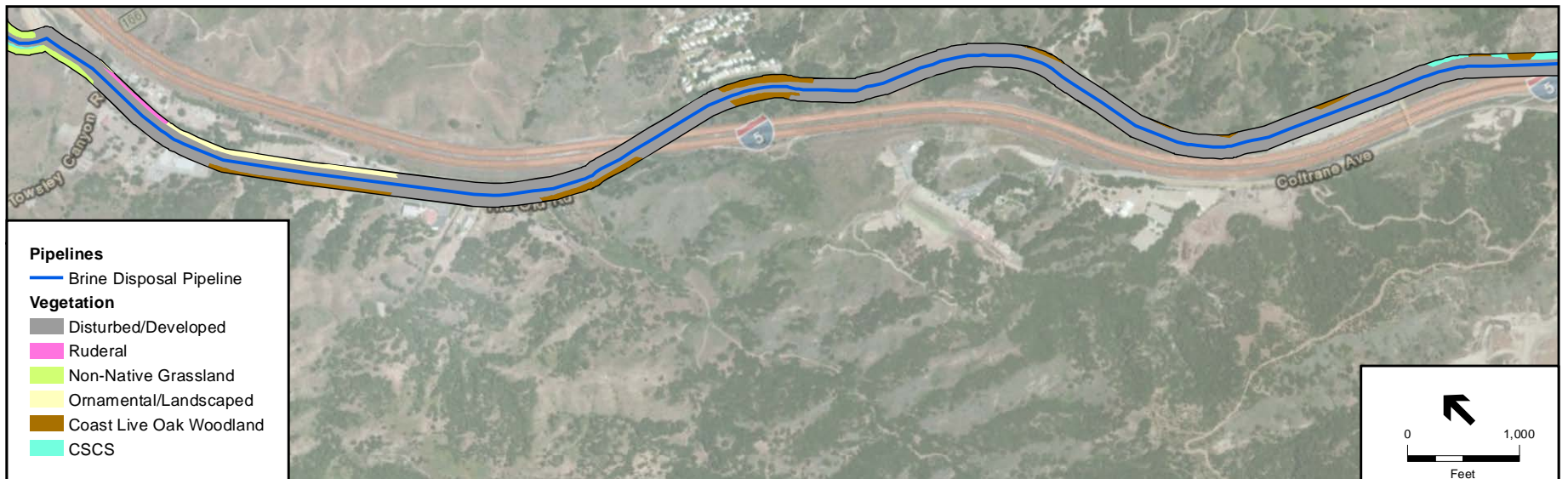
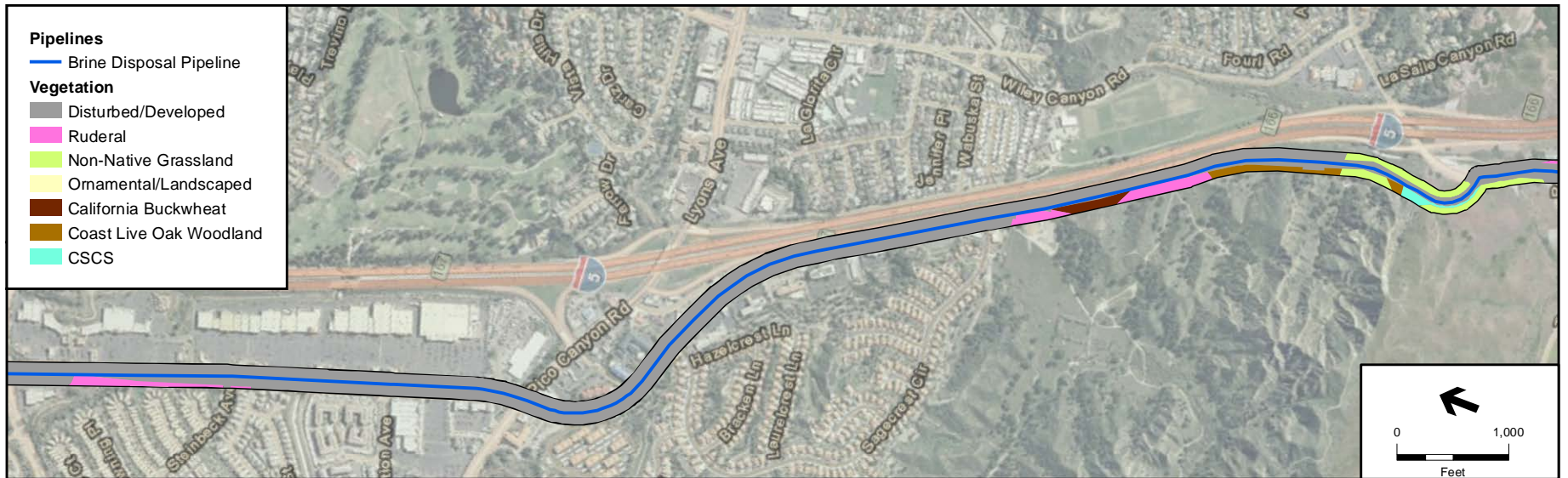


Figure 11-2e
Vegetation Along Pipeline Routes



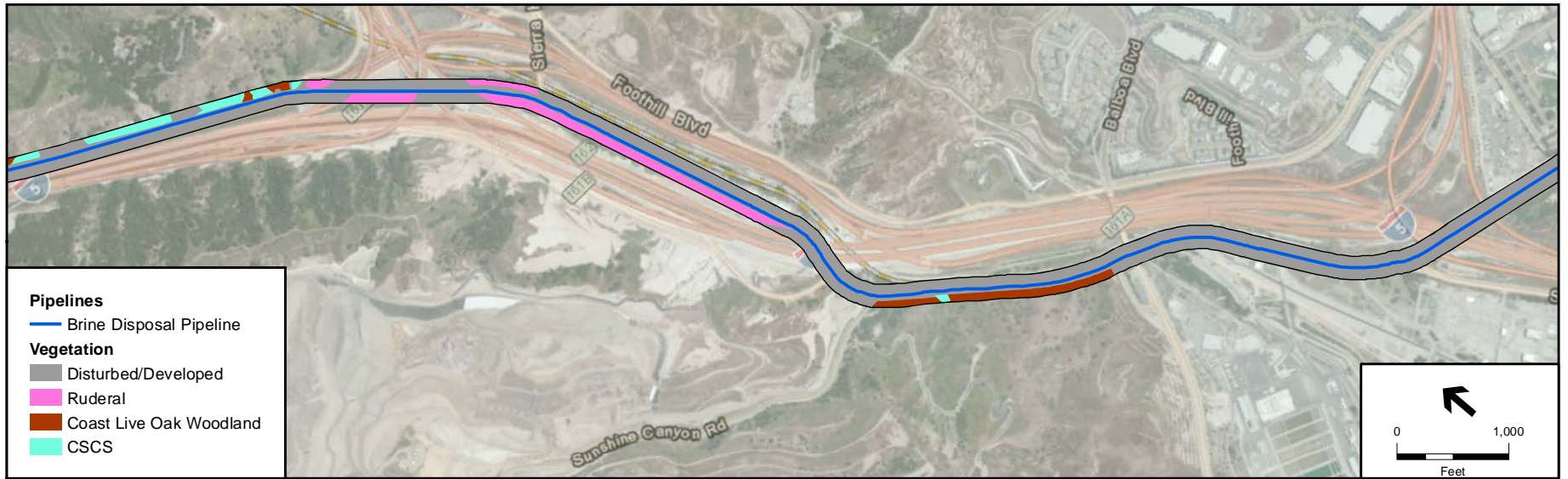


Figure 11-2g
Vegetation Along Pipeline Routes

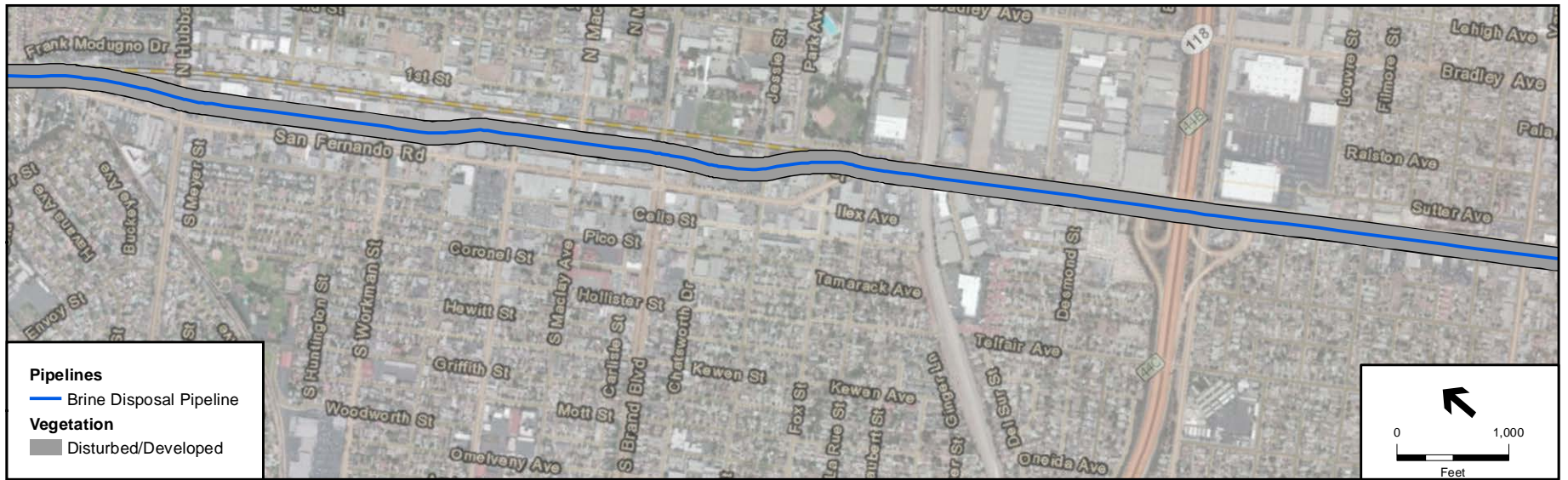
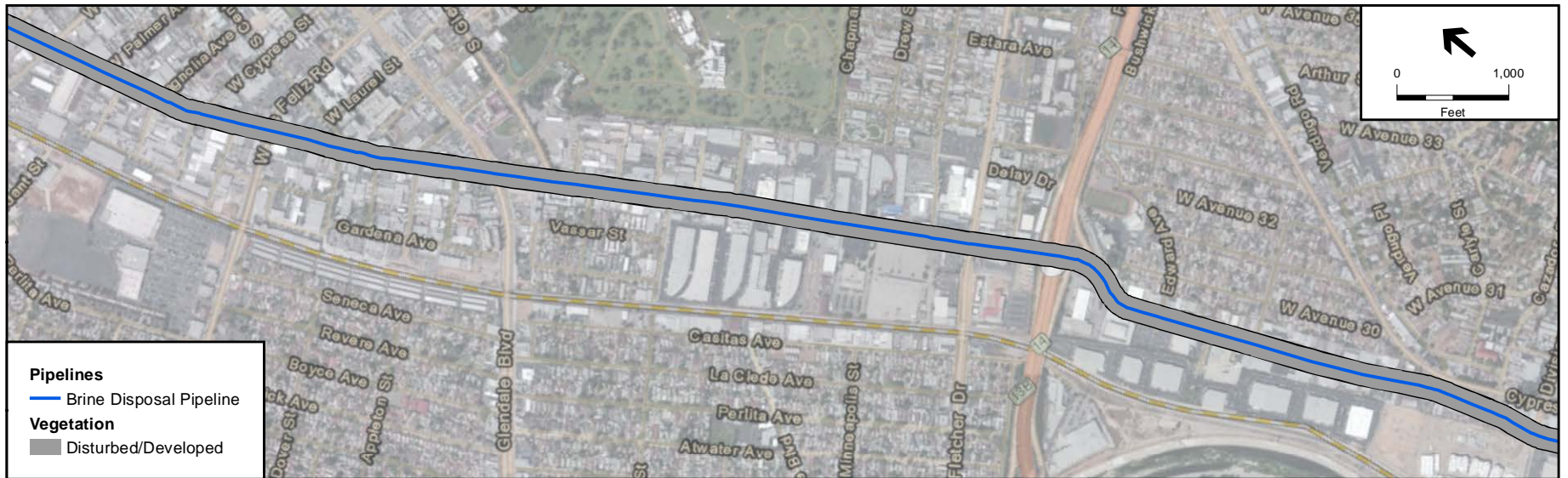


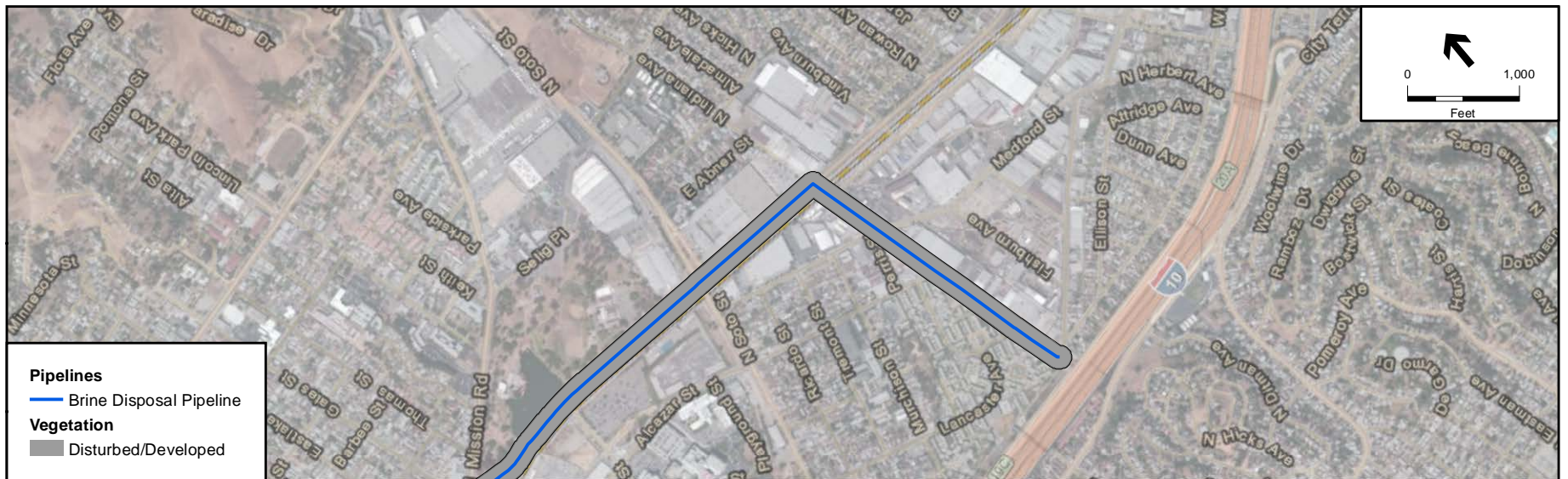
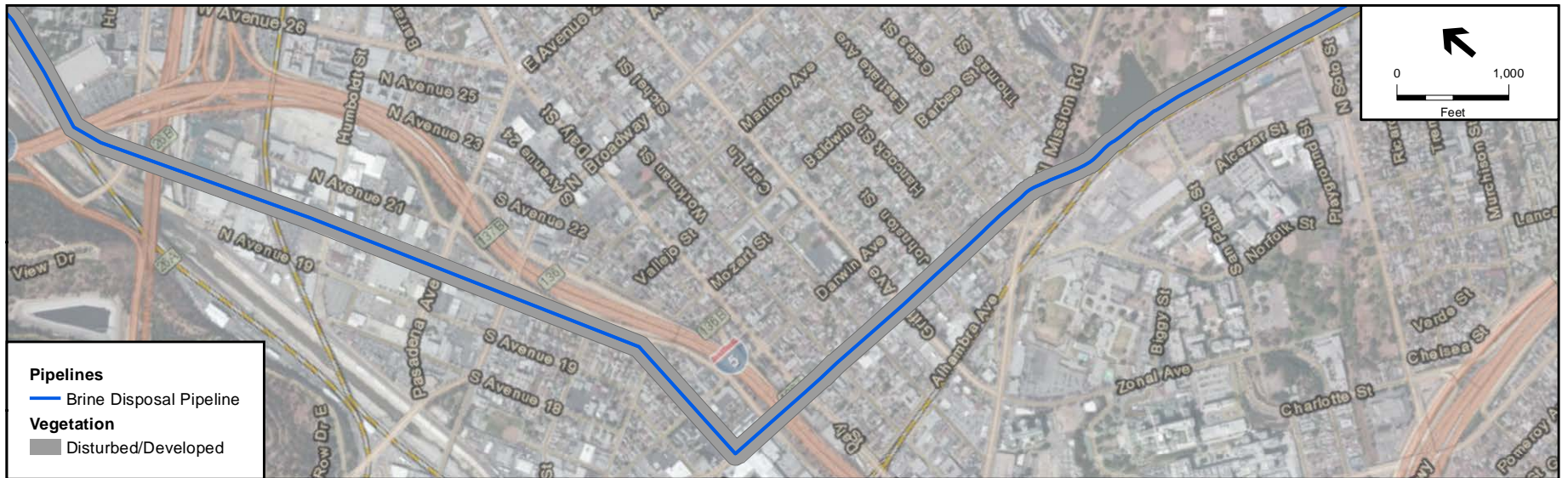
Figure 11-2h
 Vegetation Along Pipeline Routes





Santa Clarita Valley Sanitation District Chloride Compliance Facilities Plan and EIR
Figure 11-2j
 Vegetation Along Pipeline Routes





Santa Clarita Valley Sanitation District Chloride Compliance Facilities Plan and EIR
Figure 11-21
 Vegetation Along Pipeline Routes

11.4.2.1 Special-Status Species

Impact 11-1: The proposed project could 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 or USFWS.

Modifications to River Flows

Four aspects of the various project alternatives have the potential to change SCR flow and affect special-status species. First, support for municipal reuse of recycled water could result in a reduction in flow discharged by the WRPs to the SCR under each alternative. Second, addition of MF/RO facilities would result in production of a brine flow that would be properly disposed and not discharged to the river under Alternatives 1, 2, 3, and Phase II of Alternative 4. Third, discharge of groundwater pumped from the Piru Subbasin to the SCR (exclusively under Alternative 4) would increase the river's flow rate. Last, addition of supplemental water to treatment plant effluent would increase the discharge from the VWRP to the SCR (exclusively under Alternative 4).

Each alternative includes support for increased municipal reuse of the recycled water produced by the VWRP and SWRP. Currently, the WRPs produce tertiary-treated recycled water that can be applied to municipal and industrial applications in accordance with Title 22 of the California Code of Regulations and California Department of Public Health requirements. Castaic Lake Water Agency (CLWA), the local water purveyor, has identified demand for recycled water in its service area of 17,400 acre-feet per year by the year 2030. The proposed project would provide CLWA with recycled water to meet projected future demand to the extent practicable, potentially resulting in a reduction of recycled water discharges to the SCR depending on how quickly reuse demand grows relative to overall growth in wastewater flow. The potential for this reduced discharge to affect aquatic and riparian species is evaluated in the Reduced Discharge Technical Study (ESA 2010), included as Appendix 6-A. These potential effects to aquatic species are summarized below.

In addition, under Alternatives 1, 2, 3, and Phase II of Alternative 4, the MF/RO facilities would produce 0.4 to 0.6 mgd of brine on a peak basis and 0.3 to 0.5 mgd on an average basis. Regardless of the brine disposal method selected, the brine would not reach the SCR. Therefore, RO facilities at the VWRP would result in a small decrease in VWRP discharge to the SCR.

As discussed in Section 16, Alternative 4 includes discharge of up to 30 million gallons per day (mgd), or approximately 45 cubic feet per second (cfs), into the SCR west of the Fillmore Fish Hatchery. Assuming an average annual flow of 111 cfs in this portion of the SCR, this discharge would result in about a 40 percent increase compared to the average annual flow rate. During low flow periods, this volume of discharge could represent over 90 percent of the water in the river (AMEC 2012, Figure 17).

With the supplemental water component of Alternative 4, low chloride groundwater would be blended with tertiary-treated wastewater at the VWRP to achieve a blend that meets the Chloride TMDL discharge limit at the VWRP. Supplemental water volumes are expected to peak at 6.0 mgd during drought and 0.4 mgd during other times. On average, 1.7 mgd of supplemental water is expected to be needed. Use of supplemental water would increase the discharge from the VWRP.

The potential for these flow modifications to affect aquatic species is discussed in the following paragraphs. Conclusions on impact significance and mitigation measures are completed in the subsequent analysis for each alternative.

Unarmored Threespine Stickleback

The unarmored threespine stickleback is found upstream of the Piru dry gap and downstream of the points where the SWRP and VWRP discharge. The WRPs began discharging about 50 years ago and flows have generally increased to the 2010 average flow rates of 14.5 and 5.0 mgd for the VWRP and SWRP, respectively. Therefore, stickleback have historically survived on the natural river discharges without any WRP contribution. An average discharge of 8.5 mgd from the VWRP and 4.5 mgd from the SWRP would result in conditions similar to FY 1991-92 when the combined discharge from the VWRP and SWRP was approximately 13.4 mgd on an annual average basis. While a reduction to this level could alter habitat availability/structure in certain locations, the reduction would not be expected to result in adverse impact to stickleback populations in the USCR based on a remaining flow higher than historic levels that have supported these species in the past.

River flows upstream of the VWRP are sufficient to support a healthy population of unarmored threespine stickleback with an average flow of 4.5 mgd from the SWRP. These flows are generally less than 10 cfs during the low flow season (compared to approximately 25 cfs immediately downstream of the VWRP). This demonstrates that in-stream flows of 10 cfs are sufficient to sustain unarmored threespine stickleback populations downstream of the VWRP.

Reducing the discharge from the VWRP to an average of 8.5 mgd (12 cfs) would reduce water depth in the river channel during low flow conditions by approximately 1 to 2 inches within at least the first mile downstream. Accordingly, the width of the wetted channel(s) also would be reduced during low flow periods, but suitable shallow edge habitat would not be eliminated. The variability of channel geometry along the length of the channel suggests that where a reduction in channel depth alters fish habitat in some areas, suitable habitat would remain in other areas of the river channel. This applies to the shallower edge habitat preferred by the unarmored threespine stickleback.

As shown in the Technical Study (Appendix 6-A), the discharges from the VWRP and SWRP fluctuate throughout the day under current conditions. Instantaneous flows as low as 5.0 mgd at the VWRP were observed for a period of up to 1 hour in the morning due to routine maintenance. Non-routine maintenance activities may reduce instantaneous discharges even lower for short periods of time. These existing conditions would not change under the proposed project.

The Technical Study acknowledges the daily fluctuations at the VWRP and concludes that maintaining a minimum instantaneous discharge similar to existing conditions of 5.0 mgd at the VWRP would ensure flow sufficient to support the unarmored threespine stickleback. Instantaneous flows from the SWRP are less critical for supporting fish since the discharge percolates underground, joins groundwater, and re-surfaces downstream of the McBean Dry Gap, where the fluctuations in the SWRP discharge flows cannot be detected.

The Technical Study concludes that based on the work completed to date, average flows of 8.5 mgd and 4.5 mgd at the VWRP and SWRP, respectively, would be sufficient to support the unarmored threespine stickleback as long as a minimum flow from the VWRP of 5.0 mgd is maintained. Additional studies would be required to support discharges consistently lower than these averages.

Discharge of water from the blended groundwater pipeline at the Fillmore Fish Hatchery would not affect the stickleback because the fish hatchery is located downstream of the Piru dry gap, while the unarmored threespine stickleback is confined to the area upstream of the dry gap.

Arroyo Chub and Santa Ana Sucker

Both the arroyo chub and the Santa Ana sucker, although designated species of special concern by the State of California, are thought to be introduced species in the SCR. The SCR population of both species is not listed as threatened or endangered under either the state or FESA. However, the SCR population of the Santa Ana sucker could be critical to the recovery of the species.

The arroyo chub could be affected by both the reduction in discharge from the WRPs and the increase in discharge at the VWRP due to supplemental water and at the Fillmore Fish Hatchery. The arroyo chub is a generalist and is not confined to any specific stream geometry. While the reduction from the WRPs could alter habitat availability/structure in certain locations, the reduction would not be expected to result in adverse impact to the arroyo chub populations in the USCR. Arroyo chubs generally breed during March and April, and spawning typically occurs in pools in association with aquatic vegetation. The discharge to the SCR at either the VWRP or the fish hatchery would alter the river channel, but would not eliminate arroyo chub habitat. Variably sized pools would remain that could be used by this species for foraging and breeding.

As described in the unarmored threespine stickleback discussion, a discharge reduction to 8.5 mgd (12 cfs) from the VWRP would reduce water depth in the river channel by 1 to 2 inches during low flow conditions. The variability of channel geometry along the length of the channel suggests that where a reduction in channel depth alters fish habitat in some areas, suitable habitat would still remain in other areas of the river channel. This applies to the deeper channels preferred by the Santa Ana sucker. While the discharge reduction could alter habitat availability/structure in certain locations, the reduction would not be expected to result in adverse impact to the Santa Ana sucker populations in the USCR. Santa Ana suckers are found in small to medium sized streams, usually less than 23 feet (7 meters) in width, with depths ranging from a few inches to over several feet. The addition of 30 mgd would increase the width and depth of the river channel. Although the additional water would alter the river segment, suitable habitat would remain to support this species.

Pacific Lamprey

Pacific lamprey are known to occur in the SCR downstream of the Fillmore fish hatchery. A discharge of 30 mgd into the SCR could alter the habitat conditions in the segment of the river between fish hatchery and the Freeman Diversion. The Pacific lamprey is anadromous and depends on seasonal natural flows to migrate upstream for spawning as well as emigration to the ocean where the Pacific lamprey lives as an adult. The Vern Freeman Diversion Dam is a major impediment to any upstream migration of this species. Since the additional water would be diverted at the Freeman Diversion, the segment of river below the Vern Freeman Diversion Dam would not change from existing conditions. Therefore, the discharge of 30 mgd into the SCR would not adversely affect the life cycle of the Pacific lamprey.

Southern California Steelhead

The SCR has been identified by NMFS as a high priority stream for steelhead for recovery (NMFS 2012). According to the Recovery Plan, the Critical Recovery Action in the SCR is to:

Implement operating criteria to ensure the pattern and magnitude of groundwater extractions and water releases, including bypass flows around diversions, from Vern Freeman Diversion, Santa Felicia, Pyramid, and Castaic dams provide the essential habitat functions to support the life history and habitat requirements of adult and juvenile steelhead. Physically modify Vern Freeman Diversion, lower Santa Paula Creek flood control channel, Harvey Diversion, Santa Felicia, and Pyramid dams to allow steelhead natural rates of migration to upstream spawning and rearing habitats, and passage of smolts and kelts downstream to the estuary and ocean.

One of the recovery objectives for steelhead is to increase abundance of steelhead, including the expression of all life history forms and strategies. Changes to natural flow regimes may impact steelhead populations through changes to stimuli used for timing of upstream and downstream migrations, dewatering of redds, displacement of fry or juveniles, scouring of spawning gravels, and changes to the quality and quantity of habitat for different life stages (NMFS 2013).

Currently, the steelhead population in the SCR is very small due, in large part, to in-stream impediments, such as the Vern Freeman Diversion Dam, flow diversions, and other factors. The primary constraints to recovery for the steelhead are in-stream impediments and flow diversions. The entire river channel and tributaries are designated critical habitat for the species. Some spawning may be occurring in the tributary streams and some upstream migration may be occurring, but the population is minimal.

Arroyo Toad

The amount of flow and velocity within the SCR may have a significant effect on arroyo toad egg deposition in side channels. Breeding sites are typically found in shallow water or in side channels or open shorelines, and eggs are usually deposited in shallow pools. Velocity below 5 centimeters per second is important for successful egg deposition and creates an optimal environment for larval development. Arroyo toads are habitat specialists primarily located in 3rd to 6th order floodplains that support dynamic fluvial processes providing open riparian habitats (Sweet 1992). Large winter flood regimes are important for sedimentary transport and rejuvenation processes that maintain open foraging and breeding habitat with open terraces and sand/gravel flats. These periodic flood flows create channel types that support elevated alluvial terraces, and level pool formation with sand and gravel substrates. Intermediate flows also appear important in providing sand deposition into pools after scour events.

Sediment transport is a particularly important process for maintaining breeding pool morphology. Substrate deposition of sand and fine gravels generally occurs during low to medium velocity flows, and can result in increased channel widths and banks. High velocity flows can adversely affect pool morphology when sedimentation is low, but can benefit overall creek morphology by reducing vegetative encroachment.

A reduction in the WRP discharge and a commensurate reduction in river flows may reduce the size and abundance of pools suitable for arroyo toad breeding. However, the river segments studied in the Technical Study (ESA 2010) appear to support an extremely limited arroyo toad population at most, based on recent field surveys and known historical geographic distribution. In addition, annual low flows have historically been much lower. Reduced discharges would not likely have a measurable negative effect on the arroyo toad in the USCR. The arroyo toad initiates breeding during late February or early March, when river flows and geometry are dominated by storm flows, and continues into early summer. Reduced discharges would not affect flood flows or affect conditions that are established by storm flows during spring and early

summer that support breeding pools for the arroyo toad. Reduced discharges would have the greatest potential effect on river hydrology during late summer and early fall, when aestivation begins and toads burrow into the ground or stream channel. In general, maintaining flows sufficient to support riparian areas and consistently wet channel banks would minimize potential effects.

Western Pond Turtle

Western pond turtle are dependent on riparian habitat. Suitable aquatic habitat for western pond turtle consists of standing and/or slow-moving water, which typically occurs in off-channel areas, such as side channels and backwater areas. Hatchlings spend much of their time in shallow water and juveniles prefer lower water flow. The increase in flow and velocity within the SCR from the proposed project would alter existing conditions but would not eliminate suitable habitat for this species.

Least Bell's Vireo, Two-Striped Garter Snake, and Yellow Warbler

The least Bell's vireo, two-striped garter snake, and yellow warbler are species that are dependent on riparian habitat. Due to the dynamic fluvial processes in response to stormwater flows that are constantly rearranging habitat conditions, riparian scrub and woodland vegetation types are expected to continually persist in randomly shifting patterns throughout the river. Even if discharges are reduced to historically low levels, the loss of potentially suitable habitat is expected to be negligible because of the dependence of riparian habitat on stormwater flows rather than discharges from the WRPs. As a result, reduced discharges from the WRPs would not significantly affect riparian habitat or sensitive species that are supported by riparian habitat.

Increased flow in the SCR from discharge of blended groundwater at the Fillmore fish hatchery would potentially increase the riparian habitat by supplying more water for vegetation. It is likely that some areas of the river would develop slightly deeper, faster moving water; however, side channels with shallower, slower moving water would still be present.

Riparian Habitat

As summarized in the Reduced Discharge Technical Study (ESA 2010), reduced discharges from the WRPs would not significantly affect riparian habitat or sensitive plant species that are supported by riparian habitat. Increased flows in the SCR due to discharge of blended groundwater could help develop additional riparian habitat, which would increase the area available to these species.

Alternative 1 – MF/RO With Brine Disposal via Pipeline

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the potential UV disinfection facilities at the VWRP and/or SWRP are described in Section 6.7.1. The construction of the MF/RO and UV disinfection facilities would occur within the boundaries of existing industrial facilities and would not include the removal of any trees, vegetation, or wildlife habitat. The proposed project sites are either paved or are disturbed by the current operations of the facilities. There is no habitat currently present onsite to support any potentially occurring special-status species (plant or animal). The construction of the MF/RO and UV disinfection facilities would not include any

components outside of the existing WRP properties that would impact any offsite habitats or special-status species. Impact would be less than significant.

River flow is highly variable over an annual period and the riverbed morphology is controlled by the higher stormwater flows that reshape the course of the river channels. During non-storm periods, the discharges from the WRPs have a direct effect on river flow immediately downstream of the discharge points. This influence decreases with distance from the discharge points.

During the driest periods of the year, the discharges from the VWRP and SWRP contribute between 75 and 100 percent of the flow immediately downstream of the WRPs. Although discharges from the WRPs have increased steadily over time, seasonal low flow at the two downstream U.S. Geological Service gages have remained consistent, suggesting that dry season flows downstream of the VWRP are influenced more by other sources than by the WRPs' discharges. Therefore, reduced discharges from the WRPs would not result in appreciable reductions in river flow after the first few miles downstream.

During the lowest periods of the dry season, river flows just downstream of the VWRP discharge point are mostly comprised of the VWRP discharge (22 cfs when discharging 15.5 mgd) with additional contributions from upstream flows of less than 10 cfs. Assuming a conservative upstream contribution of 3 cfs, the river flow below the VWRP would be approximately 25 cfs. Under this condition, an average discharge of 8.5 mgd (12 cfs) from the VWRP would result in river flows of 15 cfs. This reduction would lower water depth downstream by about two inches. This discharge rate is similar to the annual average discharge rate that occurred at the VWRP in the mid-1990s and higher than the rates experienced historically (prior to the 1990s).

River flows immediately downstream of the SWRP during the dry season are mostly comprised of WRP discharge. Downstream of the SWRP at the McBean Dry Gap, the SCR water goes underground. Water upwells downstream of this dry gap at a steady rate and there is no sign of flow variability due to the fluctuations in the SWRP daily discharge. Studies completed to date have not identified how much of the upwelling is caused by SWRP discharges versus other sources. Consequently, the SWRP Reduced Discharge Analysis (ESA 2010) concluded that the minimum discharge from the SWRP should be an average rate of 4.5 mgd. This is 0.5 mgd, or 10 percent, less than the average SWRP flow in 2009. A lower minimum flow might be deemed safe upon additional investigation.

Operation of the additional facilities at the VWRP and SWRP, along with support for increased water reuse, would result in a decrease in discharges to the SCR. Species that could be affected by lower flows downstream of the WRPs are the unarmored threespine stickleback, arroyo chub, Santa Ana sucker, arroyo toad, and western pond turtle. However, sufficient habitat would remain for these species with minimum flows of 8.5 and 4.5 mgd from the VWRP and SWRP, respectively. Species dependent on riparian habitat, such as the least Bell's vireo, two-striped garter snake, yellow warbler, Nevin's barberry, San Fernando Valley spineflower, and slender-horned spineflower would not be affected because stormwater flows control the course of the river channels, not the WRP discharges. Impact would be less than significant.

RO Product Water Conveyance System

The RO product water conveyance system facilities are described in Section 6.7.1. The construction of the pump station for this system would be entirely within the VWRP and would not include removal of any trees, riparian vegetation, or habitat. Construction of the RO product

water pipeline would have a short-term impact associated with trenching and installation of the pipeline within public ROW to the maximum extent practicable. Once constructed, the roadway would be restored to pre-construction conditions. Impact would be less than significant.

The bird species that would be expected to nest within the adjacent vegetation along the RO product water pipeline alignment are better adapted to urban environments, because the proposed project site is situated within an urban setting. However, construction could occur near native habitat, where birds are less adapted to noise from human activities such as construction. As a result, any construction activities (trenchless technology and/or hanging the pipe from the bridge) in the vicinity of the SCR crossing within the bird nesting period (typically February 1 through August 31) would potentially impact nesting birds. The loss or abandonment of nests of common bird species as a result of construction-related activities is considered a potentially significant impact and would conflict with state and federal laws. Mitigation Measure BIO-1 would require preconstruction surveys to identify the presence of breeding and nesting birds and avoidance measures to prevent impact to breeding birds and their nests if construction is proposed during the bird nesting season (typically February 1 through August 31). Implementation of Mitigation Measure BIO-1 would reduce the impact to a less than significant level.

Several special-status plant species, including Nevin's barberry, Plummer's mariposa lily, San Fernando Valley spineflower, slender mariposa lily, and slender-horned spineflower are known to occur in the vicinity of the RO product water pipeline alignment. However, none of these species are expected to occur in the developed areas of the ROW where the RO product water pipeline alignment would be constructed. The operation of the RO product water conveyance system would not include any component that would impact special-status plant species. Impact would be less than significant.

Brine Disposal System (Pipeline to JOS)

The brine disposal system facilities are described in Section 6.7.1. The construction of the VWRP brine disposal pipeline pump station would be entirely within the plant footprint and would not include removal of any trees, riparian vegetation, or habitat. The brine disposal pipeline would be built within public ROW to the maximum extent practicable, thereby avoiding direct impact to plant or wildlife species. An indirect impact from construction of the pipeline is not anticipated to be appreciably greater than disturbances that currently exist from urbanization, local traffic, and nearby freeways. Impact would be less than significant.

Portions of the brine disposal pipeline alignment are adjacent to open space with native habitat that could be used by breeding birds. In some areas, existing traffic noise along the brine disposal pipeline alignment or adjacent freeway would be equivalent or greater than the disturbance from the proposed project construction. However, in less traveled areas, brine disposal pipeline construction could generate a higher level of disturbance that could impact nesting birds not accustomed to that level of disturbance. The removal of active nests or harassment of a breeding bird is protected and disturbance would result in a significant impact. Implementation of Mitigation Measure BIO-1 would reduce the impact to a less than significant level. The operation of the brine disposal system would not include any component that would impact special-status species. No impact would occur.

Several special-status plant species, including Nevin's barberry, Plummer's mariposa lily, San Fernando Valley spineflower, slender mariposa lily, and slender-horned spineflower are known to occur within undisturbed, suitable habitats found in the vicinity of the pipeline alignment. However, none of these species are expected to occur in the developed areas of the public ROW

where the pipeline alignment would be placed. The operation of the brine disposal system would not include any component that would impact special-status plant species. Impact would be less than significant.

Impact Summary

The construction of the RO product water pipeline and brine disposal pipeline for Alternative 1 would have a substantial adverse effect on nesting birds. Implementation of Mitigation Measure BIO-1 would mitigate the impact to a less than significant level. The operational impact would be less than significant.

Mitigation Measures: Implement BIO-1.

Mitigation Measure BIO-1: Preconstruction Breeding Bird Surveys. If construction of select pipeline segments is within or immediately adjacent to native vegetation during the bird nesting period (typically February 1 through August 31), preconstruction surveys for nesting/roosting bird species shall be conducted by a qualified biologist no more than 5 days prior to the start of construction. The select pipeline segments consist of those that are within or adjacent to Los Angeles County Significant Ecologic Area Nos. 23 and 64, the portion of The Old Road between Calgrove Boulevard and Sierra Highway, the blended groundwater pipeline between State Route 126 and the outfall at the Santa Clara River bank, and any blended groundwater pipeline construction activity within 100 feet of the Santa Clara River. The preconstruction surveys shall be limited to areas of native habitat located directly adjacent to and extending up to 500 feet from the construction area. The preconstruction surveys shall include species protected under the Migratory Bird Treaty Act, including raptors.

Active nest sites identified during the preconstruction surveys shall be avoided and a non-disturbance buffer zone established as determined by a qualified biologist. Buffer distances shall be 150 feet for common birds, 300 feet for special-status birds, and 500 feet for raptors. The size of individual buffers may be modified based on site-specific conditions and pre-existing disturbance levels (e.g., species-specific information; ambient conditions and birds' lines of sight between the project activities and the nest and foraging areas), as determined by a qualified biologist. Documentation of any buffer zone modifications shall be maintained and submitted to the Santa Clarita Valley Sanitation District (SCVSD). The buffer zone shall be delineated in the field with flagging, stakes, or construction fencing, and all clearing and grubbing activities shall remain outside the demarcated area. Nest sites shall be avoided until the adults and young are no longer reliant on the nest site for survival as determined by a qualified biologist.

Project personnel, including all contractors working on site, shall be instructed on the sensitivity of the area. Documentation of all surveys and recommended protective measures shall be maintained by the biologist and provided to the SCVSD on a regular basis.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 2 – MF/RO With Brine Disposal via DWI

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the potential UV disinfection facilities at the VWRP and/or SWRP would be the same as described for Alternative 1. Impact would be less than significant.

RO Product Water Conveyance System to SWRP

The RO product water conveyance system facilities would be the same as described for Alternative 1. Construction of the RO product water pipeline could cause removal of active nests or harassment of a breeding bird and result in a significant impact. Implementation of Mitigation Measure BIO-1 would reduce the impact to a less than significant level.

Brine Disposal System (DWI)

The brine disposal system facilities are described in Section 6.7.1. The DWI site would be located within an already disturbed area of valley oak woodland. The site would be adjacent to The Old Road and a flood control facility. The valley oak woodland provides habitat for several special-status species known to occur within this habitat in the region, including the following California Species of Special Concern: western spadefoot, coast horned lizard, silvery legless lizard, coastal western whiptail, loggerhead shrike, Cooper's hawk, pallid bat, and San Diego desert woodrat. This valley oak woodland could also support special-status plant species, such as Plummer's mariposa lily. Efforts are under way to create an oak tree preserve at this location. The DWI site is anticipated to be located in a previously disturbed area; however, if the DWI site is later proposed to be located in an area of undisturbed vegetation, then the proposed project could result in a significant impact to special-status species and/or sensitive natural communities (i.e., valley oak woodland). Implementation of Mitigation Measure BIO-2 would reduce the impact to a less than significant level. Furthermore, the removal of active bird nests or harassment of a breeding bird is protected and disturbance would result in a significant impact. Implementation of Mitigation Measures BIO-1 and BIO-2 would reduce the impact to a less than significant level.

The operation of the brine disposal system would not include any component that would impact special-status species. No impact would occur.

Impact Summary

The construction of the RO product water pipeline and DWI site for Alternative 2 would have a substantial adverse effect on oak trees, special-status species, and nesting birds. Implementation of Mitigation Measures BIO-1 for the RO product water pipeline and DWI site and BIO-2 for the DWI site would mitigate the impact to a less than significant level. The operational impact would be less than significant.

Mitigation Measures: Implement BIO-1 and BIO-2.

Mitigation Measure BIO-2: Special-Status Species Survey. If it is determined that the deep well injection site will be located in undisturbed native vegetation, a qualified biologist shall survey the site for special-status plant and wildlife species prior to ground disturbance. The preconstruction survey for wildlife shall occur no more than 1 year

before ground-disturbing activities within undisturbed native habitats to be considered valid. The rare plant surveys shall occur during the spring when plants are more easily identified and no more than 2 years before ground disturbing activities within undisturbed native habitats. The qualified biologist shall walk transects spaced 20 feet apart or at an appropriate distance to obtain 100-percent visual coverage within the area where disturbance may occur. No more than 2 weeks prior to construction, a biologist with a California Department of Fish and Wildlife Scientific Collection Permit shall capture and release terrestrial special-status species to nearby suitable habitat located outside of the construction limits. If a bat maternity roost is observed, a 500-foot “no disturbance” buffer shall be implemented around the roost and construction activities within the buffer shall be limited to daylight hours until the roost is determined by a qualified biologist to no longer be active.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 3 – MF/RO With Brine Disposal via Trucking

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the UV disinfection facilities at the VWRP and SWRP would be the same as described for Alternative 1. Impact would be less than significant.

RO Product Water Conveyance System to SWRP

The RO product water conveyance system facilities would be the same as described for Alternative 1. Construction of the RO product water pipeline could result in a significant impact. Implementation of Mitigation Measure BIO-1 would reduce the impact to a less than significant level.

Brine Disposal System (Trucking)

The brine disposal system facilities are described in Section 6.7.1. The truck loading terminal would be located north of the VWRP adjacent to the SCR and the truck unloading terminal would be located in the City Terrace area of Los Angeles County. The truck loading terminal would be located within an undisturbed area and the truck unloading terminal would be located in a paved industrial area. Field reconnaissance performed by ESA’s biologist in January 2013 determined that there are no special-status species within the proposed truck loading terminal footprint (ESA 2013). However, construction would occur adjacent to riparian vegetation that lines the SCR. As a result, any construction activities in the vicinity of the SCR within the bird nesting period (typically February 1 through August 31) would potentially impact nesting birds. The loss or abandonment of nests of common bird species as a result of construction-related activities is considered a potentially significant impact and would conflict with state and federal laws. Mitigation Measure BIO-1 would require preconstruction surveys to identify the presence of breeding and nesting birds and avoidance measures to prevent impact to breeding birds and their nests if construction is proposed during the typical bird nesting. Implementation of Mitigation Measure BIO-1 would reduce the impact to a less than significant level.

The operation of the brine disposal system (trucking) would occur along existing streets and would not have an effect on special-status species. No impact would occur.

Impact Summary

The construction of the RO product water pipeline and the truck loading terminal for Alternative 3 would have a substantial adverse effect on nesting birds. Implementation of Mitigation Measure BIO-1 would mitigate the impact to a less than significant level. The operational impact would be less than significant.

Mitigation Measures: Implement BIO-1.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 4 – Phased AWRM

Phase I

UV Disinfection Facilities

The UV disinfection facilities at the VWRP and SWRP would be the same as described for Alternative 1. Impact would be less than significant.

Salt Management Facilities

The salt management facilities are described in Section 6.7.1. The East Piru well field, which consists of 5 wells, a pump station, and a break tank, and the West Piru well field – which consists of 6 wells, 2 pump stations, and a break tank – would be constructed within areas previously disturbed by agricultural activities and would not impact special-status species. The extraction pipelines and blended groundwater pipeline would be constructed predominantly within the public ROW of SR-126 and existing dirt and gravel farm roads to the discharge location at the SCR, west of the Fillmore Fish Hatchery. The construction of the salt management facilities would be within agricultural lands and on disturbed roadways. However, construction could occur adjacent to riparian vegetation that lines the SCR. As a result, any construction activities near the SCR within the bird nesting period (typically February 1 through August 31) would potentially impact nesting birds. Implementation of BIO-1 would reduce the impact to a less than significant level.

As discussed in Section 16, Alternative 4 includes discharge of up to 30 mgd, or approximately 45 cfs, into the SCR west of the Fillmore Fish Hatchery. Assuming an average annual flow of 111 cfs in this portion of the SCR, this discharge would result in about a 40 percent increase compared to the average annual flow rate. During low flow periods, this volume of discharge could represent over 90 percent of the water in the river (AMEC 2012, Figure 17).

Based on available literature on the life cycle of southern California steelhead and their susceptibility to alterations of the natural flows within the SCR, the impact associated with the persistent discharge of 30 mgd, a surface flow increase of about 40 percent compared to the average annual flow rate and over 90 percent during low flow periods, would modify the natural habitat within the SCR in the segment between the Fillmore Fish Hatchery and the Freeman Diversion. This additional flow could result in a significant impact to the southern California steelhead habitat.

Currently, the steelhead population in the SCR is very small due, in large part, to in-stream impediments, such as the Vern Freeman Diversion Dam, flow diversions, and other factors. The

primary constraints to recovery for the steelhead are in-stream impediments and flow diversions. The entire river channel and tributaries are designated critical habitat for the species. Some spawning may be occurring in the tributary streams and some upstream migration may be occurring, but the population is minimal. The proposed project discharges would not affect the critical portions of the SCR important to steelhead life cycle stages such as the estuary and upstream tributary spawning grounds. Because the water flow would be diverted at the Freeman Diversion, the habitat below the Vern Freeman Diversion Dam would not be changed from existing conditions, nor would flows in the tributaries be altered. As discussed above, this new discharge could affect California steelhead. Implementation of Mitigation Measures BIO-3 would ensure that the discharge did not significantly affect this species or interfere with its recovery.

If arroyo toads are utilizing the segment of the SCR between the Fillmore Fish Hatchery and the Freeman Diversion, the increased flow associated with the blended groundwater discharge could adversely affect breeding and aestivating habitat. Implementation of Mitigation Measures BIO-4 would ensure that the discharge did not significantly affect this species or its habitat.

Supplemental Water System

The supplemental water system facilities are described in Section 6.7.1. The supplemental water pipeline would be constructed within the ROW of The Old Road to the maximum extent practicable. Construction of the supplemental water pipeline would have a short-term impact associated with trenching and installation of the pipeline within public ROW to the maximum extent practicable. Once constructed, the roadway would be restored to pre-construction conditions. Impact would be less than significant.

The bird species that would be expected to nest within the adjacent vegetation along the supplemental water pipeline alignment are better adapted to urban environments, because the proposed project site is situated within an urban setting. However, construction could occur near native habitat, where birds are less adapted to noise from human activities such as construction. As a result, if any construction activities (trenchless technology and/or hanging the pipe from the bridge) take place in the vicinity of the SCR crossing within the bird nesting period (typically February 1 through August 31), these activities would potentially impact nesting birds. The loss or abandonment of nests of common bird species as a result of construction-related activities is considered a potentially significant impact and would conflict with state and federal laws. Mitigation Measure BIO-1 would require preconstruction surveys to identify the presence of breeding and nesting birds and avoidance measures to prevent impact to breeding birds and their nests if construction is proposed during the bird nesting season (typically February 1 through August 31). Implementation of Mitigation Measure BIO-1 would reduce the impact to a less than significant level.

Several special-status plant species, including Nevin's barberry, Plummer's mariposa lily, San Fernando Valley spineflower, slender mariposa lily, and slender-horned spineflower are known to occur in the vicinity of the supplemental water pipeline alignment. However, none of these species are expected to occur in the developed areas of the ROW where the supplemental water pipeline alignment could be constructed. The operation of the supplemental water conveyance system would not include any component that would impact special-status plant species. Impact would be less than significant.

During operation of the supplemental water system, up to an additional 6 mgd of water could be released at the VWRP. This amount of water is about 40 percent of the existing plant effluent rate of 14.5 mgd. Species that could be affected by higher flows downstream of the VWRP are

the unarmored threespine stickleback, arroyo chub, Santa Ana sucker, arroyo toad, and western pond turtle. Increasing the discharge from the VWRP would increase water depth in the river channel within at least the first mile downstream. Accordingly, the width of the wetted channel(s) also would be increased, but suitable shallow edge habitat would not be eliminated. The variability of channel geometry along the length of the channel suggests that where an increase in channel depth alters fish habitat in some areas, suitable habitat would remain in other areas of the river channel. This applies to the shallower edge habitat preferred by the unarmored threespine stickleback. Species dependent on riparian habitat, such as the least Bell's vireo, two-striped garter snake, yellow warbler, Nevin's barberry, San Fernando Valley spineflower, and slender-horned spineflower would not be affected because stormwater flows control the course of the river channels, not the WRP discharges. Impact would be less than significant.

Impact Summary – Phase I

The construction of the blended groundwater pipeline and supplemental water pipeline for Phase I of Alternative 4 would have a substantial adverse effect on special-status species. Implementation of Mitigation Measure BIO-1 would mitigate the impact to a less than significant level.

The operation of the blended groundwater pipeline for Phase I of Alternative 4 would have a substantial adverse effect on habitat and special-status species. Implementation of Mitigation Measures BIO-3 and BIO-4 would mitigate the impact to a less than significant level.

Mitigation Measures: Implement BIO-1, BIO-3, and BIO-4.

Mitigation Measure BIO-3: Southern California Steelhead Plan. Prior to discharging water from the blended groundwater pipeline to the Santa Clara River, a plan shall be developed to identify discharge conditions throughout the year that are compatible with southern California steelhead management goals through the portion of the Santa Clara River channel between the Fillmore Fish Hatchery and the Freeman Diversion. The plan may involve modifying the discharge rate during low flow season. The plan shall be compatible with local habitat conservation planning efforts approved by the National Marine Fisheries Service. The plan shall include operational requirements to ensure compatibility with adopted conservation plans and with all biological resources in the river, including identification of seasonal discharge restriction periods, monitoring, and reporting to wildlife agencies.

Mitigation Measure BIO-4: Arroyo Toad Survey. Prior to discharging water from the blended groundwater pipeline to the Santa Clara River, a qualified biologist shall conduct a survey (or review a survey performed within the past 3 years) of the Santa Clara River between the Fillmore Fish Hatchery and the Freeman Diversion for arroyo toads. If arroyo toads are identified in this segment of the river, a plan shall be developed to determine discharge conditions during the breeding and aestivation periods that are compatible with the arroyo toad management goals.

Significance Level After Mitigation: Less Than Significant Impact.

Phase II

MF/RO Facilities

The MF/RO facilities at the VWRP would be similar to those described for Alternative 1 but, under this alternative, would be smaller in size. Impact would be less than significant.

RO Product Water Conveyance System to the County of Ventura

The RO product water conveyance system facilities are described in Section 6.7.1. The Ventura County RO product water pipeline alignment would be located adjacent to SR-126 and confined to the existing roadway and public ROW to the maximum extent practicable. The construction of the RO product water conveyance system facilities would not result in habitat modifications or a direct impact to any special-status species. Impact would be less than significant.

Brine Disposal System

The brine disposal system facilities are described in Section 6.7.1. The brine disposal system would rely on a pipeline, DWI, or trucking – each of which was previously analyzed for Alternatives 1, 2, and 3, respectively, but there would be lower peak brine flow to manage so the diameter of the pipeline, number of injection wells, and peak number of truck trips would be smaller. Alternatives 1 and 3 would require the implementation of Mitigation Measure BIO-1. The DWI site for Alternative 2 would be within sensitive habitat and would require the implementation of Mitigation Measures BIO-1 and BIO-2. Implementation of Mitigation Measure BIO-1 for brine disposal via pipeline or trucking would reduce the impact to a less than significant level. Implementation of Mitigation Measures BIO-1 and BIO-2 for brine disposal via DWI would reduce the impact to a less than significant level.

Impact Summary – Phases I and II

The construction of the blended groundwater pipeline for Phase I of Alternative 4 would have a substantial adverse effect on special-status species. Implementation of Mitigation Measure BIO-1 would mitigate the impact to a less than significant level.

The operation of the blended groundwater pipeline for Phase I of Alternative 4 would have a substantial adverse effect on habitat and special-status species. Implementation of Mitigation Measures BIO-3 and BIO-4 would mitigate the impact to a less than significant level.

The construction of the brine disposal system for Phase II of Alternative 4 would have a substantial adverse effect on habitat and special-status species. Implementation of Mitigation Measure BIO-1 for the brine disposal pipeline and truck loading terminal and Mitigation Measures BIO-1 and BIO-2 for the DWI site would mitigate the construction impact to a less than significant level. The operational impact would be less than significant.

Mitigation Measures: Implement BIO-1, BIO-2, BIO-3, and BIO-4.

Significant Level After Mitigation: Less Than Significant Impact.

11.4.2.2 Riparian Habitat and Sensitive Natural Communities

Impact 11-2: The proposed project could have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.

Alternative 1 – MF/RO With Brine Disposal via Pipeline

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the potential UV disinfection facilities at the VWRP and/or SWRP are described in Section 6.7.1. The construction of the MF/RO and UV disinfection facilities would occur within the boundaries of existing industrial facilities and would not disturb any riparian habitat or other sensitive natural community. The WRP discharges were found to have a negligible effect on total riparian habitat area as these conditions are controlled by winter storm flows (ESA 2010). Therefore, reducing discharges from the WRPs to the SCR would not significantly impact riparian or other habitat downstream. Impact would be less than significant.

RO Product Water Conveyance System

The RO product water conveyance system facilities are described in Section 6.7.1. The construction of the RO product water pump station would be entirely within the VWRP and would not result in an impact to riparian or other habitat. Construction of the RO product water pipeline would be within an urbanized area of Santa Clarita and would be constructed within public ROW to the maximum extent practicable. A portion of the RO product water pipeline would cross the SCR at The Old Road Bridge. The pipeline would be installed either by being suspended from The Old Road Bridge or installed under the SCR using trenchless technology. The installation of the pipeline would not impact the riparian habitat of the SCR. The operation of the RO product water conveyance system would not include any component that would impact any riparian habitat or other sensitive natural community. Impact would be less than significant.

Brine Disposal System (Pipeline to JOS)

The brine disposal system facilities are described in Section 6.7.1. Construction of the VWRP brine disposal pipeline pump station would occur within the boundaries of an existing industrial facility and would not disturb any riparian habitat or other sensitive natural community. Construction of the offsite brine disposal pipeline pump station would occur along the brine disposal pipeline route outside of any riparian habitat and would be sited in an area outside of any sensitive natural community. Portions of the brine disposal pipeline, while located in the public ROW to the maximum extent practicable, would occur adjacent to SEA No. 64, containing valley oaks savannah. The CDFW considers valley oak savannah a sensitive natural community due to its decline over the past decades from development and the valley oak area located adjacent to the brine disposal system is one of the last remaining larger stands in the SCV. Removal of valley oak trees or encroachments that may compromise the health of the trees would be considered a significant impact. Construction activities could occur in close proximity to valley oaks and impacts to this sensitive natural community would be potentially significant. Implementation of Mitigation Measure BIO-5 would reduce the impact to a less than significant level.

The operation of the brine disposal system would not include any component that would impact any riparian habitat or other sensitive natural community. No impact would occur.

Impact Summary

The construction of the brine disposal pipeline for Alternative 1 would have a substantial adverse effect on a sensitive natural community. Implementation of Mitigation Measure BIO-5 would mitigate the impact to a less than significant level. The operational impact would be less than significant.

Mitigation Measures: Implement BIO-5.

Mitigation Measure BIO-5: Oak Tree Preservation. Native and heritage oak trees shall be avoided to the extent feasible. If oak trees occur in close proximity to the construction zone, protective fencing shall be erected at least 5 feet outside of the tree drip line or 15 feet from the tree trunk, whichever is greater, to prevent any disturbances to the tree trunk, branches, or root system. Protected trees and heritage oak trees that cannot be avoided shall be replaced at a 2:1 and 10:1 ratio, respectively, as required by the Los Angeles County Oak Tree Ordinance.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 2 – MF/RO With Brine Disposal via DWI

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the potential UV disinfection facilities at the VWRP and/or SWRP would be the same as described for Alternative 1. Impact would be less than significant.

RO Product Water Conveyance System to SWRP

The RO product water conveyance system facilities would be the same as described for Alternative 1. Impact would be less than significant.

Brine Disposal System (DWI)

The brine disposal system facilities are described in Section 6.7.1. The construction of the pump station would be entirely within the VWRP and would not result in an impact to riparian or other habitat. Construction of the brine disposal pipeline would be within an urbanized area of Santa Clarita. A portion of the pipeline would cross the SCR at The Old Road Bridge. The pipeline would be installed either by being suspended from The Old Road Bridge or under the SCR using trenchless technology. Impact would be less than significant.

The DWI site would be located within SEA No. 64, containing valley oak woodlands. Valley oak woodlands are considered an important community. It is anticipated that the DWI site would be confined to the existing disturbed area and would not infringe upon the natural oak woodlands to the west. If it is determined that the site would infringe on the canopy of valley oaks or require the removal of oak trees, the impact would be considered significant. Implementation of Mitigation Measure BIO-5 would reduce the impact to a less than significant level.

Impact Summary

The construction of the DWI site for Alternative 2 would have a substantial adverse effect on a sensitive natural community. Implementation of Mitigation Measure BIO-5 would mitigate the impact to a less than significant level. The operational impact would be less than significant.

Mitigation Measures: Implement BIO-5.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 3 – MF/RO With Brine Disposal via Trucking

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the UV disinfection facilities at the VWRP and SWRP would be the same as described for Alternative 1. Impact would be less than significant.

RO Product Water Conveyance System to SWRP

The RO product water conveyance system facilities would be the same as described for Alternative 1. Impact would be less than significant.

Brine Disposal System (Trucking)

The brine disposal system facilities are described in Section 6.7.1. The truck loading terminal would be located north of the VWRP within an undisturbed area adjacent to the SCR. Construction of the truck loading terminal would occur adjacent to, but not within, riparian and upland vegetation in the SCR riparian corridor. The truck unloading terminal would be located in the City Terrace area of Los Angeles County in a paved industrial area. Impact would be less than significant.

The operation of the brine disposal system would not include any component that would impact any riparian habitat or other sensitive natural community. Impact would be less than significant.

Impact Summary

The construction and operation of Alternative 3 would not have a substantial adverse effect on any riparian habitat or other sensitive natural community. No construction or operational impact would occur.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 4 – Phased AWRM

Phase I

UV Disinfection Facilities

The UV disinfection facilities at the VWRP and SWRP would be the same as described for Alternative 1. Impact would be less than significant.

Salt Management Facilities

The salt management facilities are described in Section 6.7.1. The construction of the East and West Piru well fields and pump stations would occur in previously disturbed areas and would not impact any riparian habitats or sensitive natural communities. The construction of the East and West Piru well field extraction pipelines and the blended groundwater pipeline would be within the public ROW to the maximum extent practicable. However, the construction of the outfall structure at the SCR associated with the blended groundwater pipeline would impact habitat along the bank of SCR. As a result, the proposed project would be required to comply with the CWA and permits from the Corps, RWQCB, and the CDFW would be needed. The operation of the proposed project would discharge up to 30 mgd or approximately 45 cfs into the SCR west of the Fillmore Fish Hatchery. This would be an about a 40 percent increase compared to the average annual flow rate. This additional flow rate could cause an increase in riparian habitat over time within the SCR below the discharge point. Impact would be less than significant.

Supplemental Water System

The supplemental water system is described in Section 6.7.1. This system would be constructed within the ROW of The Old Road to the maximum extent practicable. Impact would be less than significant. During operation of the supplemental water system, up to an additional 6 mgd of water could be released at the VWRP. The WRP discharges were found to have a negligible effect on total riparian habitat area as these conditions are controlled by winter storm flows (ESA 2010). Impact would be less than significant.

Impact Summary – Phase I

The construction and operation of Phase I of Alternative 4 would not have a substantial adverse effect on any riparian habitat or other sensitive natural community. The construction and operational impact would be less than significant.

Mitigation Measures: No Mitigation Required.

Significance Level After Mitigation: Less Than Significant Impact.

Phase II

MF/RO Facilities

The MF/RO facilities at the VWRP would be similar to those described for Alternative 1 but, under this alternative, would be smaller in size. Impact would be less than significant.

RO Product Water Conveyance System to the County of Ventura

The RO product water conveyance system facilities are described in Section 6.7.1. The construction of the Ventura County RO product water pump station would be entirely within the VWRP and would not result in an impact to riparian or other habitat. The Ventura County RO product water pipeline alignment would be located adjacent to SR-126 and confined to the existing roadway and public ROW to the maximum extent practicable. Impact would be less than significant. The operation of the Ventura County RO product water conveyance system would not include any component that would impact any riparian habitat or other sensitive natural community. No impact would occur.

Brine Disposal System

The brine disposal system facilities are described in Section 6.7.1. The brine disposal system would rely on a pipeline, DWI, or trucking – each of which was previously analyzed for Alternatives 1, 2, and 3, respectively, but there would be lower peak brine flow to manage so the diameter of the pipeline, number of injection wells, and peak number of truck trips would be smaller. Implementation of Mitigation Measure BIO-5 for brine disposal via pipeline or DWI would reduce the impact to a less than significant level. No impact would occur for brine disposal via trucking.

Impact Summary – Phases I and II

The construction and operation of Phase I of Alternative 4 would not have a substantial adverse effect on any riparian habitat or other sensitive natural community. The construction and operational impact would be less than significant.

The construction of the brine disposal pipeline and DWI site for Phase II of Alternative 4 would have a substantial adverse effect on a sensitive natural community. Implementation of Mitigation Measure BIO-5 would mitigate the impact to a less than significant level. The operational impact would be less than significant.

Mitigation Measures: Implement BIO-5.

Significance Level After Mitigation: Less Than Significant Impact.

11.4.2.3 Federally Protected Wetlands

Impact 11-3: The proposed project could have a substantial adverse effect on federally protected wetlands as defined by §404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Alternative 1 – MF/RO With Brine Disposal via Pipeline

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the potential UV disinfection facilities at the VWRP and/or SWRP are described in Section 6.7.1. The construction and operation of the MF/RO and UV disinfection facilities would be located within the existing WRPs and would not impact federally protected wetlands. Reduced discharge in the SCR resulting from the proposed project would reduce flows in the river downstream of the VWRP for a few miles. The WRP discharges

were found to have a negligible effect on river channel forms as these conditions are controlled by winter storm flows (ESA 2010). Impact would be less than significant.

RO Product Water Conveyance System

The RO product water conveyance system facilities are described in Section 6.7.1. The construction of the RO product water pump station would be entirely within the VWRP and would not result in an impact to wetlands. Construction of the RO product water pipeline would be within an urbanized area of Santa Clarita and would be constructed within public ROW to the maximum extent practicable. A portion of the RO product water pipeline would cross the SCR at The Old Road Bridge. The pipeline would be installed either by being suspended from The Old Road Bridge or installed under the SCR using trenchless technology. Impact would be less than significant. The operation of the RO product water conveyance system would not include any component that would have a substantial adverse effect on wetlands. No impact would occur.

Brine Disposal System (Pipeline to JOS)

The brine disposal system facilities are described in Section 6.7.1. The VWRP brine disposal pipeline pump station would be entirely within the VWRP and would have no effect on wetlands. The offsite brine disposal pipeline pump station would be located along the brine disposal pipeline and would avoid any wetlands. The brine disposal pipeline would be constructed within public ROW to the maximum extent practicable. A portion of the RO product water pipeline would cross the SCR at The Old Road Bridge. The pipeline would be installed either by being suspended from The Old Road Bridge or installed under the SCR using trenchless technology. Impact would be less than significant. The operation of the brine disposal system would not include any component that would have a substantial adverse effect on wetlands. No impact would occur.

Impact Summary

The construction and operation of Alternative 1 would not have a substantial adverse effect on wetlands. The construction and operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 2 – MF/RO With Brine Disposal via DWI

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the potential UV disinfection facilities at the VWRP and/or SWRP would be the same as described for Alternative 1. Impact would be less than significant.

RO Product Water Conveyance System to SWRP

The RO product water conveyance system facilities would be the same as described for Alternative 1. Impact would be less than significant.

Brine Disposal System (DWI)

The brine disposal system facilities are described in Section 6.7.1. The construction of the pump station would be entirely within the VWRP and would have no effect on wetlands. Construction of the DWI brine pipeline would be within an urbanized area of Santa Clarita and would be constructed within public ROW to the maximum extent practicable. A portion of the pipeline would cross the SCR at The Old Road Bridge. The pipeline would be installed either by being suspended from The Old Road Bridge or under the SCR using trenchless technology. The installation of the pipeline would not have a substantial adverse effect on wetlands. Field reconnaissance determined that there are no wetlands in the vicinity of the DWI site (ESA 2013). Impact would be less than significant.

Impact Summary

The construction and operation of Alternative 2 would not have a substantial adverse effect on wetlands. The construction and operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 3 – MF/RO With Brine Disposal via Trucking**MF/RO and UV Disinfection Facilities**

The MF/RO facilities at the VWRP and the UV disinfection facilities at the VWRP and SWRP would be the same as described for Alternative 1. Impact would be less than significant.

RO Product Water Conveyance System to SWRP

The RO product water conveyance system facilities would be the same as described for Alternative 1. Impact would be less than significant.

Brine Disposal System (Trucking)

The brine disposal system facilities are described in Section 6.7.1. Field reconnaissance determined that there are no wetlands in the area proposed for the truck loading terminal (ESA 2013). The truck unloading terminal would be located in an existing paved industrial area. The operation of the brine disposal system would include trucks using established roadways. Impact would be less than significant.

Impact Summary

The construction and operation of Alternative 3 would not have a substantial adverse effect on wetlands. The construction and operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 4 – Phased AWRM

Phase I

UV Disinfection Facilities

The UV disinfection facilities at the VWRP and SWRP would be the same as described for Alternative 1. Impact would be less than significant.

Salt Management Facilities

The salt management facilities are described in Section 6.7.1. Construction of the East and West Piru well fields would not impact federally protected wetlands because they would be located within areas previously disturbed by agricultural activities. The East and West Piru well field extraction pipelines and the blended groundwater pipeline would be constructed within public ROW of SR-126 and other existing roads to the maximum extent practicable. Construction of the outfall structure at the SCR associated with the blended groundwater pipeline would impact habitat along the bank of SCR. As a result, the proposed project would be required to comply with the CWA and permits from the Corps, RWQCB, and the CDFW would be necessary. Operation of the salt management facilities would discharge up to 30 mgd or approximately 45 cfs into the SCR west of the Fillmore Fish Hatchery. This would be about a 40 percent increase compared to the average annual flow rate. This additional flow rate would cause an increase in wetlands over time within the SCR below the discharge point. Impact would be less than significant.

Impact Summary – Phase I

The construction and operation of Phase I of Alternative 4 would not have a substantial adverse effect on wetlands. The construction and operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Phase II

MF/RO Facilities

The MF/RO facilities at the VWRP would be similar to those described for Alternative 1 but, under this alternative, would be smaller in size. Impact would be less than significant.

RO Product Water Conveyance System to the County of Ventura

The RO product water conveyance system facilities are described in Section 6.7.1. The construction of the Ventura County RO product water pump station would be entirely within the VWRP and would not result in an impact to federally protected wetlands. The Ventura County RO product water pipeline alignment would be located adjacent to SR-126 and confined to the existing roadway and public ROW to the maximum extent practicable. Impact would be less than significant. The operation of the Ventura County RO product water conveyance system would not include any component that would impact any federally protected wetlands. No impact would occur.

Brine Disposal System

The brine disposal system facilities are described in Section 6.7.1. The brine disposal system would rely on a pipeline, DWI, or trucking – each of which was previously analyzed for Alternatives 1, 2, and 3, respectively, but there would be lower peak brine flow to manage so the diameter of the pipeline, number of injection wells, and peak number of truck trips would be smaller. As previously discussed, the construction and operation of the brine disposal systems for Alternative 1, 2, and 3 would not impact any wetlands. Impact would be less than significant.

Impact Summary – Phases I and II

The construction and operation of Phase I of Alternative 4 would not have a substantial adverse effect on wetlands. The construction and operational impact would be less than significant.

The construction and operation of Phase II of Alternative 4 would not have a substantial adverse effect on wetlands. The construction and operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

11.4.2.4 Movement of Fish or Wildlife Species, Wildlife Corridors, or Wildlife Nurseries

Impact 11-4: The proposed project could 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.

Alternative 1 – MF/RO With Brine Disposal via Pipeline

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the potential UV disinfection facilities at the VWRP and/or SWRP are described in Section 6.7.1. The construction of the MF/RO and UV disinfection facilities would be located within the existing WRPs and would not include any component that would interfere with the movement of wildlife. No impact would occur. Operation of the MF/RO facilities would result in a slight decrease in discharge from the VWRP to the SCR of about 0.6 mgd. This reduction is less than 5 percent of the current VWRP discharge rate and would not interfere with the movement of wildlife. Impact would be less than significant.

RO Product Water Conveyance System

The RO product water conveyance system facilities are described in Section 6.7.1. The construction of the pump station would be entirely within the VWRP and therefore would not result in an impact to wildlife movement. Construction of the RO product water pipeline would be within an urbanized area of Santa Clarita. The RO product water system would have a localized short-term construction impact associated with trenching and installation of the pipeline within public ROW. However, once constructed, the roadway would be restored to pre-construction conditions. Impact would be less than significant. The RO product water pipeline would not include any above ground features that would interfere with wildlife movement during operation. No impact would occur.

Brine Disposal System (Pipeline to JOS)

The brine disposal system facilities are described in Section 6.7.1. The brine disposal pipeline would be underground and within public ROW to the maximum extent practicable and would not interfere with existing wildlife movement corridors in the region. The offsite pump station would have a small footprint that would not prevent or impede wildlife from moving through the area. Impact would be less than significant.

Impact Summary

The construction and operation of Alternative 1 would not interfere substantially with the movement of any native resident or migratory fish or wildlife species. The construction and operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 2 – MF/RO With Brine Disposal via DWI

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the potential UV disinfection facilities at the VWRP and/or SWRP would be the same as described for Alternative 1. No impact would occur.

RO Product Water Conveyance System to SWRP

The RO product water conveyance system facilities would be the same as described for Alternative 1. Impact would be less than significant.

Brine Disposal System (DWI)

The brine disposal system facilities are described in Section 6.7.1. The DWI brine pipeline would be underground and within public ROW to the maximum extent practicable and would not interfere with existing wildlife movement corridors in the region. The DWI site would be adjacent to The Old Road and would not further fragment open space areas that contribute to local wildlife movement, nor would the proposed project impact local wildlife movement in the vicinity and the greater region. Impact would be less than significant.

As discussed in Section 9, a drill rig would be required for 16 months to establish the wells for the DWI site. The rig would require lighting on the platform and derrick during nighttime operations. As a result, there would be an increase in nighttime lighting during construction which has the potential to detour wildlife movement within the area. However, the DWI site would be adjacent to The Old Road, which is lined with existing street lights. In addition, the rig lighting would be shielded and pointed away from surrounding light-sensitive areas that may be used for local wildlife movement and directed downward toward the rig platform. No excessive glare would be visible from the undeveloped open space area due to the direction of the nighttime lighting and the distance from areas that would be used by wildlife. Once the wells are established, the rig would be removed from the site. Operation of the DWI wells would not require any lighting. Impact would be less than significant.

Impact Summary

The construction and operation of Alternative 2 would not interfere substantially with the movement of any native resident or migratory fish or wildlife species. The construction and operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 3 – MF/RO With Brine Disposal via Trucking

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the UV disinfection facilities at the VWRP and SWRP would be the same as described for Alternative 1. No impact would occur.

RO Product Water Conveyance System to SWRP

The RO product water conveyance system facilities would be the same as described for Alternative 1. Impact would be less than significant.

Brine Disposal System (Trucking)

The brine disposal system is described in Section 6.7.1. The truck loading terminal would be located north of the VWRP adjacent to the SCR and the truck unloading terminal would be located in the City Terrace area of Los Angeles County. The truck loading terminal would be located within an undisturbed area and the truck unloading terminal would be located in a paved industrial area. The construction of the truck loading terminal would occur adjacent to riparian and upland vegetation in the SCR riparian corridor. The construction activities would have the potential to introduce new noise and light to the riparian corridor that would hinder wildlife movement. However, the truck loading terminal would be constructed on a relatively small site bounded by The Old Road to the north and east and the VWRP to the south. The adjacent VWRP is an existing industrial facility that operates 24 hours a day, seven days a week. As a result, the construction and operation of the truck loading terminal would not interfere with the movement of wildlife in the SCR corridor. The trucking operation of the brine disposal system would occur along existing streets that are highly traveled by vehicles. Therefore, the brine disposal system (trucking) would not have an effect on habitats used for wildlife movement nor would the system impact wildlife movement opportunities within the known movement corridors and habitat linkages in the region. Impact would be less than significant.

Impact Summary

The construction and operation of Alternative 3 would not interfere substantially with the movement of any native resident or migratory fish or wildlife species. The construction and operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 4 – Phased AWRM

Phase I

UV Disinfection Facilities

The UV disinfection facilities at the VWRP and SWRP would be the same as described for Alternative 1. No impact would occur.

Salt Management Facilities

The salt management facilities for Alternative 4 are described in Section 6.7.1. The East and West Piru well fields and pump stations would be located within areas previously disturbed by agricultural activities. Each groundwater extraction well (5 wells in the East Piru well field and 6 wells in the West Piru well field) would take 10 days to drill; up to 4 days of those days would require 24 hour drilling. As a result, there would be an increase in nighttime lighting during construction. The drill rig lighting would be shielded and pointed away from surrounding areas that may be used for local wildlife movement and directed downward toward the rig platform. Since the area around the well fields is developed as agriculture, no excessive glare would be visible from open space areas. The East and West Piru well field extraction pipelines and the blended groundwater pipeline would be constructed within public ROW to the maximum extent practicable.

Fish, such as southern California steelhead, rely on the SCR for migration to spawning sites and for migration to the Pacific Ocean. Both southern California steelhead and Pacific lamprey are anadromous species that use the SCR to migrate for spawning. Up to 30 mgd of water would be discharged into the SCR. Based on available literature on the life cycle of these species and their susceptibility to alterations of the natural flows within the SCR, the impact associated with the discharge of 30 mgd, an increase of about 40 percent of surface flows compared to the average annual flow rate, would modify the natural habitat within the SCR and could have a direct affect on the migration of these species to spawning site. Implementation of Mitigation Measure BIO-3 would ensure that the proposed project's contribution to river flow did not adversely affect use of the channel as a migratory corridor. Implementation of Mitigation Measure BIO-3 would reduce the impact to a less than significant level.

Supplemental Water System

The supplemental water system is described in Section 6.7.1. This system would be constructed within the ROW of The Old Road to the maximum extent practicable. During operation of the supplemental water system, up to an additional 6 mgd of water could be released at the VWRP. This amount of water is about 40 percent of the existing plant effluent rate of 14.5 mgd. Increasing the discharge from the VWRP would increase water depth in the river channel within at least the first mile downstream. Accordingly, the width of the wetted channel(s) also would be increased. The variability of channel geometry along the length of the channel suggests that where an increase in channel depth alters fish habitat in some areas, suitable habitat would remain in other areas of the river channel. Operation of the supplemental water system would not interfere substantially with the movement of any native resident or migratory fish or wildlife species. Impact would be less than significant.

Impact Summary – Phase I

The operation of the blended groundwater pipeline for Phase I of Alternative 4 would interfere substantially with the movement of native resident or migratory fish species. Implementation of Mitigation Measure BIO-3 would mitigate the impact to a less than significant level. The construction impact would be less than significant.

Mitigation Measures: Implement BIO-3.

Significance Level After Mitigation: Less Than Significant Impact.

Phase II

MF/RO Facilities

The MF/RO facilities at the VWRP would be similar to those described for Alternative 1 but, under this alternative, would be smaller in size. No impact would occur.

RO Product Water Conveyance System to the County of Ventura

The RO product water conveyance system facilities are described in Section 6.7.1. The Ventura County RO product water pipeline would be constructed within public ROW to the maximum extent practicable and construction of the pump station would be entirely within the VWRP. The construction and operation of these facilities would not include any component that would interfere with the movement of wildlife. Impact would be less than significant.

Brine Disposal System

The brine disposal system facilities are described in Section 6.7.1. The brine disposal system would rely on a pipeline, DWI, or trucking – each of which was previously analyzed for Alternatives 1, 2, and 3, respectively, but there would be lower peak brine flow to manage so the diameter of the pipeline, number of injection wells, and peak number of truck trips would be smaller. As previously discussed, the construction and operation of the brine disposal systems would not impact local or regional wildlife movement or habitat linkages. Impact would be less than significant.

Impact Summary – Phases I and II

The operation of the blended groundwater pipeline for Phase I of Alternative 4 would interfere substantially with the movement of native resident or migratory fish species. Implementation of Mitigation Measure BIO-3 would mitigate the impact to a less than significant level. The construction impact would be less than significant.

The construction and operation of Phase II of Alternative 4 would not interfere substantially with the movement of any native resident or migratory fish or wildlife species. The construction and operational impact would be less than significant.

Mitigation Measures: Implement BIO-3.

Significance Level After Mitigation: Less Than Significant Impact.

11.4.2.5 Conflict With Local Policies and Ordinances

Impact 11-5: The proposed project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Alternative 1 – MF/RO With Brine Disposal via Pipeline

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the potential UV disinfection facilities at the VWRP and/or SWRP are described in Section 6.7.1. Construction and operation of the MF/RO and UV disinfection facilities would occur within existing WRPs and would not conflict with any local policies or ordinances protecting biological resources. No impact would occur.

RO Product Water Conveyance System

The RO product water conveyance system facilities are described in Section 6.7.1. Construction of the pump station would occur entirely within the VWRP and would not conflict with local policies or ordinances protecting biological resources. A portion of the RO product water pipeline bisects SEA No. 23 (SCR) at The Old Road Bridge. The pipeline would be suspended from The Old Road Bridge or installed under the SCR using trenchless technology and would not impact the SEA. The RO product water conveyance system would have a short-term construction impact associated with trenching and installation of the pipeline within public ROW. However, once constructed, the roadway would be restored to pre-construction conditions. The RO product water conveyance system would not conflict with any local policies or ordinances protecting biological resources. Impact would be less than significant.

Brine Disposal System (Pipeline to JOS)

The brine disposal system facilities are described in Section 6.7.1. The brine disposal pipeline alignment crosses through SEA No. 23 (SCR), SEA No. 64 (Valley Oaks Savannah, Newhall) and runs parallel with SEA No. 20 (Santa Susana Mountains/Simi Hills). The pipeline would be located in the public ROW to the maximum extent practicable. However, as described in Impact 11-2, oak woodlands are considered a sensitive biological resource by Los Angeles County due to their ecological importance in the region. Construction activities within this area could occur in close proximity to oak trees, and impact to these species, particularly valley oaks, would be potentially significant. Implementation of Mitigation Measure BIO-5 would mitigate the impact to oak trees to a less than significant level. Operation of the brine disposal system would not include any component that would conflict with local policies or ordinances protecting biological resources.

Impact Summary

The construction of the brine disposal pipeline for Alternative 1 would conflict with local policies or ordinances protecting valley oaks. Implementation of Mitigation Measure BIO-5 would mitigate the impact to a less than significant level. The operational impact would be less than significant.

Mitigation Measures: Implement BIO-5.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 2 – MF/RO With Brine Disposal via DWI

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the potential UV disinfection facilities at the VWRP and/or SWRP would be the same as described for Alternative 1. No impact would occur.

RO Product Water Conveyance System to SWRP

The RO product water conveyance system facilities would be the same as described for Alternative 1. Impact would be less than significant.

Brine Disposal System (DWI)

The brine disposal system facilities are described in Section 6.7.1. It is anticipated that the DWI site would be located in or adjacent to SEA No. 64. The exact location of the DWI site is not expected to be known until final design of the proposed project. Construction activities within these areas could occur in close proximity to oak trees, and impact to these species, particularly valley oaks, would be potentially significant. However, with the implementation of Mitigation Measure BIO-5, the impact to oak trees would be less than significant. Operation of the brine disposal system would not include any component that would conflict with local policies or ordinances protecting biological resources.

Impact Summary

The construction of the DWI site for Alternative 2 would conflict with local policies or ordinances protecting valley oaks. Implementation of Mitigation Measure BIO-5 would mitigate the impact to a less than significant level. The operational impact would be less than significant.

Mitigation Measures: Implement BIO-5.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 3 – MF/RO With Brine Disposal via Trucking

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the UV disinfection facilities at the VWRP and SWRP would be the same as described for Alternative 1. No impact would occur.

RO Product Water Conveyance System to SWRP

The RO product water conveyance system facilities would be the same as described for Alternative 1. Impact would be less than significant.

Brine Disposal System (Trucking)

The brine disposal system facilities are described in Section 6.7.1. The truck loading terminal would be located north of the VWRP adjacent to the SCR and the truck unloading terminal would be located in the City Terrace area of Los Angeles County. The truck loading terminal would be located within an undisturbed area and the truck unloading terminal would be located in a paved

industrial area. The construction of the truck loading terminal would occur adjacent to riparian and upland vegetation in the SCR riparian corridor. However, construction and operation of the brine disposal system would not impact any natural habitats. The trucking route would follow existing streets. The brine disposal system would not conflict with local policies or ordinances protecting biological resources. Impact would be less than significant.

Impact Summary

The construction and operation of Alternative 3 would not conflict with local policies or ordinances protecting biological resources. The construction and operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 4 – Phased AWRM

Phase I

UV Disinfection Facilities

The UV disinfection facilities at the VWRP and SWRP would be the same as described for Alternative 1. No impact would occur.

Salt Management Facilities

The salt management facilities for Alternative 4 are described in Section 6.7.1. The construction of the East and West Piru well fields would not conflict with local policies or ordinances protecting biological resources because they would be located within areas previously disturbed by agricultural activities. Construction of the East and West Piru well field extraction pipelines and the blended groundwater pipeline would be within public ROW of SR-126 and other roads to the maximum extent practicable and the extraction wells would be located within areas previously disturbed by agricultural activities. The pump stations would be constructed in upland areas within areas previously disturbed by agricultural activities adjacent to the pipeline alignment. Construction of the pipelines, wells and pump stations would not conflict with any local policies or ordinances protecting biological resources. The lower SCR is designated as critical habitat for southern California steelhead. The NMFS has prepared a recovery plan for the species that includes finding solutions to improve habitat. Construction of the outfall structure in the SCR associated with the blended groundwater pipeline would require a Nationwide Permit from the Corps and an SAA from the CDFW. The Corps permit would be subject to review by the NMFS, so that they may provide recommendations to minimize the impact. The operation of the blended groundwater pipeline may conflict with the southern California steelhead recovery plan and result in a significant impact. Implementation of Mitigation Measure BIO-3 would reduce the impact to a less than significant level.

Supplemental Water System

The supplemental water system is described in Section 6.7.1. This system would be constructed within the ROW of The Old Road to the maximum extent practicable. During operation of the supplemental water system, up to an additional 6 mgd of water could be released at the VWRP.

This amount of water is about 40 percent of the existing plant effluent rate of 14.5 mgd, but would be confined to the existing river banks. Implementation of the supplemental water pipeline to the VWRP would not conflict with local policies or ordinances protecting biological resources. Impact would be less than significant.

Impact Summary – Phase I

The operation of the blended groundwater pipeline for Phase I of Alternative 4 would conflict with the southern California steelhead recovery plan. Implementation of Mitigation Measure BIO-3 would mitigate the impact to a less than significant level. The construction impact would be less than significant.

Mitigation Measures: Implement BIO-3.

Significance Level After Mitigation: Less than Significant Impact.

Phase II

MF/RO Facilities

The MF/RO facilities at the VWRP would be similar to those described for Alternative 1 but, under this alternative, would be smaller in size. No impact would occur.

RO Product Water Conveyance System to the County of Ventura

The RO product water conveyance system facilities are described in Section 6.7.1. The Ventura County RO product water pipeline would be constructed within public ROW to the maximum extent practicable and construction of the pump station would be entirely within the VWRP. The construction and operation of these facilities would not conflict with any local policies or ordinances protecting biological resources. No impact would occur.

Brine Disposal System

The brine disposal system facilities are described in Section 6.7.1. The brine disposal system would rely on a pipeline, DWI, or trucking – each of which was previously analyzed for Alternatives 1, 2, and 3, respectively, but there would be lower peak brine flow to manage so the diameter of the pipeline, number of injection wells, and peak number of truck trips would be smaller. Alternatives 1 and 2 would require the implementation of Mitigation Measure BIO-5 to reduce the impact to oak trees to a less than significant level. Impact would be less than significant with mitigation.

Impact Summary – Phases I and II

The operation of the blended groundwater pipeline for Phase I of Alternative 4 would conflict with the southern California steelhead recovery plan. Implementation of Mitigation Measure BIO-3 would mitigate the impact to a less than significant level. The construction impact would be less than significant.

The construction of the brine disposal pipeline and DWI site for Phase II of Alternative 4 would conflict with local policies or ordinances protecting valley oaks. Implementation of Mitigation

Measure BIO-5 would mitigate the impact to a less than significant level. The operational impact would be less than significant.

Mitigation Measures: Implement BIO-3 and BIO-5.

Significance Level After Mitigation: Less Than Significant Impact.

11.4.2.6 Conflict With Adopted Plans

Impact 11-6: The proposed project could conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.

Alternative 1 – MF/RO With Brine Disposal via Pipeline

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the potential UV disinfection facilities at the VWRP and/or SWRP are described in Section 6.7.1. The proposed project is not located within the boundaries of an HCP or NCCP. However, downstream of the VWRP, Newhall Land and Farming Company (NLFC) established a Resource Management and Development Plan (RMDP). The RMDP proposed by the NLFC is a conservation and mitigation plan for sensitive biological resources within the previously approved Newhall Ranch Specific Plan area. Further, the VWRP is located adjacent to SEA No. 23. The construction and operation of the MF/RO and UV disinfection facilities would be located within existing WRPs and would not conflict with any adopted HCP, NCCP, RMDP, or SEA No. 23. No impact would occur.

RO Product Water Conveyance System

The RO product water conveyance system facilities are described in Section 6.7.1. The construction of the pump station would be within the VWRP and would not conflict with any adopted plans. A portion of the RO product water pipeline bisects SEA No. 23 (SCR) at The Old Road Bridge. However, the pipeline would be suspended from The Old Road Bridge or installed under the SCR using trenchless technology and would not impact the SEA. The RO product water pipeline would be constructed in public ROW to the maximum extent practicable and would not conflict with any adopted HCP or NCCP. Impact would be less than significant.

Brine Disposal System

The brine disposal system facilities are described in Section 6.7.1. The brine pipeline alignment would not be located within an HCP/NCCP. The brine pipeline would be located within existing public ROW to the maximum extent practicable. A portion of the brine disposal pipeline bisects SEA No. 23 (SCR) at The Old Road Bridge. However, the pipeline would be suspended from The Old Road Bridge or installed under the SCR using trenchless technology and would not impact the SEA. Following The Old Road southward, the pipeline would be adjacent to SEA Nos. 64 and 20. The pipeline alignment would not modify land uses or impact natural resources within the SEAs. The location of the offsite pump station would be within easements on private property adjacent to the pipeline alignment and would avoid SEA-designated areas. Impact would be less than significant.

Impact Summary

The construction and operation of Alternative 1 would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP. The construction and operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 2 – MF/RO With Brine Disposal via DWI

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the potential UV disinfection facilities at the VWRP and/or SWRP would be the same as described for Alternative 1. No impact would occur.

RO Product Water Conveyance System to SWRP

The RO product water conveyance system facilities would be the same as described for Alternative 1. Impact would be less than significant.

Brine Disposal System (DWI)

The brine disposal system facilities for this alternative are described in Section 6.7.1. The DWI facilities would not be within an HCP or NCCP. The DWI brine pipeline would cross the SCR and SEA No. 23. The DWI brine pipeline would be installed either by being suspended from The Old Road Bridge or installed under the SCR using trenchless technology. The DWI brine pipeline would not modify land uses or impact natural resources within SEA No. 23. The remaining portion of the pipeline alignment would be confined to the existing roadways and public ROW to the maximum extent practicable. However, it is anticipated that the DWI site would be located in or adjacent to SEA No. 64 (see Section 11.2.4.12). An area of 152 acres of SEA No. 64 is going to be dedicated as a preserve as required by the Resource Mitigation and Monitoring Plan for the Westridge Project being developed in the vicinity. The construction of the injection wells would have the potential to impact valley oaks in SEA No. 64. Implementation of Mitigation Measure BIO-5 would reduce the impact to a less than significant level. Impact would be less than significant with mitigation.

Impact Summary

The construction of the DWI site for Alternative 2 would conflict with the policy of SEA No. 64. Implementation of Mitigation Measure BIO-5 would mitigate the impact to a less than significant level. The operational impact would be less than significant.

Mitigation Measures: Implement BIO-5.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 3 – MF/RO With Brine Disposal via Trucking

MF/RO and UV Disinfection Facilities

The MF/RO facilities at the VWRP and the UV disinfection facilities at the VWRP and SWRP would be the same as described for Alternative 1. No impact would occur.

RO Product Water Conveyance System to SWRP

The RO product water conveyance system facilities would be the same as described for Alternative 1. Impact would be less than significant.

Brine Disposal System (Trucking)

The brine disposal system via trucking is described in Section 6.7.1. The trucking facilities would not be within an HCP or NCCP. The trucking route would utilize existing freeways and roadways and would not modify land uses or impact natural resources within any SEAs. Construction of the truck loading terminal would be located just north of the VWRP and would not impact SEA No. 23. The truck unloading terminal would be located in the City Terrace area in Los Angeles County. There are no established HCPs and/or NCCPs within the vicinity of the truck unloading terminal. Impact would be less than significant.

Impact Summary

The construction and operation of Alternative 3 would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP. The construction and operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Alternative 4 – Phased AWRM

Phase I

UV Disinfection Facilities

The UV disinfection facilities at the VWRP and SWRP would be the same as described for Alternative 1. No impact would occur.

Salt Management Facilities

The salt management facilities are described in Section 6.7.1. The salt management facilities would be located in Ventura County but not located within the boundaries of an HCP or NCCP. The NLFC established the Newhall HCP at sections of the SCR in Ventura County. The HCP was established to allow NLFC to move farming equipment across the SCR at designated crossing points to access agricultural fields. The salt management facilities would not be located within the Newhall HCP. The extraction wells would be located on land used for active agriculture. The alignment of the extraction and blend pipelines would be confined to the existing roadways and public ROW to the maximum extent practicable and would not modify

land uses or impact natural resources. The pump stations would be located at the well fields on land used for active agriculture. The construction of the proposed project components would not impact a HCP or NCCP. Impact would be less than significant.

Supplemental Water System

The supplemental water system is described in Section 6.7.1. During operation of the supplemental water system, up to an additional 6 mgd of water could be released at the VWRP. This amount of water is about 40 percent of the existing plant effluent rate of 14.5 mgd. The supplemental water system would not be located within the boundaries of an HCP or NCCP. The pipeline would be located within public ROW to the maximum extent practicable and would not conflict with any HCP or NCCP. Impact would be less than significant.

Impact Summary – Phase I

The construction and operation of Phase I of Alternative 4 would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP. The construction and operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.

Phase II

MF/RO Facilities

The MF/RO facilities at the VWRP would be similar to those described for Alternative 1 but, under this alternative, would be smaller in size. No impact would occur.

RO Product Water Conveyance System to the County of Ventura

The RO product water conveyance system facilities are described in Section 6.7.1. The RO product water conveyance system alignment would be located adjacent to SR-126 and confined to the existing roadway and public ROW to the maximum extent practicable. The RO product water conveyance system would not impact any HCP/NCCP. Impact would be less than significant.

Brine Disposal System

The brine disposal system facilities are described in Section 6.7.1. The brine disposal system would rely on a pipeline, DWI, or trucking – each of which was previously analyzed for Alternatives 1, 2, and 3, respectively, but there would be lower peak brine flow to manage so the diameter of the pipeline, number of injection wells, and peak number of truck trips would be smaller. The brine disposal system would not impact any HCP/NCCP. Impact would be less than significant.

Impact Summary – Phases I and II

The construction and operation of Phase I of Alternative 4 would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP. The construction and operational impact would be less than significant.

The construction and operation of Phase II of Alternative 4 would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP. The construction and operational impact would be less than significant.

Mitigation Measures: None Required.

Significance Level After Mitigation: Less Than Significant Impact.