

APPENDIX E
Special Status Plant Species Report

Special Status Plant Species

San Pasqual Undergrounding Project

July 2016

Prepared for:
City of Escondido
Vista Irrigation District
Bureau of Indian Affairs

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Abbreviations

BIA	Bureau of Indian Affairs
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CSS	Coastal sage scrub
FESA	Federal Endangered Species Act
in/hr	inch(es) per hour
MSCP	Multiple Species Conservation Plan
ROW	Right-of-way
SDNHM	San Diego Natural History Museum
San Pasqual Band	San Pasqual Band of Mission Indians
U.S.	United States
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Services
USGS	U.S. Geological Survey
VID	Vista Irrigation District

1.0 Summary

Atkins conducted rare plant surveys within the San Pasqual Undergrounding Project (proposed project) study area (Figures 1 and 2). Atkins' biologists, conducted rare plant surveys between February and June 2016. Two rare plant species were observed within and adjacent to the study area.

2.0 Introduction

On behalf of the City of Escondido (Escondido), Vista Irrigation District (VID), and the Bureau of Indian Affairs (BIA), Atkins conducted rare plant surveys within the project study area located in Valley Center and the San Pasqual Reservation in San Diego County (Figures 1 and 2).

2.1 Project Description

The proposed action is an integral component of the San Luis Rey Indian Water Rights Settlement Agreement (January 30, 2015) including the United States (acting through the Secretary of the Interior and the Attorney General of the United States); the La Jolla, Rincon, San Pasqual, Pauma, and Pala Bands of Mission Indians; the San Luis Rey Indian Water Authority (SLRIWA); Escondido; and VID. The Settlement is authorized by the Act of November 30, 1988, Public Law 100-675, as amended.

The proposed project would remove, relocate and restore about 2.5 miles of the Escondido Canal that crosses the San Pasqual Reservation (Figure 2). The proposed pipeline would run generally from north to south within the existing Escondido Canal right of way (ROW) and along existing roads, primarily North Canal Road, South Canal Road, North Lake Wohlford Road, and Paradise Mountain Road, to the extent feasible. The proposed pipeline would begin at the desilting basin northeast of North Canal Road and continue in a southwesterly direction and connect to the existing underground pipeline at a location south of Paradise Mountain Road. The proposed pipeline would include a 100-foot construction corridor (50 feet on each side of pipeline alignment) for the entire 2.5-mile length.

A desilting basin and access road would be constructed at the intersection of the proposed alignment and the existing canal to remove sediment from the canal water prior to discharge into the new underground pipeline. Two desilting basin options are presented on Figure 2.

The proposed action includes reclamation of the land occupied by the replaced canal by means of demolition, grading, restoration/revegetation, and any associated mitigation of environmental impacts that may be required.



Canal with flowing water

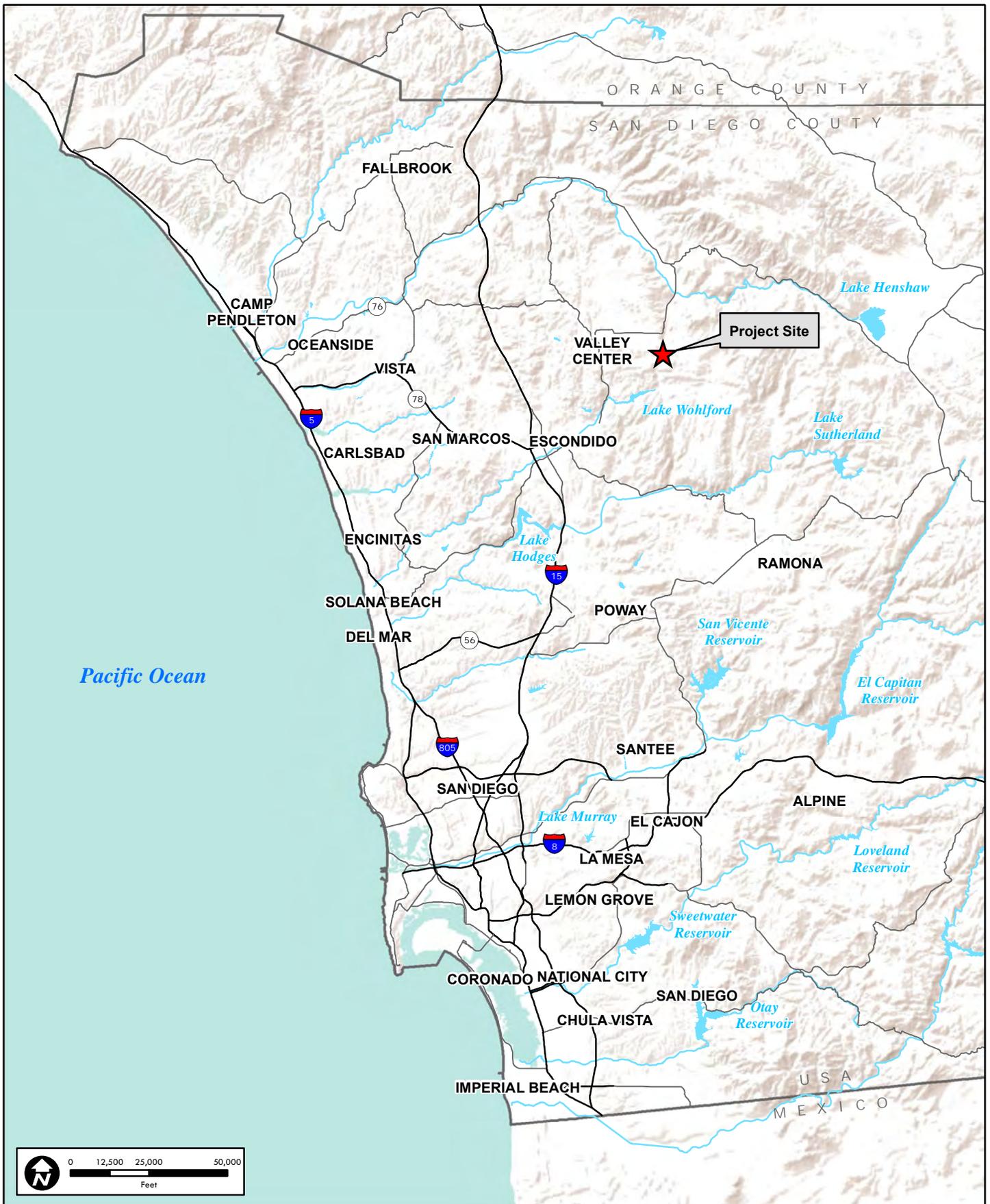
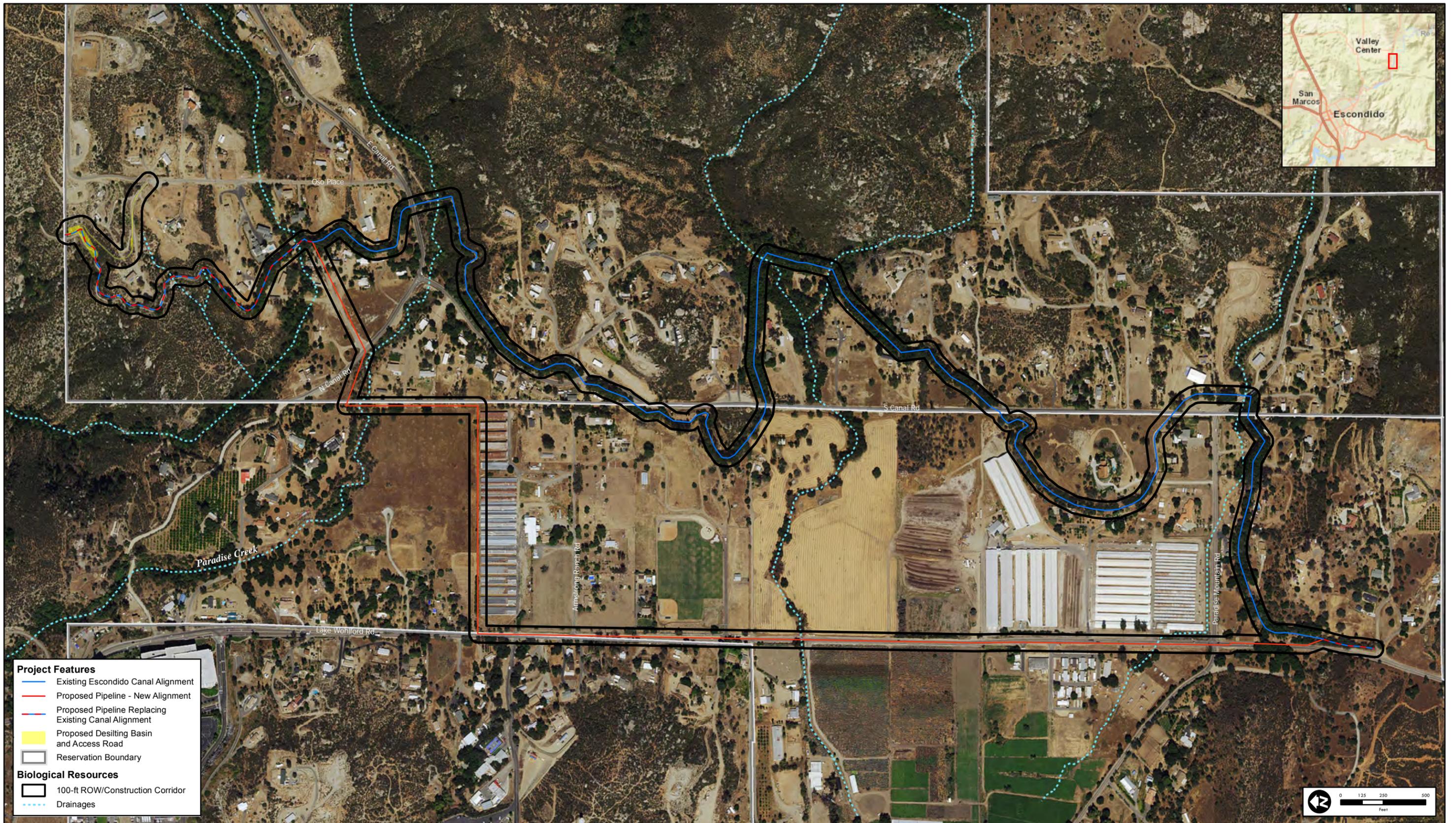


Figure 1
Regional Location





Project Features

- Existing Escondido Canal Alignment
- Proposed Pipeline - New Alignment
- Proposed Pipeline Replacing Existing Canal Alignment
- Proposed Desilting Basin and Access Road
- Reservation Boundary

Biological Resources

- 100-ft ROW/Construction Corridor
- Drainages



Figure 2
Overview of the Proposed Project
 100049195 2016 San Pasqual Undergrounding Project



Sources: Esri, Atkins

7/21/2016 BELA7036 \\SUSDDA1101\data\Clients\Escondido\100049195 VID SPUP ENV EA MND\GIS\data\Figure2-2_Overview_of_Proposed_Action.mxd

2.2 Project Location

The study area is located on the San Pasqual Reservation and on San Diego County land in the community of Valley Center, approximately 5 miles northeast of Escondido (Figure 1). This location corresponds to Sections 15 and 22 in Township 11 South, Range 1 West of the Rodriguez Mountains U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles (Figure 2).

The study area is located within USGS Hydrological Unit Code 18070303 named San Luis Rey-Escondido watershed (U.S. Environmental Protection Agency 2014).

3.0 Existing Conditions

The study area currently consists of Lake Wohlford Road, South Canal Road, an unnamed dirt road, Escondido Canal, San Diego County and San Pasqual Reservation developed and undeveloped land, and San Diego North County Multiple Species Conservation Plan (MSCP) Preserve land (Hellhole Canyon). The County is currently developing additional MSCP Plans for the North County and East County areas. The Draft North County Plan is a stand-alone habitat conservation program for unincorporated lands under the County of San Diego's jurisdiction in the northwestern part of the county, from the coast eastward to Ramona and the western flanks of Palomar Mountain. It is intended to create a 107,000-acre regional preserve system in northern San Diego County. Included are general measures and recommendations for managing plant communities and specific habitats for over 60 species. Surrounding lands are a combination of residential and agricultural land. This location corresponds to the South Coast Subregion of the California Floristic Province (Baldwin et al 2012).

The elevation of the study area is approximately 1,600 to 1,700 feet above mean sea level. Topography in the vicinity of the study area is characterized as uplands and low hills. Local terrain within the study area consists of generally flat to slightly sloping upland.

San Diego County has a Mediterranean climate with cool, wet winters and warm, dry summers. The average total precipitation in Escondido is 14.98 inches. Rainfall is generally the heaviest between January and March with precipitation ranging 2.64 to 3.43 inches. Rain is normally infrequent during summer months, with precipitation ranging 0.08 to 0.20 inch.

The average annual temperature is approximately 65 degrees Fahrenheit for Escondido. Normal summer temperatures range from 58 to 89 degrees Fahrenheit and winter temperatures range from 42 to 74 degrees Fahrenheit.

3.1 Soils

Eight mapped soil units occur within the study area and are described below (U.S. Department of Agriculture [USDA] 2016).

Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes

This soil type is found on hillsides and has a parent material of Residuum weathered from granite and granodiorite. Depth to restrictive layer is 4 to 20 inches. The natural drainage class is somewhat excessively drained and water movement in the most restrictive layer is high. Available water storage is very low (0.8 inches) and depth to water table is more than 80 inches. This soil is never flooded, or ponded, and does not meet hydric criteria (USDA 2016).

Fallbrook sandy loam, 5 to 9 percent slopes, eroded

This soil type is found on hillsides and has a parent material of Residuum weathered from granite and granodiorite. Depth to restrictive layer is 4 to 60 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately high. Available water storage is very high (13.2 inches) and depth to water table is more than 80 inches. This soil is never flooded, or ponded, and does not meet hydric criteria (USDA 2016).

Fallbrook sandy loam, 9 to 15 percent slopes, eroded

This soil type is found on hillsides and has a parent material of Residuum weathered from granite and granodiorite. Depth to restrictive layer is 4 to 60 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately high. Available water storage is very high (13.2 inches) and depth to water table is more than 80 inches. This soil is never flooded, or ponded, and does not meet hydric criteria (USDA 2016).

Fallbrook-Vista sandy loams, 9 to 15 percent slopes

This soil type is found on hillsides and has a parent material of Residuum weathered from granite and granodiorite. Depth to restrictive layer is 40 to 60 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately high. Available water storage is high (11.1 inches) and depth to water table is more than 80 inches. This soil is never flooded, or ponded, and does not meet hydric criteria (USDA 2016).

Fallbrook-Vista sandy loams, 15 to 30 percent slopes

This soil type is found on hillsides and has a parent material of Residuum weathered from granite and granodiorite. Depth to restrictive layer is 40 to 60 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately high. Available water storage is very high (13.2 inches) and depth to water table is more than 80 inches. This soil is never flooded, or ponded, and does not meet hydric criteria (USDA 2016).

Placentia sandy loam, 2 to 9 percent slopes

This soil type is found on hillsides and has a parent material of alluvium derived from granodiorite. Depth to restrictive layer is more than 80 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately low to moderately high (0.06 to 0.60 inch per hour (in/hr)). Available water storage is high (9.2 inches) and depth to water table is more than 80 inches. This soil is never flooded, or ponded, and does not meet hydric criteria (USDA 2016).

Ramona sandy loam, 9 to 15 percent slopes, eroded

This soil type is found on alluvial fans at the base of or toe of slope, and has a parent material of alluvium derived from granite. Depth to restrictive layer is more than 80 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately high (0.20 to 0.57 in/hr). Available water storage is very high (16.2 inches) and depth to water table is more than 80 inches. This soil is never flooded, or ponded, and does not meet hydric criteria (USDA 2016).

Visalia sandy loam, 2 to 5 percent slopes

This soil type is found on alluvial fans at the base of or toe of slope, and has a parent material of alluvium derived from granite. Depth to restrictive layer is more than 80 inches. The natural drainage class is well drained and water movement in the most restrictive layer is high (1.98 to 5.95 in/hr). Available water

storage is high (11.9 inches) and depth to water table is more than 80 inches. This soil is never flooded, or ponded, and does not meet hydric criteria (USDA 2016).

3.2 Vegetation Communities

The study area consists of the following ten vegetation communities: coast live oak woodland, Engelmann oak woodland, eucalyptus woodland, southern willow scrub, CSS, southern mixed chaparral, non-native grassland, agricultural, ornamental, and disturbed (Oberbauer et al., 2008). Vegetation mapping within the delineation areas is included in Appendix A, and detailed descriptions of the vegetation communities are included below.

3.2.1 Woodlands

Coast Live Oak Woodland

Southern coast live oak woodland is an open to locally dense, evergreen, sclerophyllous, woodland that is dominated by coast live oak (*Quercus agrifolia*). This vegetation community has a poor understory due to the tannins produced by the oaks. Poison oak (*Toxicodendron diversilobum*) is common and grows as a shrub and a vine. Non-native grasses are also common.

Engelmann Oak Woodland

Engelmann oak woodland is an open to locally dense, evergreen, woodland that is dominated by Engelmann oak (*Quercus engelmannii*) and coast live oak. Species occurring within the oak woodlands along the Escondido Canal include coast live oak, Engelmann oak, toyon (*Heteromeles arbutifolia*), and poison oak. Disturbed areas of this habitat included tree-of-heaven (*Ailanthus altissima*), Italian thistle (*Carduus pycnocephalus*), non-native grasses, and impacts from adjacent development (i.e., residences).

Eucalyptus Woodland

Eucalyptus woodlands are a type of non-native vegetation dominated by eucalyptus trees (*Eucalyptus* sp.). These introduced trees are drought tolerant once established and produce a large amount of leaf and bark litter. This habitat is generally not considered sensitive, but eucalyptus is one of many trees that can support sensitive nesting raptor species.

3.2.2 Riparian

Southern Willow Scrub

Southern willow scrub consists of dense, broadleaved, winter-deciduous stands of trees dominated by shrubby willows (*Salix* spp.) in association with mule fat (*Baccharis salicifolia*), and with scattered cottonwood (*Populus* sp.) and western sycamores (*Platanus racemosa*). This vegetation community occurs on loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. Southern willow scrub in the study area consists primarily of willow species (i.e., *Salix laevigata* and *S. gooddingii*), and small patches of the invasive weed giant reed (*Arundo donax*).

3.2.3 Shrublands

Coastal Sage Scrub (CSS)

CSS is dominated by subshrubs that can withstand the prolonged drought period in the summer and fall in areas of low precipitation. This habitat type occupies xeric sites characterized by shallow soils. CSS may be dominated by a variety of species depending upon soil type, slope, and aspect. Dominant CSS species found within the study area include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), deerweed (*Acmispon glaber*), and black sage (*Salvia mellifera*).

Southern Mixed Chaparral

Southern mixed chaparral is composed of broad-leaved sclerophyllous shrubs that can reach 6 to 10 feet in height and form dense often nearly impenetrable stands with poorly developed understories. Depending upon relative proximity to the coast, southern mixed chaparral in the study area is dominated by chamise (*Adenostoma fasciculatum*), mission manzanita (*Xylococcus bicolor*), Ramona lilac (*Ceanothus tomentosus*), scrub oak (*Quercus berberidifolia*), mountain mahogany (*Cercocarpus betuloides*), and sugar bush (*Rhus ovata*).

3.2.4 Grasslands

Non-native Grassland

Non-native grassland is characterized by a dense to sparse cover of non-native annual grasses, and often includes a mixture of native and non-native annual forbs. Non-native grasslands are located in patches throughout the study area, along the roads and in mowed fields adjacent to residences. Species occurring within this vegetation community include ripgut brome (*Bromus diandrus*), red brome (*B. madritensis* ssp. *rubens*), ryegrass (*Festuca* spp.), mustard (*Brassica* spp.), and prickly lettuce (*Lactuca serriola*).

Disturbed/Developed

Agriculture

Agriculture refers to lands subject to routine and ongoing commercial operations associated with orchards and vineyards, intensively developed agriculture, such as dairies, nurseries, and chicken ranches, and extensive agriculture such as field and pastures and row crops.

Ornamental

Ornamental includes areas with planted landscaping. Most of the ornamental areas are along Lake Wohlford Road and are adjacent to agricultural or developed area. Landscaped areas often require irrigation.

Disturbed

Disturbed land includes areas in which there is sparse vegetative cover and where there is evidence of soil surface disturbance and compaction from previous human activity and/or the presence of building foundations and debris. Vegetation on disturbed land (if present) has a high predominance of non-native and/or weedy species that are indicators of surface disturbance and soil compaction, such as Russian thistle (*Salsola tragus*), telegraph weed (*Heterotheca grandiflora*), horehound (*Marrubium vulgare*), and sow-thistle (*Sonchus oleraceus*).

Developed

Developed land is that where permanent structures (and associated infrastructure) and/or pavement have been placed, preventing natural vegetation growth, or where landscaping is clearly tended and maintained. On site, developed land includes primarily residential buildings, paved roads, and adjacent landscaping.

4.0 Methods

Prior to conducting rare plant surveys, a thorough review of available relevant maps, databases, and literature pertaining to San Diego vegetation and plant species known to occur in the project area was performed. Aerial imagery (Google Earth 2016), topographic maps (USGS 2016), soils maps (USDA 2016), vegetation maps (City of San Diego 1997; SANDAG 2016), and other maps of the project area were acquired and reviewed to obtain updated information on the natural environmental setting. In addition, a query of sensitive species and habitat databases was conducted, including the CNDDB (CDFW 2016b), the California Native Plant Society (CNPS) Electronic Inventory (CNPS 2016), San Diego Natural History Museum (SDNHM) Plant Atlas (SDNHM 2016), and the Consortium of California Herbarium (Consortium 2016) applications, as well as a review of regional lists produced by the USFWS (2016) and CDFW (2016a, 2016b, and 2016c).

Field surveys were conducted for all potential rare plants in accordance with CDFW protocols. Surveys were conducted by qualified Atkins biologists. Table 1 includes a list of plant species that have either been sighted in the study area, or based on their habitat requirements, have the potential to occur in or near the study area.

5.0 Results

Two rare plants were documented within and adjacent to the study area, Engelmann oak and peninsular spineflower (*Chorizanthe leptotheca*).

As presented on the figure tiles in Appendix A, Engelmann oaks are distributed along Escondido Canal within the study area. Most occurrences (more than 50%) are of an individual tree, and the largest group of trees observed was a group of 10. Overall, 106 mature trees and two young trees were observed within the study area during rare plant surveys. These survey data indicate that Engelmann oak woodlands are rare in the study area and the surrounding area.

No spineflowers were found located within the project footprint during vegetation surveys. Six specimens were identified outside of, but very near, the northern portion of the study area, with the closest specimen located approximately 10 feet from the edge of the official study area (Appendix A, Tiles 1 and 3).

6.0 Conclusion and Recommendations

Sensitive natural communities including coast live oak, Engelmann oak, coastal sage scrub, chaparral, riparian, etc. that are impacted during construction would be mitigated.

As presented in Table 1 additional rare plants have the potential to occur in the study area. A qualified biologist would be onsite during construction and monitor for the presence of additional rare plant species.

Table 1 Special Status Plant Species Known or with Potential to Occur in the Study Area

Species	Status ⁽¹⁾ Federal/State CRPR County List	General Habitat Description	Occurrence
Blochman's dudleya <i>Dudleya blochmaniae</i> ssp. <i>Blochmaniae</i>	CRPR: 1B.1 List A	Rocky, often clay or serpentinite habitat. Coastal bluff scrub, chaparral, coastal scrub, and valley and foothill grassland. Elevation 16 – 1,476 feet. Perennial herb, blooms April–June.	Low Potential
Brewer's calandrinia <i>Calandrinia breweri</i>	CRPR: 4.2 List D	Chaparral, coastal scrub, sandy or loamy, disturbed sites and burns. Elevation 33 – 4,003 feet. Annual herb, blooms January–June.	Low Potential
California adolphia <i>Adolphia californica</i>	CRPR: 2B.1 List B	Clay soils, chaparral, coastal scrub, and valley and foothill grassland. Elevation 148 – 2,428 feet. Perennial deciduous shrub, blooms December–May.	Low to Moderate Potential
Chaparral beargrass <i>Nolina cismontana</i>	CRPR: 1B.2 List A	Chaparral (gabbro or sandstone habitat), coastal scrub. Elevation 459 – 4,183 feet. Perennial herb, blooms March–July.	Low Potential
Chaparral rein orchid <i>Piperia cooperi</i>	CRPR: 4.2 List D	Chaparral, cismontane woodland, valley and foothill grassland. Elevation 49 – 5,200 feet. Perennial herb, blooms March–June.	Low Potential
Cleveland's bush monkey flower <i>Mimulus clelandii</i>	CRPR: 4.2 List D	Chaparral, cismontane woodland, lower montane coniferous forest, and gabbroic, often in disturbed areas. Elevation 1,476–6,562 feet. Perennial rhizomatous herb, blooms April–July.	Low Potential
Delicate clarkia <i>Clarkia delicata</i>	CRPR: 1B.2 List A	Gabbroic soils, chaparral, and cismontane woodland. Elevation 771 – 3,280 feet. Annual herb, blooms April–June.	Moderate Potential
Engelmann oak <i>Quercus engelmannii</i>	CRPR: 4.2 List D	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. Elevation 164 – 4,265 feet. Perennial deciduous tree, blooms March–June.	Occurs
Felt-leaved monardella <i>Monardella hypoleuca</i> ssp. <i>lanata</i>	CRPR: 1B.2 List A	Chaparral and cismontane woodland. Elevation 984 – 5,167 feet. Perennial rhizomatous herb, blooms June–August.	Moderate Potential
Fish's milkwort <i>Polygala cornuta</i> var. <i>fishiae</i>	CRPR: 4.3 List D	Chaparral, cismontane woodland, riparian woodland. Elevation 328–3,281 feet. Perennial deciduous shrub, blooms May–August.	Moderate Potential
Gander's ragwort <i>Pakera (=Senecio) ganderi</i>	CRPR: 1B.2 List A	Chaparral (burns, gabbroic outcrops). Elevation 1,312 – 3,937 feet. Perennial herb, blooms April–June.	Low Potential
Heart-leaved pitcher sage <i>Lepechinia cardiophylla</i>	CRPR: 1B.2 List A	Closed-cone coniferous forest, chaparral, cismontane woodland. Elevation 1,706–4,495 feet. Perennial shrub, blooms April–July.	Low Potential
Narrow-petaled rein orchid <i>Piperia leptopetala</i>	CRPR: 4.3 List D	Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest. Elevation 1,247–7,300 feet. Perennial herb, blooms May–July.	Low Potential
Nevin's barberry <i>Berberis nevinii</i> <i>Mahonia nevinii</i>	FE / CE CRPR: 1B.1 List A	Chaparral, cismontane woodland, coastal scrub, riparian scrub. Elevation 230–2,707. Perennial evergreen shrub, blooms February–June.	Moderate Potential
Ocellated Humboldt lily <i>Lilium humboldtii</i> var. <i>ocellatum</i>	CRPR: 4.2 List D	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland. Elevation 98–5,906 feet. Perennial bulbiferous herb, blooms March–August.	Moderate Potential

Table 1 Special Status Plant Species Known or with Potential to Occur in the Study Area

Species	Status ⁽¹⁾ Federal/State CRPR County List	General Habitat Description	Occurrence
Orcutt's brodiaea <i>Brodiaea orcuttii</i>	CRPR: 1B.1 List A	Mesic, clay, sometimes serpentinite, closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation 98 – 5,551 feet. Perennial bulbiferous herb, blooms April–May.	Low Potential
Palmer's grapplinghook <i>Harpagonella palmeri</i>	CRPR: 4.2 List D	Clay habitat, chaparral, coastal scrub, and valley and foothill grassland. Elevation 66 – 3,133 feet. Annual herb, blooms March–May.	Moderate Potential
Parry's tetraococcus <i>Tetraococcus dioicus</i>	CRPR: 1B.2 List A	Chaparral and coastal scrub. Elevation 541 – 3,281 feet. Perennial deciduous shrub, blooms April–May.	Low Potential
Penisular spineflower <i>Chorizanthe leptotheca</i>	CRPR: 4.2 List D	Chaparral, coastal scrub, yellow pine forest, and alluvial-fans. Elevation 984 – 6,232 feet. Annual herb, blooms May-August.	Occurs
Rainbow manzanita <i>Arctostaphylos rainbowensis</i>	CRPR:1B.1 List A	Chaparral. Elevation 673 – 2,198 feet. Perennial evergreen shrub, blooms December-March.	Low Potential
Ramona horkelia <i>Horkelia truncata</i>	CRPR: 1B.3 List A	Clay and gabbroic habitat. Elevation 1,312 – 4,265 feet. Perennial herb, blooms May–June.	Low Potential
Robinson's pepper-grass <i>Lepidium virginicum</i> var. <i>robinsonii</i>	CRPR: 4.3 List A	Chaparral and coastal scrub. Elevation 3 – 2,904 feet. Annual herb, blooms January–July.	Moderate Potential
Rush-like bristleweed <i>Xanthisma junceum</i>	CRPR: 4.3 List D	Chaparral and coastal scrub. Elevation 790 - 3,280 feet. Perennial herb, blooms May-January.	Moderate Potential
San Diego ambrosia <i>Ambrosia pumila</i>	FE CRPR: 1B.1 List A	Sandy loam or clay, often in disturbed areas, sometimes alkaline chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 66 – 1,362 feet. Perennial rhizomatous herb, blooms April–October.	Low Potential
San Diego bur sage <i>Ambrosia chenopodiifolia</i>	CRPR: 2B.1 List B	Coastal scrub. Elevation 180 – 508 feet. Perennial shrub, blooms April–June.	Low Potential
San Diego gumplant <i>Grindelia hirstula</i> var. <i>hallii</i>	CRPR: 1B.2 List A	Chaparral, lower montane coniferous forest, meadows and seeps, and valley and foothill grassland. Elevation 607-5,275 feet. Perennial herb, blooms May-October.	Moderate Potential
San Diego milk-vetch <i>Astragalus oocarpus</i>	CRPR: 1B.2 List A	Chaparral, cismontane woodland. Elevation 1,000 – 4,900 feet. Perennial herb, blooms May-August.	Moderate Potential
San Diego sagewort <i>Artemisia palmeri</i>	CRPR: 4.2 List D	Sandy, mesic soils, chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland. Elevation 49 – 3,002 feet. Perennial deciduous shrub, blooms February–September.	Moderate Potential
San Diego thorn-mint <i>Acanthomintha ilicifolia</i>	FT / CE CRPR: 1B.1 List A	Clay soils, openings in chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 33 – 3,150 feet. Annual herb, blooms April–June.	Low Potential
San Miguel savory <i>Satureja chandleri</i>	CRPR: 1B.2 List A	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Elevation 394 - 3,527 feet. Perennial shrub, blooms March-July.	Low Potential
Singlewhorl burrobrush <i>Ambrosia monogyra</i>	CRPR: 2B.2	Sandy soils. Elevation 33-1,640 feet. Perennial shrub, blooms August–November.	Low Potential

Table 1 Special Status Plant Species Known or with Potential to Occur in the Study Area

Species	Status ⁽¹⁾ Federal/State CRPR County List	General Habitat Description	Occurrence
Smooth tarplant <i>Centromadia pungens</i> ssp. <i>laevis</i>	CRPR: 1B.1 List A	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grasslands. Elevation 0 - 2,100 feet. Annual herb, blooms April-September.	Low Potential
Southern tarplant <i>Centromadia parryi</i> ssp. <i>australis</i>	CRPR: 1B.1 List A	Marshes and swamps, valley and foothill grasslands, vernal pools Elevation 0 - 1,575 feet. Annual herb, blooms May-November.	Low Potential
Spreading navarretia <i>Navarretia fossalis</i>	FT CRPR: 1B.1 List A	Chenopod scrub, marshes and swamps, playas, and vernal pools. Elevation 98 – 2,149 feet. Annual herb, blooms April-June.	Low Potential
Summer holly <i>Comarostaphylis diversifolia</i> ssp. <i>Diversifolia</i>	CRPR: 1B.2 List A	Chaparral and cismontane woodland. Elevation 98 – 2,592 feet. Perennial evergreen shrub, blooms April-June.	Moderate Potential
Variegated dudleya <i>Dudleya variegata</i>	CRPR: 1B.2 List A	Clay habitat, chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 10 – 1,903 feet. Perennial herb, blooms April-June.	Low Potential
Western dichondra <i>Dichondra occidentalis</i>	CRPR: 4.2 List D	Chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. Elevation 164-1,640 feet. Perennial rhizomatous herb, blooms January-July.	Moderate Potential

⁽¹⁾ **Federal Status (listed under the Endangered Species Act)** – FE = Federally Endangered; FT = Federally Threatened; FC = Candidate for federal listing; FD = Delisted

State Status (listed under California Endangered Species Act) – CE = State Endangered; CT = State Threatened; CR = listed as Rare under the California Native Plant Protection Act. This category is no longer used for newly listed plants, but some plants previously listed as rare retain this designation.

CRPR (California Rare Plant Ranks, formerly known as CNPS lists) – 1A = Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere; 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; 2A = Plants Presumed Extirpated in California, But Common Elsewhere; 2B = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere; 3 = Plants in need of more information; 4 = Plants of limited distribution. x.1 = Seriously threatened in California (>80% of occurrences threatened or high degree and immediacy of threat). x.2 = Moderately threatened in California (20-80% of occurrences threatened or moderate degree and immediacy of threat). x.3 = Not very endangered in California (<20% of occurrences threatened or low degree and immediacy of threat or no current threats known)

County of San Diego Status – Lists A and B = Plant species that have a very high level of sensitivity, either because they are listed as threatened or endangered or because they have very specific natural history requirements that must be met. **Lists C and D** = plant species that are becoming less common, but are not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.

Sources: County 2010; CNDDDB 2016; SANGIS 2016; USFWS 2016; CDFW 2016

7.0 References

Baldwin, B.G, D.H. Goldman, D.J Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken. 2012. The Jepson Manual: Higher Plants of California. University of California Press. Berkeley, California. January.

California Department of Fish and Wildlife (CDFW). 2016a. State and Federally Listed Endangered, Threatened, and Rare Plants of California. Commercial version, California Department of Fish and Wildlife, Sacramento, CA. Accessed on June 29, 2016 at <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline>

California Department of Fish and Wildlife (CDFW). 2016b. California Natural Diversity Data Base (CNDDDB), computer listings and map locations of historic and current recorded occurrences of

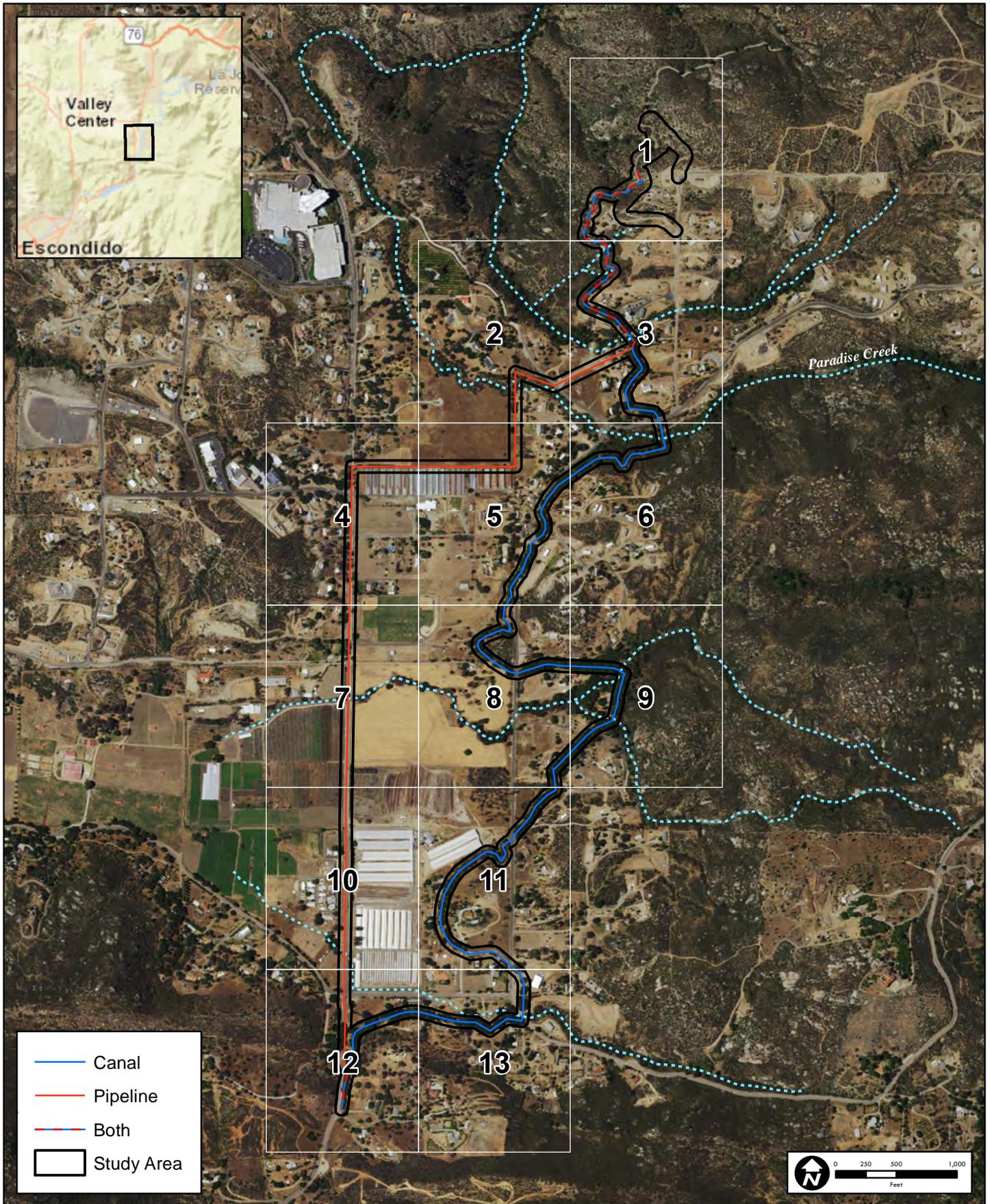
- special-status species and natural communities of special concern for USGS 7.5 minute quadrangle maps: (*Elmira, Allendale, Dixon, Dozier, Bird's Landing, Denverton, Fairfield South, Fairfield North, and Mt. Vaca*). Commercial version, California Department of Fish and Wildlife, Sacramento, CA. Accessed on June 29, 2016 from <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>
- California Department of Fish and Wildlife (CDFW). 2016c. Special Animals. California Department of Fish and Wildlife, California Natural Diversity Database. Sacramento, California. March. Accessed at <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPAnimals.pdf>
- California Native Plant Society (CNPS). 2016. Inventory of Rare and Endangered Plants (online edition, v6-04d1). California Native Plant Society. Sacramento, CA. Accessed on June 29, 2016 from <http://www.cnps.org/inventory>.
- City of San Diego. 1997. Final City of San Diego MSCP Subarea Plan. March 1997. Accessed on June 29, 2016 from <http://www.sandiego.gov/planning/programs/mscp/pdf/subareafullversion.pdf>
- Consortium of California Herbaria (Consortium). 2016. Data provided by the participants of the Consortium of California Herbaria. Accessed at <http://ucjeps.berkeley.edu/consortium/>
- County of San Diego. 2010. County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements. Biological Resources. Land Use and Environment Group. Department of Planning and Land Use. Department of Public Works. Fourth Revision, September 15.
- Google Earth. 2016. Google Earth 5.0. Accessed at <http://earth.google.com/>.
- Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. October. State of California, The Resources Agency, Department of Fish and Game, Natural Heritage Division, Sacramento, CA.
- Oberbauer, T., Kelly, M., and Buegge, J. 2008. Draft Vegetation Communities of San Diego County. Based on "Preliminary Descriptions of the Terrestrial Natural Communities of California," Robert F. Holland, PhD., October 1986.
- San Diego Association of Governments (SANDAG). 2016. SanGIS Interactive Map. Information provided by the participants of San GIS. Accessed at <http://sdgis.sandag.org/>
- San Diego Natural History Museum (SDNHM). 2016. San Diego Plant Atlas. Accessed on June 29, 2016 from <http://www.sdplantatlas.org/>
- Skinner, M. W. and B. M. Pavlik (eds.). 1994. Inventory of rare and endangered vascular plants of California. California Native Plant Society Special Publication No. 1 (5th edition). California Native Plant Society, Sacramento, CA. 338 pp.
- U.S. Department of Agriculture (USDA). 2016. Web Soil Survey of San Diego County Area, California. Accessed June 29, 2016 from <http://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/?stateId=CA>
- U.S. Environmental Protection Agency. 2014. San Diego Watershed Profile. Accessed on June 29, 2016 from http://cfpub.epa.gov/surf/huc.cfm?huc_code=18070304.

U.S. Fish and Wildlife Service (USFWS). 2016. Environmental Conservation Online System (ECOS) Species by County Report. San Diego, California. Accessed at: <http://ecos.fws.gov/ecp0/reports/species-by-current-range-county?fips=06073>

U.S. Geological Society. 2016. Escondido and Rancho Santa Fe, California 7.5 Minute Series (Topographic) Map. Accessed on June 29 from http://store.usgs.gov/b2c_usgs/usgs/maplocator

APPENDIX A
Vegetation and Rare Plant Tiles
Plant Species Observed in Study Area

Vegetation and Rare Plant Tiles



Project Features

- Escondido Canal
- Proposed Pipeline
- Access Area 1
- Access Area 2
- Reservation Boundary

Biological Resources

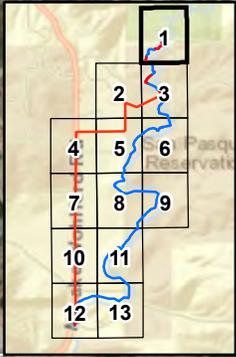
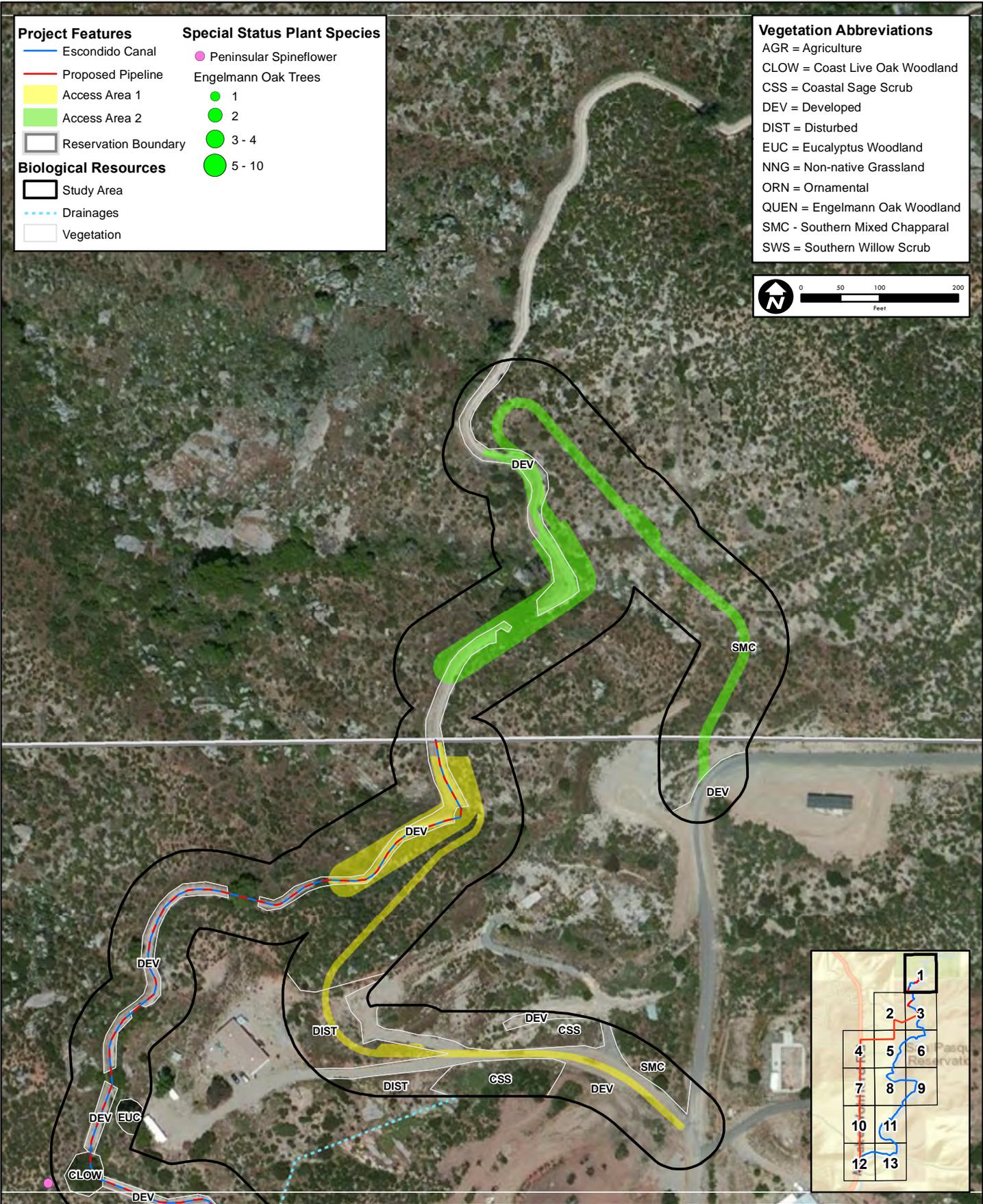
- Study Area
- Drainages
- Vegetation

Special Status Plant Species

- Peninsular Spineflower
- Engelmann Oak Trees
- 1
- 2
- 3 - 4
- 5 - 10

Vegetation Abbreviations

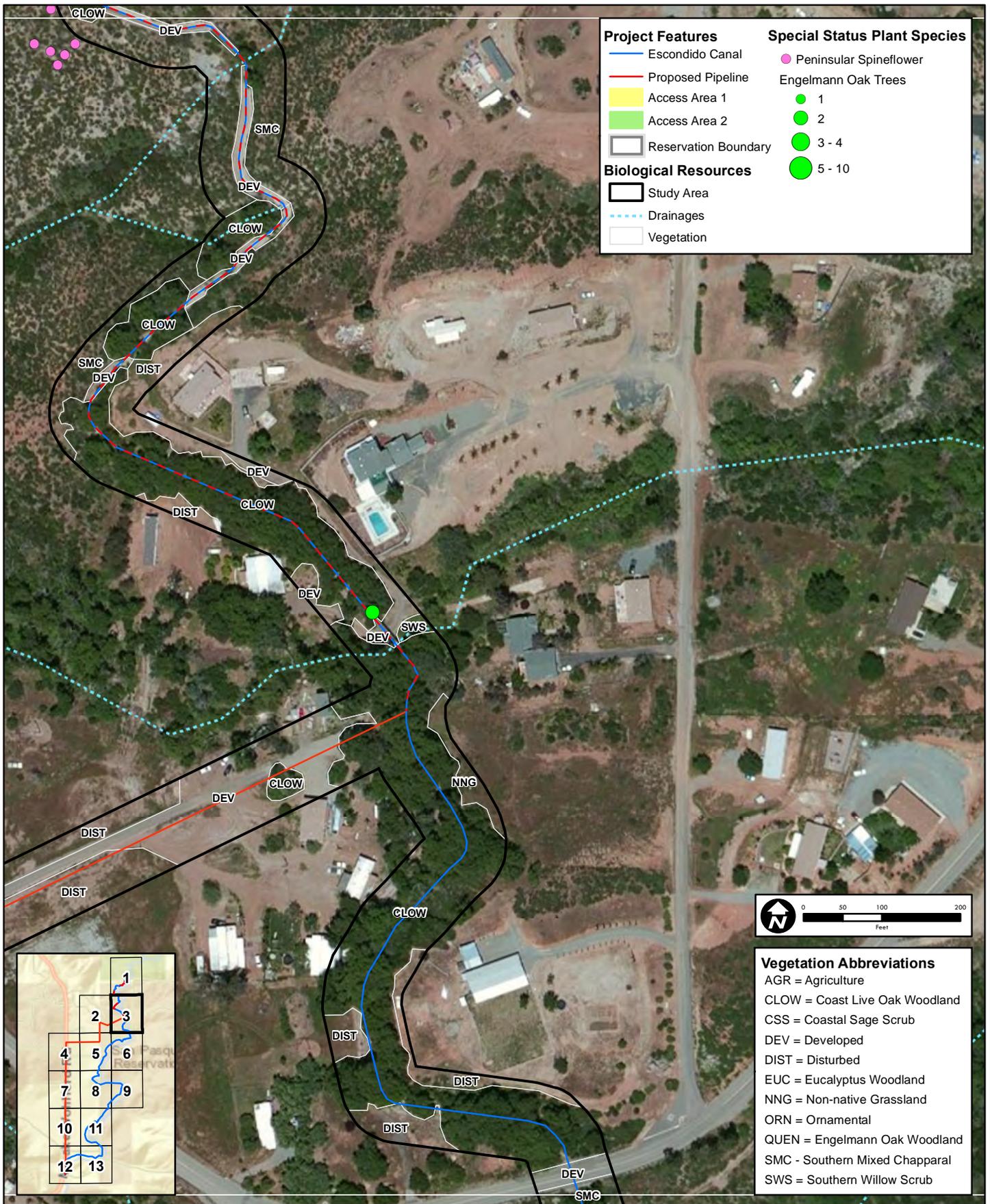
- AGR = Agriculture
- CLOW = Coast Live Oak Woodland
- CSS = Coastal Sage Scrub
- DEV = Developed
- DIST = Disturbed
- EUC = Eucalyptus Woodland
- NNG = Non-native Grassland
- ORN = Ornamental
- QUEN = Engelmann Oak Woodland
- SMC - Southern Mixed Chapparal
- SWS = Southern Willow Scrub





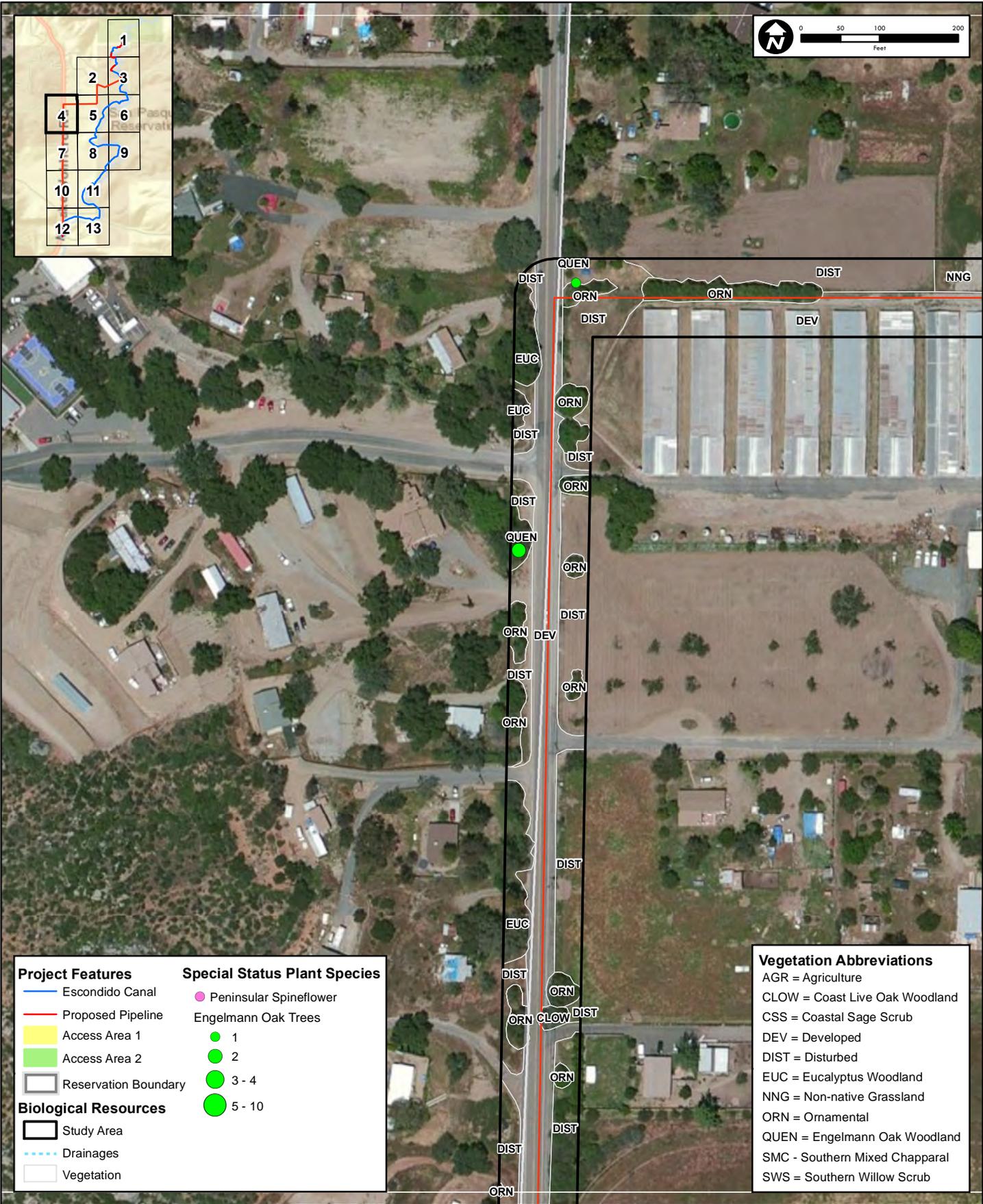
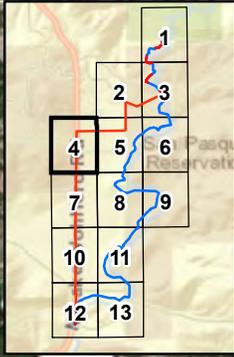
Tile 2 Vegetation and Rare Plants in Study Area





Tile 3 Vegetation and Rare Plants in Study Area

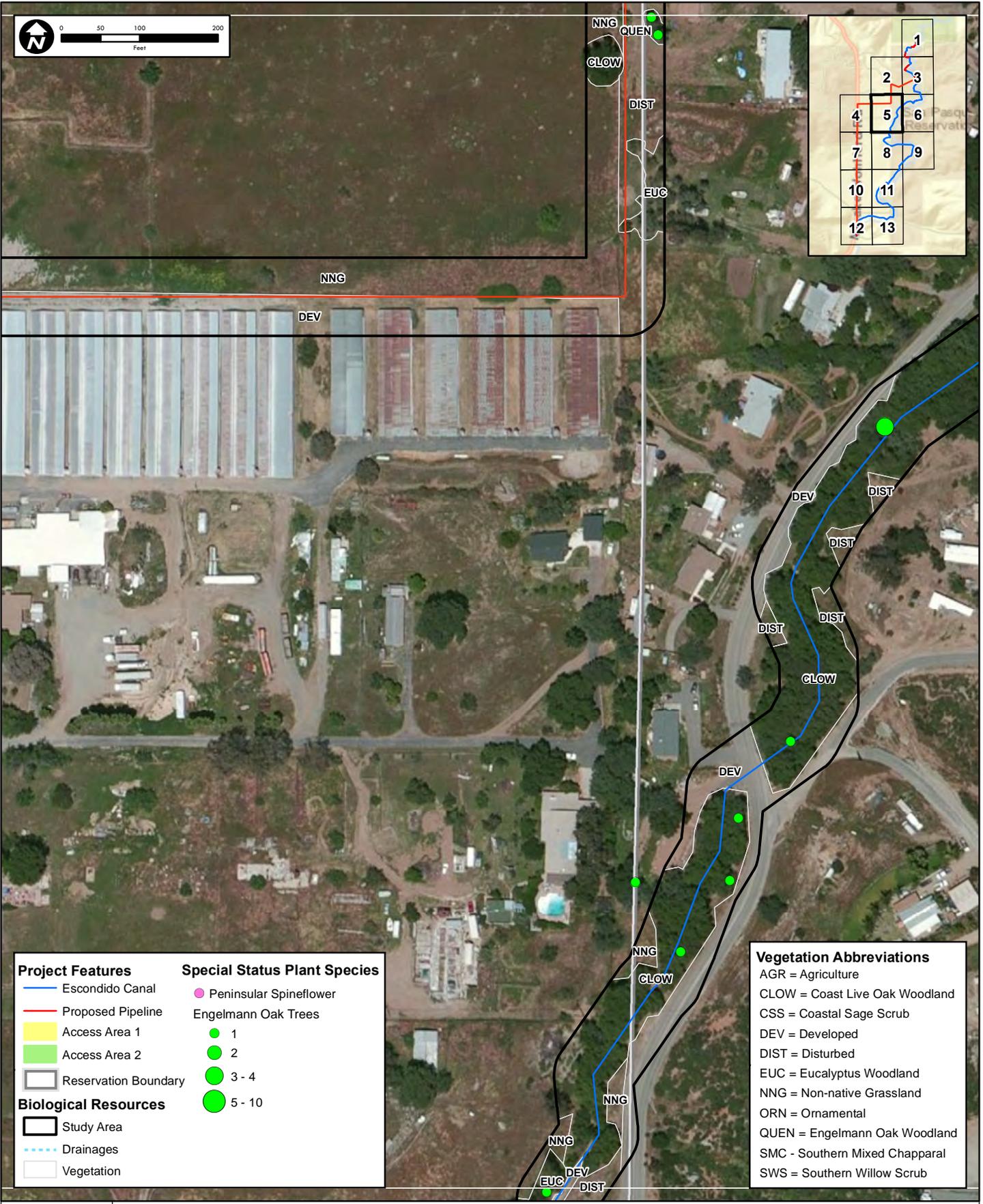
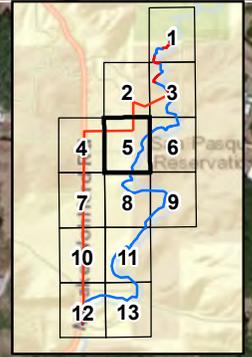
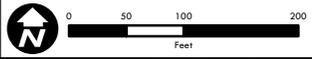




Project Features	Special Status Plant Species
Escondido Canal	Peninsular Spineflower
Proposed Pipeline	Engelmann Oak Trees
Access Area 1	1
Access Area 2	2
Reservation Boundary	3 - 4
Study Area	5 - 10
Drainages	
Vegetation	

Vegetation Abbreviations

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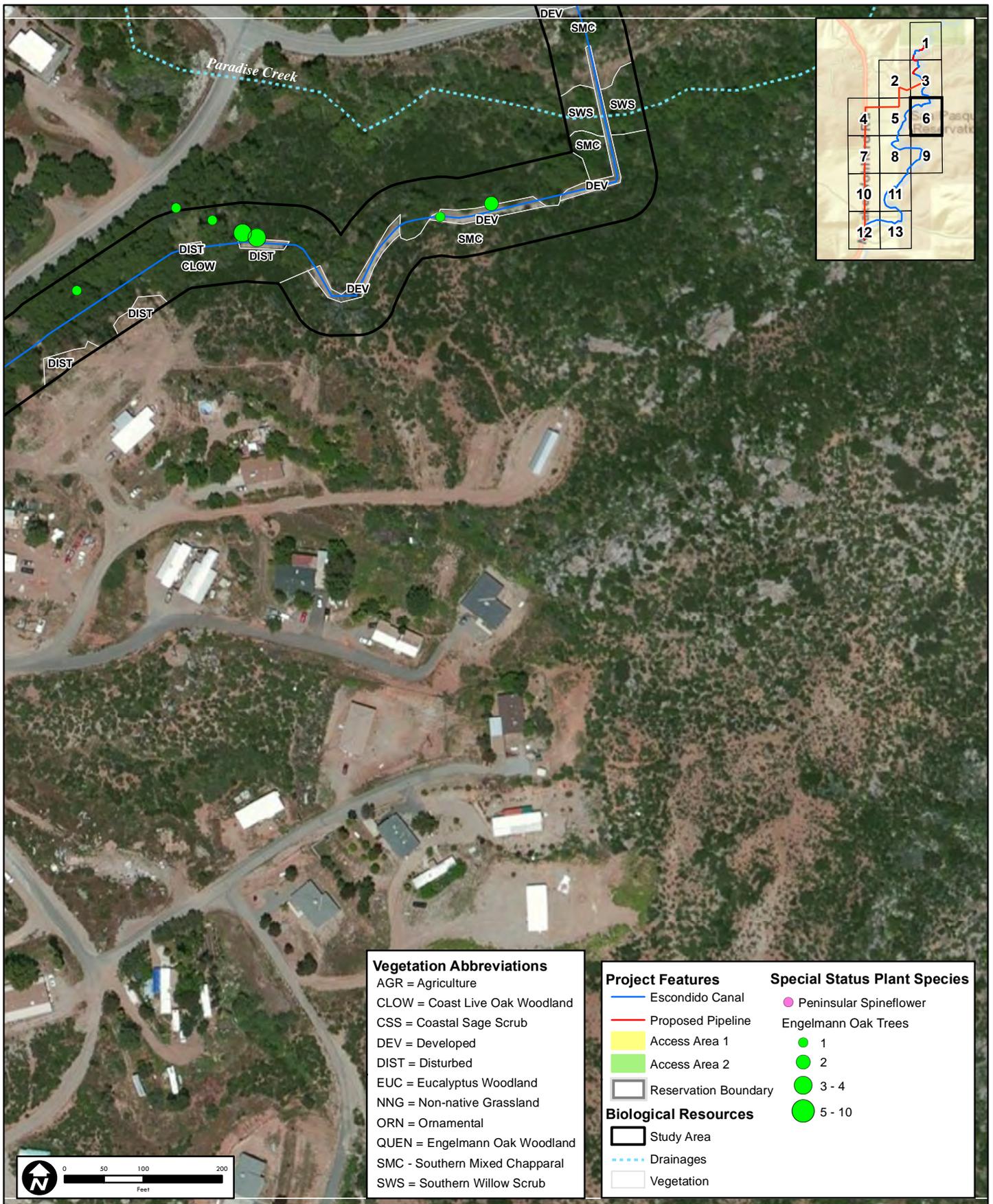


Project Features	Special Status Plant Species
Escondido Canal	Peninsular Spineflower
Proposed Pipeline	Engelmann Oak Trees
Access Area 1	1
Access Area 2	2
Reservation Boundary	3 - 4
Biological Resources	5 - 10
Study Area	
Drainages	
Vegetation	

Vegetation Abbreviations

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ATKINS **Title 5**
Vegetation and Rare Plants in Study Area



Tile 6 Vegetation and Rare Plants in Study Area

ATKINS

100049195 2016 San Pasqual Undergrounding Project

Sources: Esri 2016, Atkins 2016

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Tile 7 Vegetation and Rare Plants in Study Area

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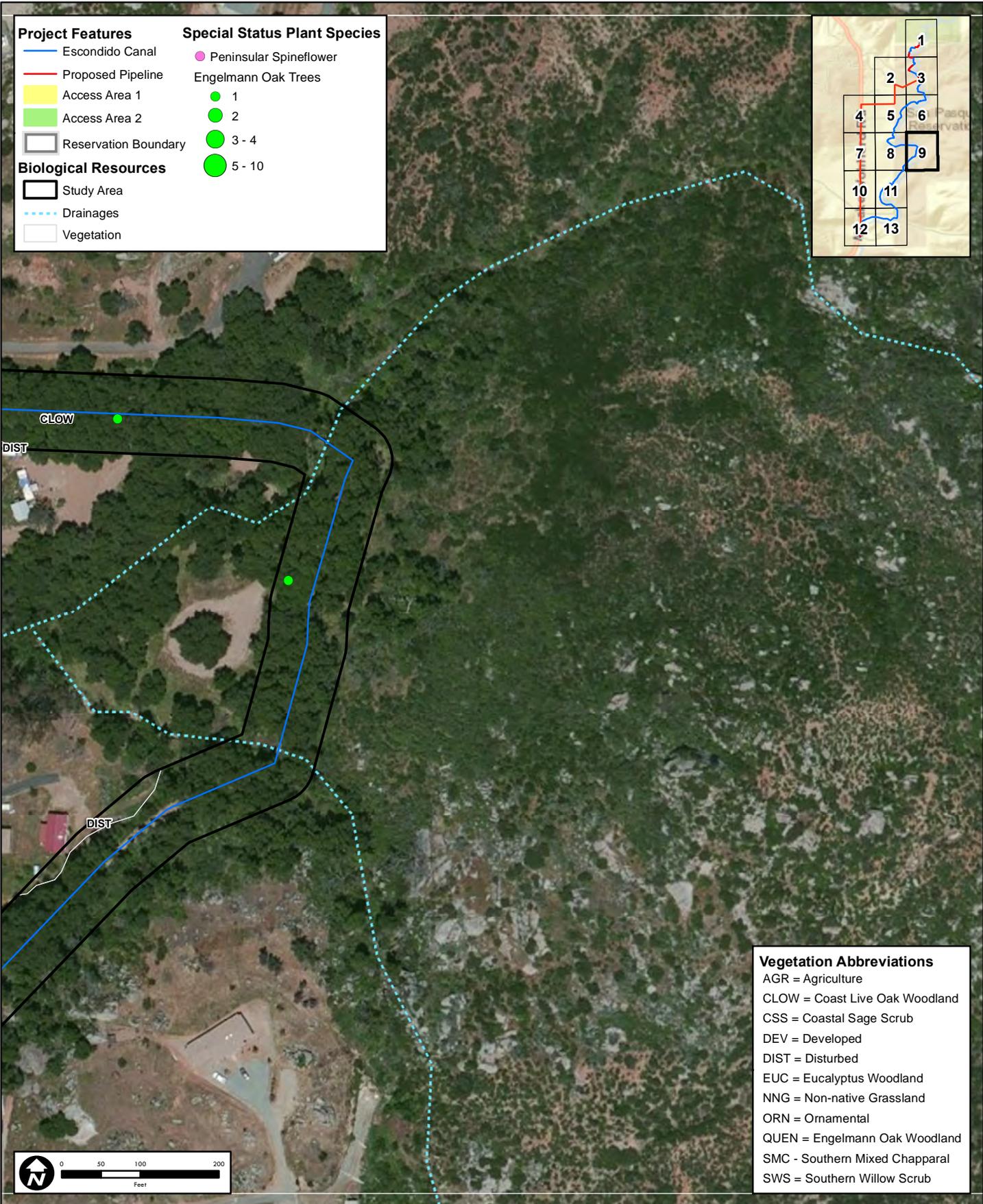
100049195 2016 San Pasqual Undergrounding Project

Sources: Esri 2016, Atkins 2016

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ATKINS **Title 8**
Vegetation and Rare Plants in Study Area



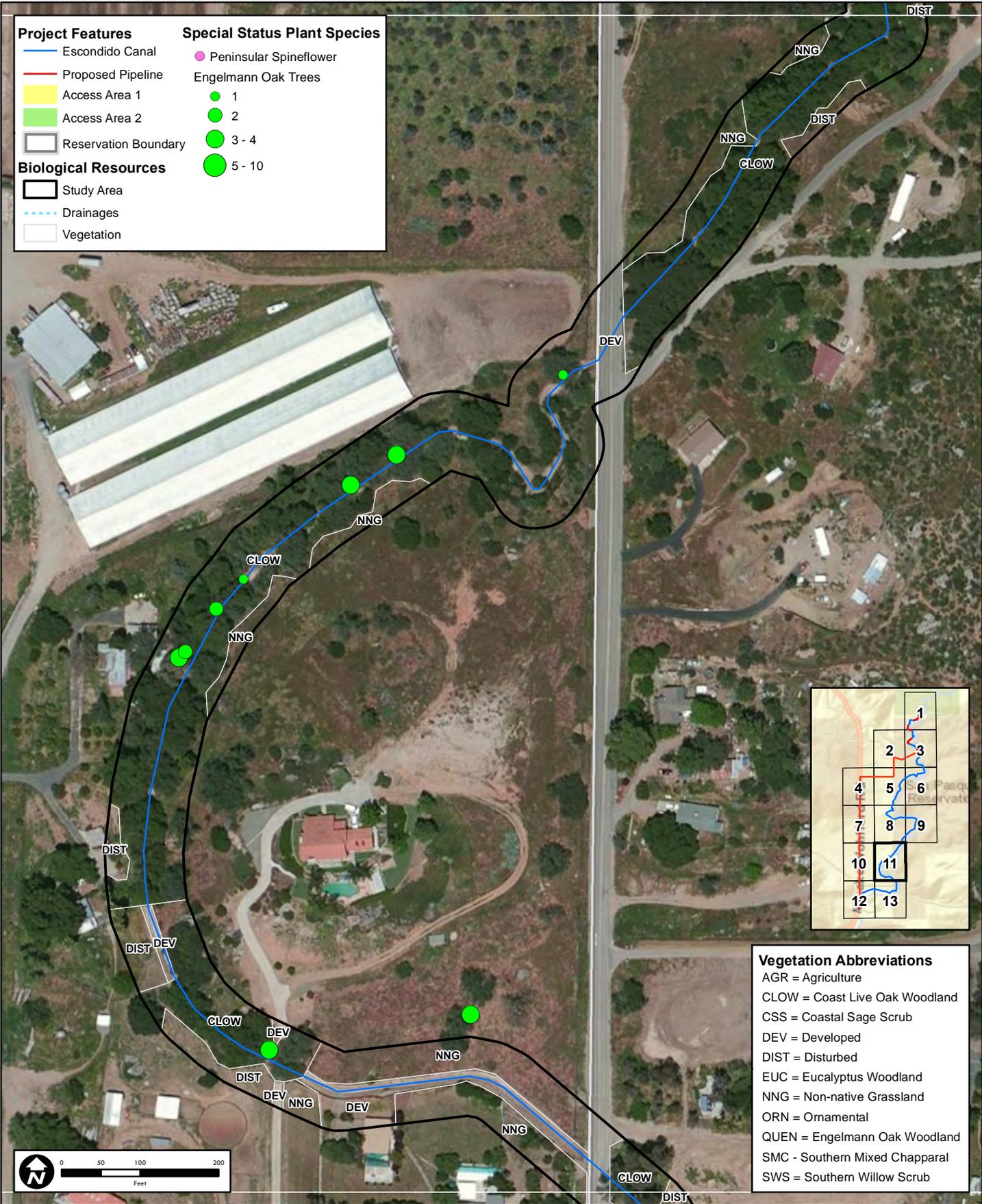


Tile 10 Vegetation and Rare Plants in Study Area

100049195 2016 San Pasqual Undergrounding Project

Sources: Esri 2016, Atkins 2016

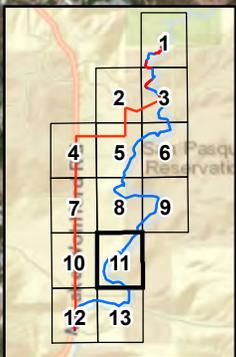
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- Project Features**
- Escondido Canal
 - Proposed Pipeline
 - Access Area 1
 - Access Area 2
 - ▭ Reservation Boundary
- Biological Resources**
- ▭ Study Area
 - ⋯ Drainages
 - ▭ Vegetation

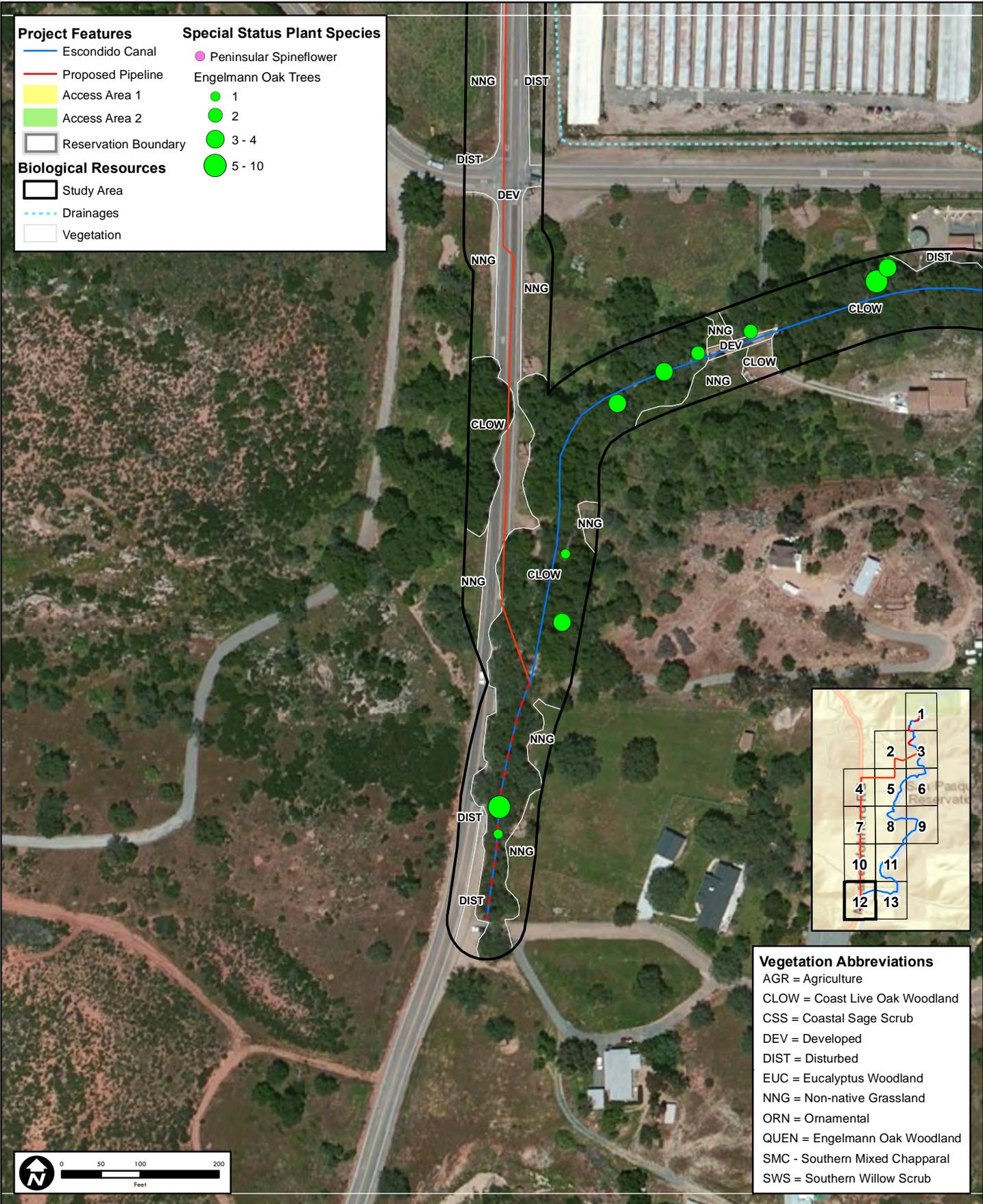
- Special Status Plant Species**
- Peninsular Spineflower
 - Engelmann Oak Trees
 - 1
 - 2
 - 3 - 4
 - 5 - 10

- Vegetation Abbreviations**
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Tile 11
Vegetation and Rare Plants in Study Area





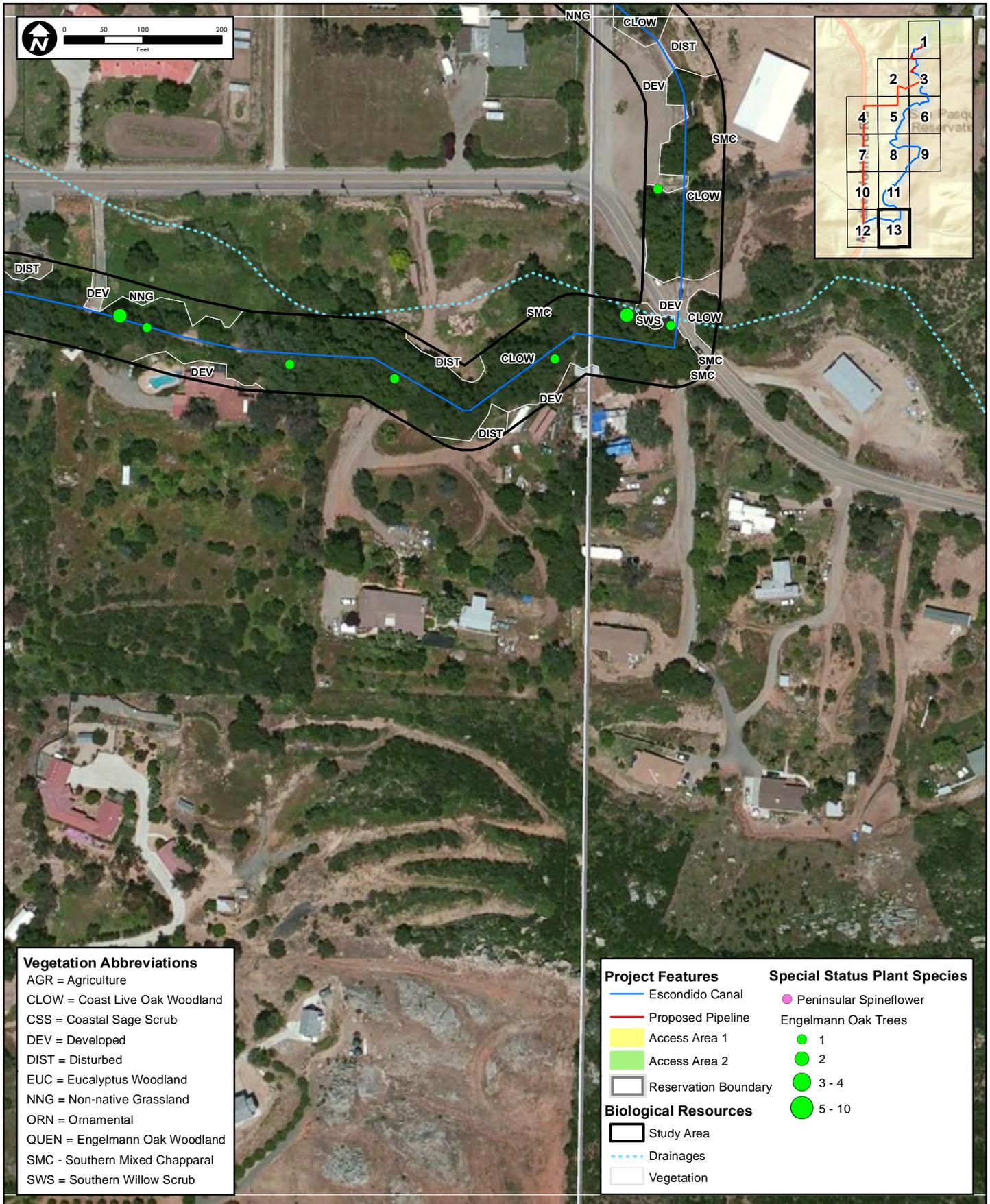
- Project Features**
- Escondido Canal
 - Proposed Pipeline
 - Access Area 1
 - Access Area 2
 - ▭ Reservation Boundary
- Biological Resources**
- ▭ Study Area
 - ⋯ Drainages
 - ▭ Vegetation

- Special Status Plant Species**
- Peninsular Spineflower
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- Vegetation Abbreviations**
- AGR = Agriculture
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Tile 12
Vegetation and Rare Plants in Study Area





Vegetation Abbreviations

- AGR = Agriculture
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Project Features

- Escondido Canal
- Proposed Pipeline
- Access Area 1
- Access Area 2
- Reservation Boundary
- Study Area
- ⋯ Drainages
- Vegetation

Special Status Plant Species

- Peninsular Spineflower
- Engelmann Oak Trees
- 1
- 2
- 3 - 4
- 5 - 10



Tile 13
Vegetation and Rare Plants in Study Area

Plant Species Observed in Study Area

Plant Species Observed in the Study Area

Scientific Name	Common Name
FERNS AND FERN ALLIES	
PTERIDACEAE	
<i>Adiantum jordanii</i>	Maidenhair Fern Family California Maidenhair
<i>Pellaea andromedifolia</i>	Coffee Fern
<i>Pellaea mucronata</i> var. <i>mucronata</i>	Bird's Foot Cliff-brake
<i>Pentagramma triangularis</i> spp. <i>trianularis</i>	California Goldback fern
DICOTS	
ADOXACEAE	
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Adoxa Family Blue Elderberry
AMARANTHACEAE	
* <i>Amaranthus albus</i>	Amaranth Family White Tumbleweed
<i>Chenopodium californicum</i>	California Goosefoot
* <i>Salsola tragus</i>	Prickly Russian-Thistle
ANACARDIACEAE	
<i>Malosma laurina</i>	Sumac Family Laurel Sumac
<i>Rhus ovata</i>	Sugar Bush
<i>Rhus trilobata</i>	Skunkbrush
* <i>Schinus molle</i>	Peruvian Pepper Tree
<i>Toxicodendron diversilobum</i>	Western Poison-Oak
APOCYNACEAE	
* <i>Vinca major</i>	Dogbane Family Greater Periwinkle
ASTERACEAE	
<i>Ambrosia acanthicarpa</i>	Sunflower Family Flatspine bur Ragweed
<i>Ambrosia psilostachya</i>	Cuman Ragweed
<i>Artemisia californica</i>	Coastal Sagebrush
<i>Artemisia douglasiana</i>	Douglas Mugwort
<i>Baccharis salicifolia</i>	Mule-Fat Seep-Willow
<i>Brickellia californica</i>	California Brickellbush
* <i>Carduus pycnocephalus</i>	Italian Thistle
* <i>Centaurea melitensis</i>	Tocalote
<i>Chaenactis artemisiifolia</i>	White Pincushion
<i>Chaenactis glabriuscula</i> var. <i>glabruiscula</i>	Yellow Pincushion
* <i>Cynara cardunculus</i> ssp. <i>cardunculus</i>	Artichoke Thistle
* <i>Dimorphotheca sinuata</i>	Blue-Eye Cape-Marigold
<i>Erigeron foliosus</i> var. <i>foliosus</i>	Leafy Daisy
<i>Eriophyllum confertiflorum</i> var. <i>confertiflorum</i>	Long-Stem Golden-Yarrow
<i>Gutierrezia californica</i>	California Matchweed
<i>Hazardia squarrosa</i>	Sawtooth Goldenbrush
* <i>Hedypnois cretica</i>	Crete Hedypnois
<i>Heterotheca grandiflora</i>	Telegraph Weed
* <i>Hypochaeris glabra</i>	Smooth Cat's Ear
<i>Isocoma menziesii</i>	Menzies' Goldenbush
* <i>Lactuca serriola</i>	Prickly Lettuce
<i>Pseudognaphalium biolettii</i>	Bicolor Cudweed
<i>Pseudognaphalium californicum</i>	California Everlasting
<i>Rafinesquia californica</i>	California Chicory
* <i>Sonchus asper</i> ssp. <i>asper</i>	Prickly Sow-Thistle
AIZOACEAE	
<i>Carpobrotus edulis</i>	Ice plant Family Hottentot fig
BORAGINACEAE	
<i>Cryptantha micromeres</i>	Borage Family Minute-Flower Cryptantha
<i>Pectocarya linearis</i> ssp. <i>ferocula</i>	Slender Pectocarya

Plant Species Observed in the Study Area

Scientific Name	Common Name
BRASSICACEAE <i>*Hirschfeldia incana</i> <i>Lepidium lasiocarpum</i> <i>*Sisymbrium irio</i>	Mustard Family Short-Pod Mustard Southern Pepperwort London Rocket
CAPRIFOLIACEAE <i>Lonicera subspicata</i> var. <i>denudata</i>	Honeysuckle Family Johnston's Honeysuckle
CARYOPHYLLACEAE <i>Silene antirrhina</i> <i>*Silene gallica</i>	Pink Family Sleepy Silene Common Catchfly
CISTACEAE <i>Helianthemum scoparium</i>	Rock-Rose Family Peak Rush-Rose
CONVOLVULACEAE <i>Calystegia macrostegia</i> ssp. <i>tenuifolia</i> <i>Cuscuta californica</i> var. <i>breviflora</i>	Morning-Glory Family San Diego Morning-Glory Short-Flower Chaparral Dodder
CRASSULACEAE <i>Crassula connata</i> <i>Dudleya edulis</i> <i>Dudleya pulverulenta</i>	Stonecrop Family Pygmyweed Ladies' Fingers Chalk Dudleya
CUCURBITACEAE <i>Marah macrocarpus</i> var. <i>macrocarpus</i>	Gourd Family Manroot Wild-Cucumber
DATISCAEAE <i>Datisca glomerata</i>	Datisca Family Durango Root
ERICACEAE <i>Xylococcus bicolor</i>	Heath Family Mission Manzanita
EUPHORBIACEAE <i>Chamaesyce polycarpa</i> <i>Croton setigerus</i>	Spurge Family Small-Seed Sandmat Dove Weed
FABACEAE <i>Acacia cyclops</i> <i>Acmispon micranthus</i> <i>Acmispon heermannii</i> var. <i>heermannii</i> <i>Acmispon americanus</i> <i>Acmispon glaber</i> var. <i>brevialatus</i> <i>Acmispon glaber</i> var. <i>glaber</i> <i>Acmispon strigosus</i> <i>Amorpha fruticosa</i> <i>Lathyrus vestitus</i> var. <i>alefeldii</i> <i>*Vicia sativa</i> ssp. <i>nigra</i>	Pea Family Coastal wattle Small-Flowered Lotus Heermann's Lotus Spanish Lotus Short winged Deerweed Deerweed Bishop's/Strigose Lotus False Indigo Bush San Diego Sweet pea Narrow-Leaf Vetch
FAGACEAE <i>Quercus agrifolia</i> var. <i>agrifolia</i> <i>Quercus berberidifolia</i> <i>Quercus engelmannii</i> <i>Quercus xacutidens</i>	Oak Family Coast Live Oak Scrub Oak Engelmann Oak Torrey's Scrub Oak
GERANIACEAE <i>*Erodium botrys</i> <i>*Erodium cicutarium</i> <i>*Erodium moschatum</i>	Geranium Family Long-Beak Filaree/Storksbill Red-Stem Filaree/Storksbill White-Stem Filaree/Storksbill
GROSSULARIACEAE <i>Ribes indecorum</i>	Gooseberry Family White-Flower Currant

Plant Species Observed in the Study Area

Scientific Name	Common Name
HYDROPHYLLACEAE <i>Eriodictyon crassifolium</i> var. <i>crassifolium</i> <i>Eucrypta chrysanthemifolia</i> var. <i>chrysanthemifolia</i> <i>Phacelia cicutaria</i> var. <i>hispida</i> <i>Phacelia parryi</i> <i>Phacelia ramosissima</i> var. <i>latifolia</i>	Waterleaf Family Felt-Leaf Yerba Santa Common Eucrypta Caterpillar Phacelia Parry's Phacelia Branching Phacelia
LAMIACEAE <i>Marrubium vulgare</i> <i>Salvia apiana</i> <i>Salvia clevelandii</i> <i>Salvia columbariae</i> <i>Salvia mellifera</i> <i>Stachys ajugoides</i> var. <i>rigida</i>	Mint Family Horehound White Sage Fragrant Sage Chia Black Sage Rigid Hedge-Nettle
MALVACEAE * <i>Malva parviflora</i>	Mallow Family Cheeseweed
MYOPORACEAE * <i>Myoporum laetum</i>	Emu bush Family Ngaio Tree
MYRTACEAE * <i>Eucalyptus camaldulensis</i>	Myrtle Family River Red gum
OLEACEAE <i>Fraxinus velutina</i> * <i>Olea europaea</i>	Olive Family Velvet Ash Olive
ONAGRACEAE <i>Camissonia bistorta</i> <i>Camissonia californica</i> <i>Camissonia hirtella</i> <i>Clarkia epilobioides</i>	Evening Primrose Family California Sun cup False-Mustard Field Sun cup Canyon Godetia
OXALIDACEAE * <i>Oxalis pes-caprae</i>	Oxalis Family Bermuda-Buttercup
PAEONIACEAE <i>Paeonia californica</i>	Peony Family California Peony
PAPAVERACEAE <i>Eschscholzia californica</i> <i>Mimulus aurantiacus</i> var. <i>pubescens</i> <i>Mimulus guttatus</i>	Poppy Family California Poppy Sticky Monkey flower Seep Monkey flower
PLANTAGINACEAE <i>Antirrhinum nuttallianum</i> ssp. <i>nuttallianum</i> <i>Keckiella antirrhinoides</i> var. <i>antirrhinoides</i> <i>Keckiella cordifolia</i> <i>Penstemon spectabilis</i> var. <i>spectabilis</i>	Plantain Family Nuttall's Snapdragon Yellow Bush Penstemon Climbing Bush Penstemon Showy Penstemon
PLATANACEAE <i>Platanus racemosa</i>	Sycamore Family Western Sycamore
POLEMONIACEAE <i>Eriastrum sapphirinum</i> ssp. <i>Dasyanthum</i> <i>Navarretia hamata</i> ssp. <i>hamata</i>	Phlox Family Many-Flower Woolly-Star Hooked Skunkweed
POLYGONACEAE <i>Chorizanthe leptotheca</i> <i>Chorizanthe</i> ssp. <i>Eriogonum fasciculatum</i> <i>Pterostegia drymarioides</i> * <i>Rumex crispus</i>	Buckwheat Family Ramona Spineflower Spineflower species California Buckwheat Granny's Hairnet Curly Dock

Plant Species Observed in the Study Area

Scientific Name	Common Name
PRIMULACEAE <i>*Anagallis arvensis</i>	Primrose Family Scarlet Pimpernel
RANUNCULACEAE <i>Thalictrum fendleri</i> var. <i>polycarpum</i>	Crowfoot Family Smooth-Leaf Meadow-Rue
RHAMNACEAE <i>Ceanothus crassifolius</i> <i>Ceanothus tomentosus</i> <i>Rhamnus pilosa</i>	Buckthorn Family Thick-Leaf-Lilac Ramona-Lilac Hairy-Leaf Redberry
ROSACEAE <i>Adenostoma fasciculatum</i> <i>Cercocarpus minutiflorus</i> <i>Heteromeles arbutifolia</i> <i>Prunus ilicifolia</i> ssp. <i>ilicifolia</i> <i>*Rubus armeniacus</i>	Rose Family Chamise Smooth Mountain-Mahogany Toyon Holly-Leaf Cherry Himalayan Blackberry
RUBIACEAE <i>Galium angustifolium</i> ssp. <i>angustifolium</i> <i>Galium aparine</i> <i>Galium nuttallii</i> ssp. <i>nuttallii</i> <i>*Galium parisiense</i> <i>Galium porrigens</i> var. <i>porrigens</i>	Madder Family Narrow-Leaf Bedstraw Common Bedstraw Narrow-Leaf Bedstraw Wall Bedstraw Climbing/Oval-Leaf Bedstraw
SALICACEAE <i>Populus fremontii</i> ssp. <i>fremontii</i> <i>Salix gooddingii</i> <i>Salix laevigata</i> <i>Salix lasiolepis</i>	Willow Family Western Cottonwood Goodding's Black Willow Red Willow Arroyo Willow
SIMAROUBACEAE <i>*Ailanthus altissima</i>	Sapindales Family Tree of Heaven
SOLANACEAE <i>Datura wrightii</i> <i>*Nicotiana glauca</i>	Nightshade Family Sacred Thorn-Apple Tree Tobacco
TAMARICACEAE <i>*Tamarix ramosissima</i>	Tamarisk Family Tamarisk Salt-Cedar
URTICACEAE <i>Urtica dioica</i>	Nettle Family Stinging Nettle
MONOCOTS	
ARECACEAE <i>*Washingtonia robusta</i>	Palm family Washington Fan Palm
AGAVACEAE <i>Hesperoyucca whipplei</i>	Agave Family Chaparral Candle
ALLIACEAE <i>Allium haematochiton</i>	Onion Family Red-Skin Onion
CYPERACEAE <i>Scirpus microcarpus</i>	Sedge Family Small-Fruit Bulrush
IRIDACEAE <i>*Chasmanthe floribunda</i>	Iris Family African Cornflag
JUNCEAEAE <i>Juncus mexicanus</i>	Rush Family Mexican Rush
LILIACEAE <i>Calochortus splendens</i> <i>Calochortus weedii</i> var. <i>weedii</i>	Lily Family Splendid Mariposa Lily Weed's Mariposa Lily

Plant Species Observed in the Study Area

Scientific Name	Common Name
PINACEAE <i>Pinus sp.</i>	Pine Family Pine
POACEAE * <i>Avena fatua</i> * <i>Brachypodium distachyon</i> * <i>Bromus diandrus</i> * <i>Bromus madritensis ssp. rubens</i> * <i>Cortaderia selloana</i> <i>Elymus glaucus ssp. glaucus</i> * <i>Hordeum murinum ssp. glaucum</i> * <i>Lamarckia aurea</i> * <i>Festuca multiflorum</i> * <i>Festuca perenne</i> <i>Muhlenbergia rigens</i> <i>Stipa lepida</i> * <i>Stipa miliacea</i> * <i>Polypogon interruptus</i> * <i>Polypogon monspeliensis</i> * <i>Schismus barbatus</i>	Grass Family Wild Oat Purple Falsebrome Ripgut Grass Red Brome Selloa Pampas Grass Blue Wildrye Glaucous Barley Golden-Top Italian Ryegrass Perennial Ryegrass Deergrass Foothill Needlegrass Smilo Grass Ditch Beard Grass Annual Beard Grass Mediterranean Schismus
THEMIDACEAE <i>Dichelostemma capitatum ssp. capitatum</i> <i>Muilla maritima</i>	Brodiaea Family Blue Dicks Common Muilla
*Non-native species	