

DOCKETED

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Supplemental Rare Plant Survey for Alamitos Energy Center

PREPARED FOR: AES Southland Development, LLC.
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DATE: August 19, 2016

Introduction

Melissa Fowler (Biologist, CH2M) conducted a supplemental rare plant survey for proposed new process and sanitary wastewater pipeline route for AES Alamitos Energy, LLC's (Applicant) Alamitos Energy Center (AEC) on August 12, 2016.¹ This memorandum is intended to provide additional information for the Supplemental Application for Certification (SAFC; 13-AFC-01). This memorandum specifically presents the results a supplemental botanical survey for the proposed new process/sanitary wastewater pipeline route.

Location and Background

The Applicant will construct, own, and operate the AEC—a natural-gas-fired, air-cooled, combined-cycle and simple-cycle, electrical generating facility in Long Beach, California. The AEC will have a nominal generating capacity of 1,040 megawatts (MW). The AEC will be constructed on the brownfield site of the existing AES Alamitos Generating Station (AGS), and located on an approximately 21-acre site within a larger 71-acre parcel. With the exception of a new 1,000-foot process/sanitary wastewater pipeline, all construction will occur within the existing AGS site.

Survey Methods

The proposed new process and sanitary wastewater pipeline route are all located in existing developed or disturbed areas that were not considered to provide suitable habitat for special-status plants. There are no natural vegetation communities within the proposed new process/ sanitary wastewater pipeline route.

Literature Review

Prior to the surveys, a list of potential special-status species plants was developed based on queries from United States Fish and Wildlife Service (USFWS, 2015b; USFWS, 2015c; USFWS, 2015d), California Natural Diversity Database (CNDDDB; CDFW, 2016), and the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Plants (CNPS, 2016). A 10-mile query was used for CNDDDB (CDFW, 2015). A list of potential special-status plants considered potentially occurring is provided in Attachment A. The southern tarplant (*Centromadia parryi* ssp. *australis*; CNPS Rare Plant Rank 1B.1) was the only special-status species that was the focus of the supplemental rare plant survey. The CNPS Rare Plant Rank 1B corresponds to plants that are rare throughout their range with the majority of them endemic to California (CNPS, 2016). According to CNPS (2016), a Threat Rank 0.1 equates to a species being seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat).

Field Survey

The supplemental botanical survey was conducted on August 12, 2016, in accordance with CDFW (2009) protocols for surveying special-status plants. As stated in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW, 2009b), botanical surveys should only be conducted when:

- Natural (or naturalized) vegetation occurs on the site, and it is unknown if special status plant species or natural communities occur on the site, and the project has the potential for direct or indirect effects on vegetation; or

¹ A resume for Ms. Fowler is provided in the Supplemental Application for Certification Appendix 5.2D -

http://docketpublic.energy.ca.gov/PublicDocuments/13-AFC-01/TN206428-3_20151026T143709_Alamitos_Suppl_AFC_Appendices_51G_to_510B.pdf

- Special status plants or natural communities have historically been identified on the project site; or
- Special status plants or natural communities occur on sites with similar physical and biological properties as the project site.

The survey date occurred within the potential blooming period of the southern tarplant (May to November). In addition, special-status plant species within the regional vicinity of AEC and their associated blooming periods and habitat requirements are provided in Attachment 1.

The survey was floristic in nature; all plant species encountered during the survey were identified to the taxonomic level necessary to determine rarity. Nomenclature for scientific names follows Jepson Online Interchange California Floristics (University of California, 2016a). The Survey Area consisted of the proposed process and sanitary wastewater pipeline route and unpaved surfaces within 50 feet of the alignment, including the entire parcel north of Loynes Drive (Survey Area).

Results

Survey Conditions

The National Weather Service Palmer Drought Severity Index indicates that much of southern California, including the botanical Survey Area, is experiencing extreme drought conditions (National Weather Service, 2016). Average annual rainfall in the vicinity of the Survey Area is typically 11.29 inches (WRCC, 2016). From January 1, 2015 through August 1, 2016 there was only 6.04 inches, which is being the annual average Floristics (University of California, 2016b).

Proposed Process and Sanitary Wastewater Pipeline Route

No southern tarplants or other special-status species were identified within the Survey Area. The Survey Area has been previously developed and/or disturbed and does not contain any natural vegetation communities. The Survey Area consists predominantly of naturalized, non-native plant species. A complete list of plant taxa observed is provided in Attachment 2 and representative site photographs are provided in Attachment 3. In addition, photographs of that habitat south of Loynes Drive are provided in Photographs 7-8 of Attachment 3 for comparison.

Summary and Conclusion

No special-status plant species were identified within the Survey Area. Consistent with the requirements of Condition of Certification BIO-7, a pre-construction clearance survey is recommended prior to any surface disturbances.

References

- California Department of Fish and Wildlife (CDFW). 2003. *List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database (CNDDDB)*. Wildlife and Habitat Data Analysis Branch, Vegetation Classification and Mapping Program. (Note the agency's name changed to California Department of Fish and Wildlife subsequent to this publication.)
- California Department of Fish and Wildlife (CDFW). 2009a. *List of California Vegetation Alliances*. Biogeographic Data Branch, Vegetation Classification and Mapping Program. (Note the agency's name changed to California Department of Fish and Wildlife subsequent to this publication.)
- California Department of Fish and Wildlife (CDFW). 2009b. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. Sacramento, California. Accessed at: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/protocols_for_surveying_and_evaluating_impacts.pdf.
- California Department of Fish and Wildlife (CDFW). 2015. California Natural Diversity Database (CNDDDB). RareFind5. Electronic database. Sacramento, CA.
- California Native Plant Society (CNPS). 2016. *Inventory of Rare, Threatened, and Endangered Plants of California*. <http://www.rareplants.cnps.org/>.

California Native Plant Society (CNPS). 2001. *Botanical Survey Guidelines of the California Native Plant Society*. 9 December 1983, revised 2 June 2001.

United States Fish and Wildlife Service (USFWS). 1996. *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants*. September 23. Accessed at: http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/Listed_plant_survey_guidelines.pdf

United States Fish and Wildlife Service (USFWS). 2015a. Critical Habitat for Threatened and Endangered Species GIS Database.

United States Fish and Wildlife Service (USFWS). 2015b. Candidate Species in California based on published population data. Available at:

http://ecos.fws.gov/tess_public/pub/stateListingIndividual.jsp?state=CA&status=candidate

United States Fish and Wildlife Service (USFWS). 2015c. Species proposed for listing in California based on published population data. Available at:

http://ecos.fws.gov/tess_public/pub/stateListingIndividual.jsp?state=CA&status=proposed

United States Fish and Wildlife Service (USFWS). 2015d. Threatened and endangered species listings and occurrences for California. Available at:

http://ecos.fws.gov/tess_public/pub/stateListingAndOccurrenceIndividual.jsp?state=CA&s8fid=112761032792&s8fid=112762573902

University of California. 2016a. *Jepson On-Line Interchange for California Floristics*. The Jepson Herbarium at the University of California, Berkeley. Available on line at: <http://ucjeps.berkeley.edu/interchange/>

University of California. 2016b. Weather, models, & degree-days. University of California Agriculture and Natural Resources Integrated Pest Management Program. Available on line at: <http://ipm.ucanr.edu/WEATHER/>

Western Regional Climate Center (WRCC). 2016. Climatological Summary. Station: Long Beach-Daugherty Field Airport (KLGB), CA. Available online at: <http://www.wrcc.dri.edu/summary/lgb.ca.html>

University of California. 2016b. Weather, models, & degree-days. University of California Agriculture and Natural Resources Integrated Pest Management Program. Available on line at: <http://ipm.ucanr.edu/WEATHER/>

Attachment 1
Regional Special-Status Plants

ATTACHMENT 1

Potential Special-Status Plant within the Regional Vicinity of the Alamitos Energy Center

Species	Status ^a (Federal/ State/Other)	Potential for Occurrence/ Nearest Identified Occurrence ^b	Habitat Requirements
Ventura Marsh milk-vetch <i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	FE/SE/1B.1	Not Expected. No suitable habitat present within the project area. A historic regional occurrence record for this species are from 1882, potentially extirpated.	Perennial herb; blooms June through October. Occurs in coastal dunes, coastal scrub, and edges of salt or brackish marshes and swamps.
Coulter's saltbush <i>Atriplex coulteri</i>	---/---/ CNPS 1B.2	Not Expected. No suitable habitat found within in the project area. This species was documented approximately 7 miles northwest of AEC within the Bixby Knolls; however, this population is presumed to be extirpated from site development.	Perennial herb; blooms March through October. Occurs in coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland.
Parish's brittlescale <i>Atriplex parishii</i>	---/---/ CNPS 1B.1	Not Expected. No suitable habitat found within the project area. This species was documented approximately 7 miles northwest of AEC within the Bixby Knolls; however, this population is presumed to be extirpated from site development.	Annual herb; blooms June through October. Occurs in alkali meadows, vernal pools, chenopod scrub and playas.
Davidson's saltscale <i>Atriplex serenana</i> var. <i>davidsonii</i>	---/---/ CNPS 1B.2	Not expected. Nearest recorded observation in disturbed habitat along Ventura Blvd., north of Ventura Freeway in El Rio, 2001.	Annual herb; blooms April through October. Occurs in coastal bluff scrub and coastal scrub.
Southern tarplant <i>Centromadia parryi</i> ssp. <i>australis</i>	---/---/ CNPS 1B.1	Not Expected to Low. Unlikely given vegetation management practices on and around the site. Several reported occurrences in the regional vicinity of the AEC (CDFW, 2013).	Annual herb; blooms May through November. Occurs along the margins of marshes and swamps, vernally mesic grasslands, and vernal pools
Salt marsh bird's-beak <i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	FE/SE/CNPS 1B.2	Not expected. No suitable habitat within in the project area. This species has been documented within the Upper Anaheim Bay in Seal Beach, but the natural population is presumed to be extirpated and the population observed in 1983 was likely introduced.	Annual herb; blooms May through October. Occurs within the higher zones of coastal salt marsh and coastal dune habitat.
Los Angeles sunflower <i>Helianthus nuttallii</i> ssp. <i>parishii</i>	---/---/ CNPS 1A	Extirpated. No suitable habitat present on the AEC site. Regional occurrences are two historic records from 1924 and.	Perennial herb; blooms August through October. Occurs in coastal salt and freshwater marshes and swamps
Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	---/---/ CNPS 1B.1	Not Expected. No suitable habitat within the project area. This species has been documented within the Seal Beach National Wildlife Refuge in 1949.	Annual herb; blooms February through June. Occurs in coastal salt marshes and swamps, playas, and vernal pools
Mud nama <i>Nama stenocarpum</i>	---/---/ CNPS 2B.2	Not Expected. No suitable habitat in the project area. A historic record (1932) for this species has been documented in the Anaheim Marsh.	Annual or perennial herb; blooms January through June. Occurs in marshes and swamps along lake margins and riverbanks.

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Potential Special-Status Plant within the Regional Vicinity of the Alamitos Energy Center

Species	Status ^a (Federal/ State/Other)	Potential for Occurrence/ Nearest Identified Occurrence ^b	Habitat Requirements
Gambel's water cress <i>Nasturtium gambelii</i>	FE/SE/CNPS 1B.1	Not Expected. Only record in the regional vicinity is from a historic (1908) collection; this occurrence has likely been extirpated by development.	Perennial herb; blooms April through October. Occurs in freshwater or brackish marshes and swamps.
Prostrate vernal pool navarretia <i>Navarretia prostrata</i>	---/---/ CNPS 1B.1	Not Expected. No suitable habitat in the project area. A historic record (1882) for this species was documented in Wilmington, but may possibly be extirpated.	Annual herb; blooms April through July. Occurs in mesic sites including coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), and vernal pools
Coast woolly-heads <i>Nemacaulis denudata</i> var. <i>denudata</i>	---/---/ CNPS 1B.2	Not Expected. No suitable habitat in the project area. A historic record (1951) for this species was documented within Seal Beach and Alamitos.	Annual herb; blooms April through September. Occurs in coastal dunes.
California Orcutt grass <i>Orcuttia californica</i>	FE/SE/CNPS 1B.1	Not Expected. No suitable habitat is found within the AEC site. Species was documented approximately 4.5 miles northwest of the project area, but is presumed to be extirpated.	Annual grass; blooms April through August. Occurs in vernal pools.
Lyon's pentachaeta <i>Pentachaeta lyonii</i>	FE/SE/CNPS 1B.1	Not Expected. No suitable habitat within the AEC site and the nearest occurrence record is approximately 6 miles to the southeast. This occurrence record is not dated, but is presumed to be possibly extirpated.	Annual herb; blooms March through August. Occurs in chaparral (openings), coastal scrub, and valley and foothill grassland (rocky clay soils).
Sanford's arrowhead <i>Sagittaria sanfordii</i>	---/---/ CNPS 1B.2	Not Expected. No suitable habitat is present within the AEC site. A historic record (1975) for this species was documented east of the Garden Grove-Wintersburg Canal.	Perennial herb (rhizomatous); blooms May through October. Occurs in Shallow freshwater marshes and swamps.
Salt spring checkerbloom <i>Sidalcea neomexicana</i>	---/---/ CNPS 2B.2	Not Expected. No suitable habitat present within the AEC site and this species has been recorded approximately one-half mile north of the project area from historic collections obtained from Bryant Ranch.	Perennial herb; blooms March through June. Occurs in alkaline and mesic sites in chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and playas.
Estuary seablite <i>Suaeda esteroa</i>	---/---/ CNPS 1B.2	Not Expected. No suitable habitat within the project area. A historic occurrence record for this species was obtained from Seal Beach.	Perennial herb; blooms May through October. Occurs in coastal salt marshes and swamps.

ATTACHMENT 1

Potential Special-Status Plant within the Regional Vicinity of the Alamitos Energy Center

Species	Status ^a (Federal/ State/Other)	Potential for Occurrence/ Nearest Identified Occurrence ^b	Habitat Requirements
San Bernardino aster <i>Symphotrichum defoliatum</i>	---/---/ CNPS 1B.2	Extirpated. No suitable habitat in the project area. Only reported occurrences are from historic collections obtained in 1932 from Bryant Ranch, presumed to be extirpated.	Perennial herb (rhizomatous); blooms July through November. Occurs near ditches, streams, and springs in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and valley and foothill grassland (vernally mesic).

Sources:

California Department of Fish and Wildlife (CDFW). 2015. California Natural Diversity Database (CNDDB).

California Native Plant Society (CNPS). 2016. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society. Sacramento, CA.

^a Key to Status Designations:

Federal Designations:

(FE) Federally Endangered, (FT) Federally Threatened, (FPE) Federally Proposed Endangered, (FPT) Federally Proposed Threatened, (FSC) Species of Concern, (FC) Candidate

State Designations:

(SE) State Endangered, (ST) State Threatened, (SR) State Rare, (SSC) Species of Special Concern, (CFP) Fully Protected Species

California Native Plant Society (CNPS) Designations:

(1A) Presumed extinct in California; (1B) Rare, threatened, or endangered in California and elsewhere; (2) Rare, threatened, or endangered in California, but more common elsewhere; (3) More information is needed; (4) Limited distribution; (.1) Seriously endangered in California; (.2) Fairly endangered in California; (.3) Not very endangered in California.

Attachment 2
Plant Species Observed

ATTACHMENT 2

**Vascular Plant Species Observed Alamos Energy Center Supplemental Rare Plants Survey
 August 12, 2016, Los Angeles County, California**

Scientific Name	Common Name	Status
Eudicots		
AIZOACEAE		
<i>Mesembryanthemum crystallinum</i>	Crystalline ice plant	Naturalized
ASTERACEAE		
<i>Centaurea melitensis</i>	Tocalote	Naturalized
<i>Heterotheca sessiliflora</i>	Sessile-flower golden-aster	Native
<i>Sonchus asper</i>	Spiny-leaved sow-thistle	Naturalized
<i>Symphotrichum subulatum</i>	Eastern annual saltmarsh aster	Native
ARECACEAE		
<i>Washingtonia filifera</i>	California fan palm	Native
BRASSICACEAE		
<i>Brassica nigra</i>	Black mustard	Naturalized
<i>Descurainia pinnata</i>	Yellow tansy mustard	Native
<i>Hirschfeldia incana</i>	Summer mustard	Naturalized
CHENOPODIACEAE		
<i>Bassia hyssopifolia</i>	Fivehook bassia	Naturalized
<i>Chenopodium murale</i>	Nettle leaved goosefoot	Naturalized
<i>Salsola tragus</i>	Russian thistle	Naturalized
EUPHORBIACEAE		
<i>Euphorbia maculata</i>	Spotted spurge	Naturalized
FABACEAE		
<i>Medicago polymorpha</i>	California burclover	Naturalized
GERANIACEAE		
<i>Erodium cicutarium</i>	Red-stemmed filaree	Naturalized

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**Vascular Plant Species Observed Alamos Energy Center Supplemental Rare Plants Survey
August 12, 2016, Los Angeles County, California**

Scientific Name	Common Name	Status
MALVACEAE		
<i>Malva parviflora</i>	Small-flowered cheeseweed	Naturalized
PORTULACACEAE		
<i>Portulaca oleracea</i>	Common purslane	Naturalized
SOLANACEAE		
<i>Nicotiana glauca</i>	Tree tobacco	Naturalized
Monocots		
POACEAE		
<i>Bromus diandrus</i>	Ripgut grass	Naturalized
<i>Cynodon dactylon</i>	Bermuda grass	Naturalized
<i>Schismus barbatus</i>	Mediterranean schismus	Naturalized

Taxonomy follows The Jepson Online Interchange for California Floristics : <http://ucjeps.berkeley.edu/interchange/>

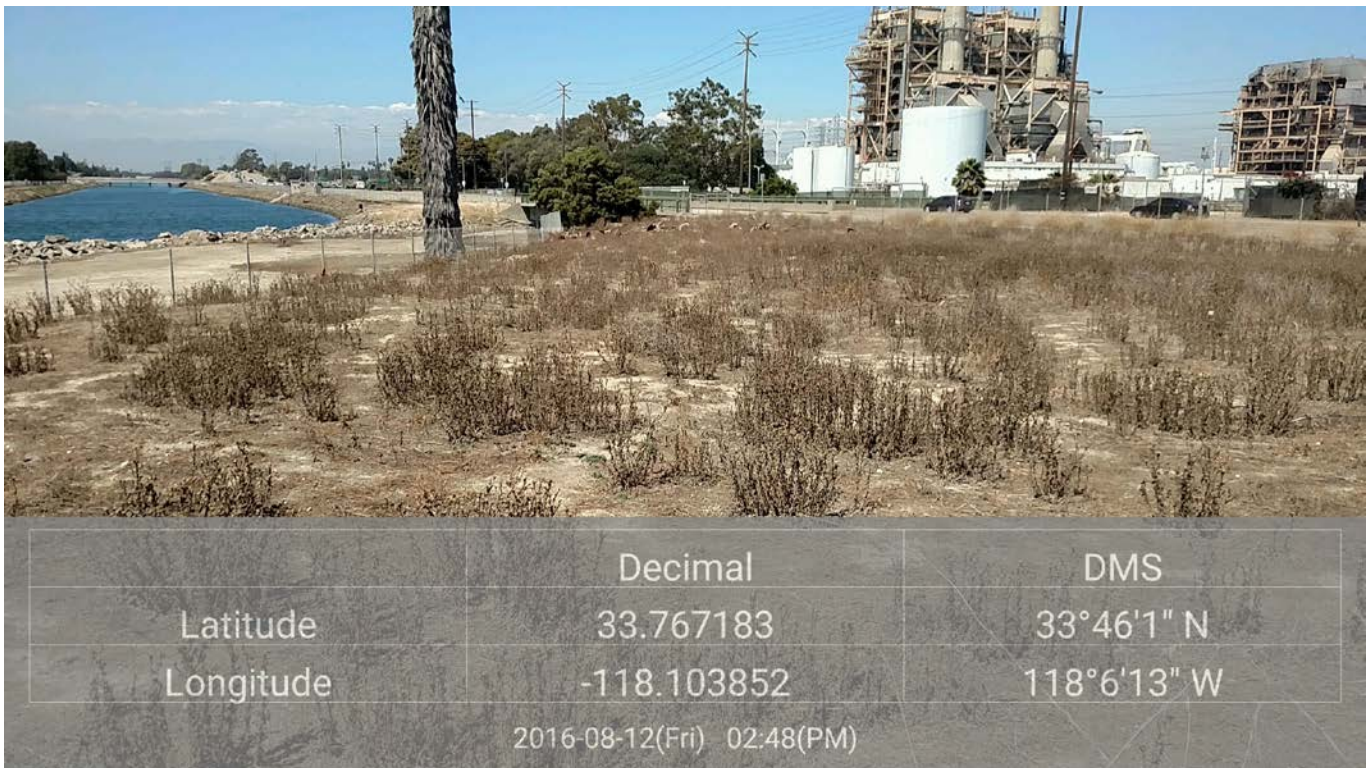
Attachment 3
Site Photographs



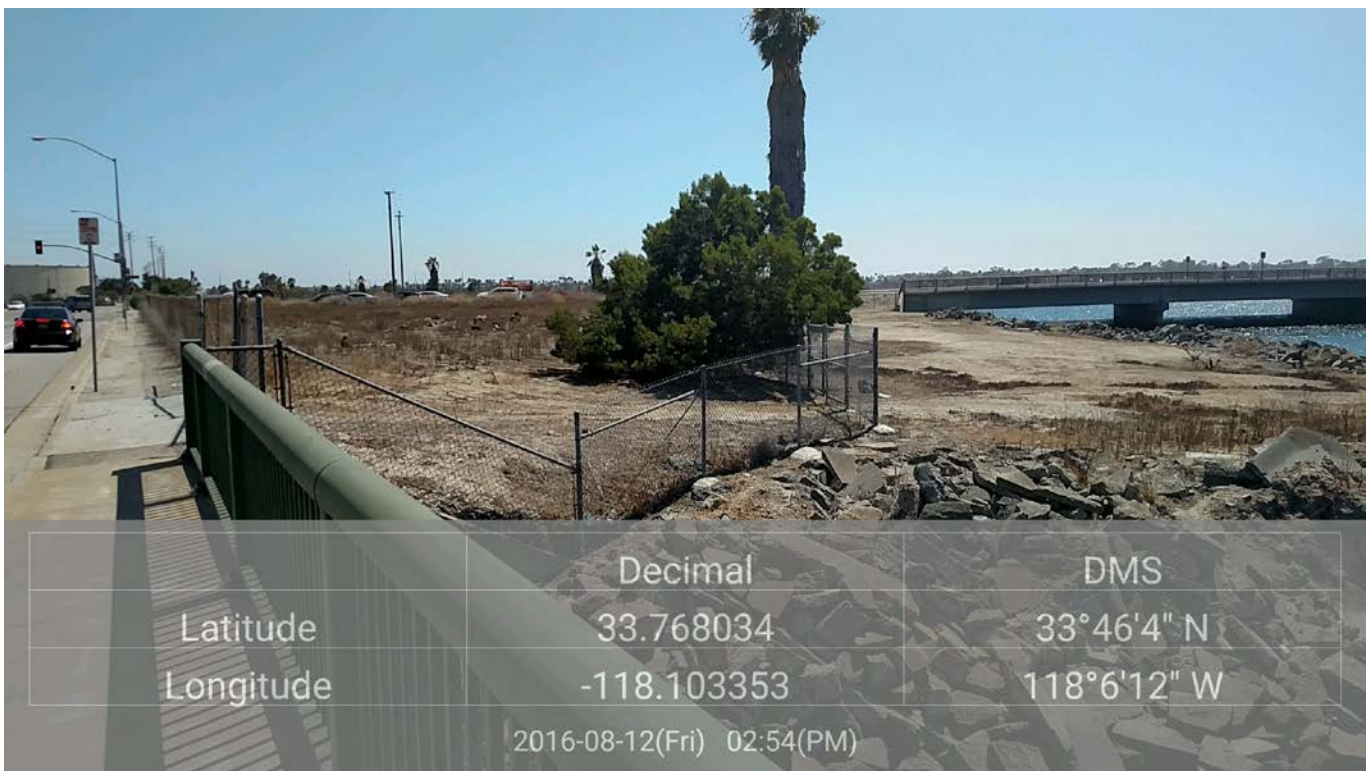
Photograph 1. Overview of the Survey Area associated with the proposed process and sanitary wastewater pipeline.



Photograph 2. Overview of the Survey Area associated with the proposed process and sanitary wastewater pipeline.



Photograph 3. Overview of the Survey Area associated with the proposed process and sanitary wastewater pipeline.



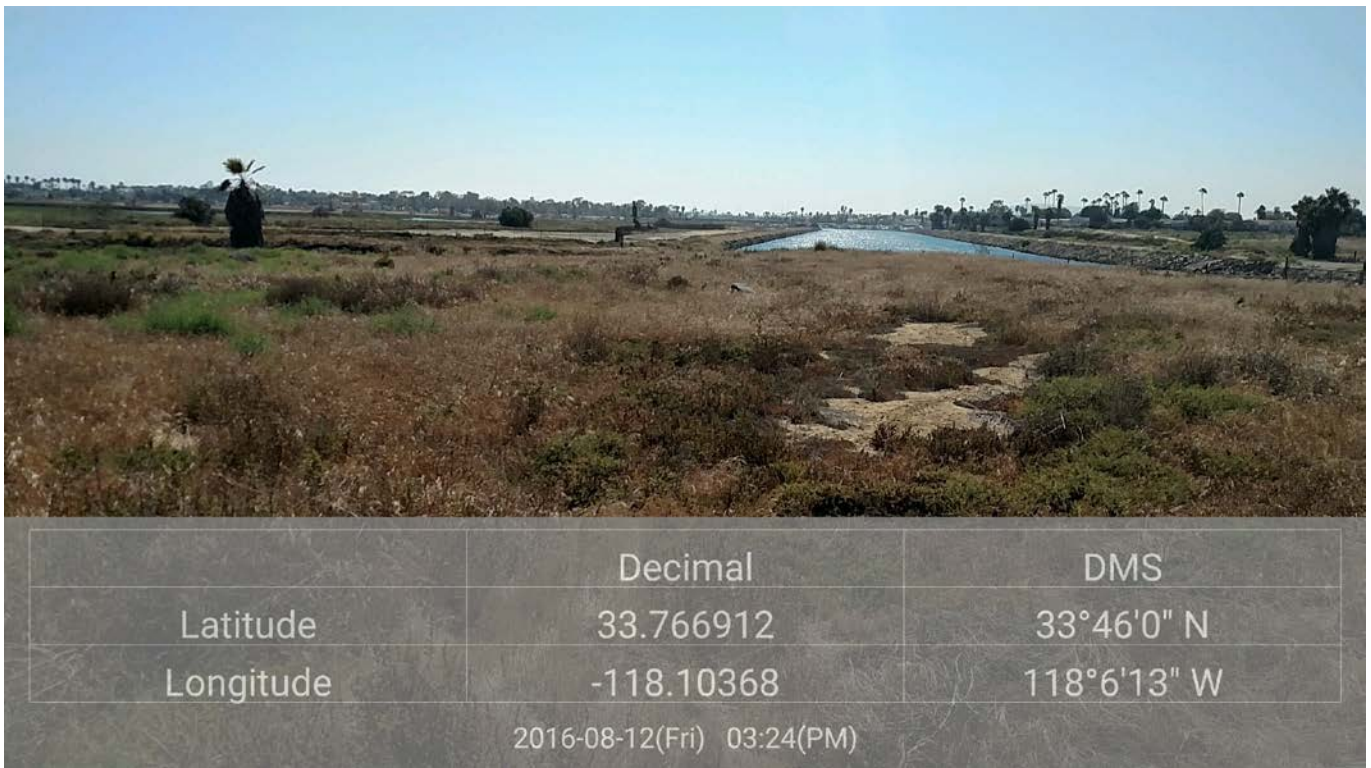
Photograph 4. Overview of the Survey Area associated with the proposed process and sanitary wastewater pipeline.



Photograph 5. Overview of the Survey Area associated with the proposed process and sanitary wastewater pipeline.



Photograph 6. Overview of the Survey Area associated with the proposed process and sanitary wastewater pipeline.



Photograph 7. Representative photograph of the habitat south of Loynes Drive.



Photograph 8. Representative photograph of the habitat south of Loynes Drive.