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CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov

December 13, 2018

Greg Lamberg
Compliance Manager
W Power
650 Bercut Drive, Suite A
Sacramento, CA 95811

SUBJECT: Stanton Energy Reliability Center (16-AFC-01C), BIO-6, Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP)

Dear Mr. Lamberg,

In accordance with BIO-6, the CPM has reviewed and approved the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP). If you have any questions or concerns, please contact John Heiser, Compliance Project Manager, at (916) 653-8236, or by fax to (916) 654-3882, or via e-mail at John.Heiser@energy.ca.gov.

Sincerely,

John Heiser
Compliance Office Manager
Siting, Transmission, & Environmental Protection Division

Biological Resources Mitigation Implementation and Monitoring Plan

For the

Stanton Energy Reliability Center
(16-AFC-01)

Condition of Certification BIO-6

Stanton Energy Reliability Center, LLC

November 2018

JACOBS

Biological resources Mitigation Implementation and Monitoring Plan
Stanton Energy Reliability Center
(16-AFC-01)

Document Title:	Condition of Certification BIO-6
Date:	November 28, 2018
Client Name:	Stanton Energy Reliability Center, LLC
Project Manager:	Doug Davy
Author:	Ava Edens

Jacobs Engineering Group Inc.
2600 Michelson Drive, Suite 500
Irvine, CA 92612
United States

www.jacobs.com

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Acronyms and Abbreviations

ACR	Annual Compliance Report
BCC	Bird of Conservation Concern
BMP	best management practice
BOP	Balance of Plant
BRMIMP	Biological Resources Mitigation Implementation and Monitoring Plan
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CESA	California Endangered Species Act
CGP	General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
COC	Condition of Certification
CPM	Compliance Project Manager
CTG	combustion turbine generator
dBA	decibel(s)
DPR	California Department of Pesticide Regulation
ESA	Endangered Species Act
GE	General Electric
GHG	greenhouse gas
GPS	global positioning system
HCP	Habitat Conservation Plan
HNO_3	nitric acid
kV	kilovolt(s)
LORS	Laws, ordinances, regulations, and standards
MCR	Monthly Compliance Report
MW	megawatt(s)
NCCP	Natural Community Conservation Plan
NH_3	ammonia
NOx	nitrogen oxide
NPDES	National Pollution Discharge Elimination System
NWI	National Wetland Inventory
OCFCD	Orange County Flood Control District
RWQCB	Regional Water Quality Control Board
SCE	Southern California Edison
SERC	Stanton Energy Reliability Center

SoCalGas	Southern California Gas Company
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
UPRR	Union Pacific Railroad
USACE	US Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
WEAP	Worker Environmental Awareness Program

1. Purpose and Background

Stanton Energy Reliability Center, LLC (Project Owner) has prepared this Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) for the Stanton Energy Reliability Center (SERC) in Orange County, California. This BRMIMP has been prepared and is in conformance with Condition of Certification (COC) BIO-6 in the California Energy Commission's (CEC) Final Decision[1]. The purpose of this BRMIMP is to identify mitigation, monitoring, and compliance measures related to biological resources to ensure compliance with COC BIO-6.

The SERC will be constructed at 10711 Dale Avenue in Stanton, Orange County, California (Figures 1 and 2). The SERC facility will be located on an approximately 3.98-acre site. The project site is approximately 68 feet above mean sea level. The proposed project site is bounded to the north by a vacant lot that serves as a Southern California Edison (SCE) transmission line right-of-way and commercial/light industrial uses; to the east by Dale Avenue and the SCE Barre Peaker power plant and beyond that, SCE Barre Substation; to the south by Union Pacific Railroad tracks and a commercial storage facility; and to the west by the City of Stanton Corporate Yard.

1.1 Overview

This BRMIMP summarizes the biological resources that potentially will be affected by the SERC and the measures required to avoid, minimize, or compensate for impacts to these resources. This BRMIMP is being implemented to ensure that the project is completed in a manner that minimizes and/or avoids impacts to the natural environment by appropriate compliance with COCs and permit conditions, as applicable. The Project Owner will ensure the SERC will adhere to the COCs and permit conditions, as applicable.

This BRMIMP includes the following primary components:

- A description of SERC construction activities
- Responsibilities of participants, qualifications of the Designated Biologist and Biological Monitor, and lines of communication
- Preconstruction monitoring and reporting responsibilities, including a description of timing and location of surveys
- CEC COCs, Project Owner proposed measures, and the terms and conditions of applicable state and federal regulations
- A description of impact avoidance, minimization, and mitigation measures
- A process for proposing plan modification to the CEC Compliance Project Manager (CPM) and appropriate agencies for review and approval

1.2 Conditions of Certification

Table 1-1 provides a list of the Biological Resource COCs that are applicable to the SERC. The Biological Resource COCs are provided in Appendix C.

Table 1-1. Conditions of Certification for Biological Resources

COC #	Condition of Certification
BIO-1	Designated Biologist Selection
BIO-2	Designated Biologist Duties

[1] [INSERT hyperlink to SERC Final Decision]

Table 1-1. Conditions of Certification for Biological Resources

COC #	Condition of Certification
BIO-3	Biological Monitor Selection
BIO-4	Designated Biologist and Biological Monitor Authority
BIO-5	Worker Environmental Awareness Program (WEAP)
BIO-6	BRMIMP
BIO-7	General Impact Avoidance and Minimization Measures
BIO-8	Pre-Construction Nest Surveys and Impact Avoidance and Minimization Measures for Breeding Birds
BIO-9	Jack and Bore Drilling Best Management Practices

1.2.1 Condition of Certification BIO-6

In accordance with COC BIO-6, the Project Owner has prepared this BRMIMP. The Project Owner hereby submits two copies of the proposed BRMIMP to the CPM for review and approval and to the California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS) for review and comment, and the Project Owner shall implement the measures identified in the approved BRMIMP. As stated in COC BIO-6: “The BRMIMP shall be prepared in consultation with the Designated Biologist and shall include the following:

1) All biological resource mitigation, monitoring, and compliance measures proposed by the project owner and agreed to by staff;
2) All biological resource conditions of certification identified in the Commission Decision as necessary to avoid or mitigate impacts;
3) All biological resource mitigation, monitoring, and compliance measures required in other state or federal agency terms and conditions, such as those provided in the National Pollution Discharge Elimination System (NPDES) Construction Activities Storm Water General Permit;
4) All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation, and closure;
5) All required mitigation measures for each sensitive biological resource;
6) A detailed description of measures that shall be taken to avoid or mitigate disturbances from construction and associated site clearance activities;
7) All locations on a map, at an approved scale, of sensitive biological resource areas subject to disturbance and areas requiring temporary protection and avoidance during construction;
8) Aerial photographs, at an approved scale, of all areas to be disturbed during project construction activities; include one set prior to any site or related facilities mobilization disturbance and one set after completion of project construction;
9) Duration for each type of monitoring and a description of monitoring methodologies and frequency;
10) Performance standards to be used to help decide if/when proposed mitigation and conditions are or are not successful;
11) All performance standards and remedial measures to be implemented if performance standards are not met;
12) A discussion of biological resources-related facility closure measures including a description of funding mechanism(s);
13) A process for proposing plan modifications to the CPM and appropriate agencies for review and approval; and

14) A requirement to submit any sightings of any special-status species that are observed on or in proximity to the project site, or during project surveys, to the California Natural Diversity Database (CNDDB) per CDFW requirements.

Verification: The project owner shall provide the BRMIMP to the CPM for review (in consultation with CDFW) and approval at least 45 days prior to start of any pre- construction site mobilization.

If there are any permits that have not yet been received when the BRMIMP is first submitted, copies of these permits shall be submitted to the CPM within 5 days of their receipt, and a revised BRMIMP shall be submitted to the CPM within 10 days of receipt of permits by the project owner.

The project owner shall notify the CPM no less than 5 working days before implementing any modifications to the approved BRMIMP to obtain CPM approval.

Any changes to the approved BRMIMP must also be approved by the CPM in consultation with appropriate agencies to ensure no conflicts exist.

Implementation of BRMIMP measures shall be reported in the monthly compliance reports by the Designated Biologist (i.e., survey results, construction activities that were monitored, species observed).

Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written Construction Closure Report identifying which items of the BRMIMP have been completed; a summary of all modifications to mitigation measures made during the project's site mobilization, ground disturbance, grading, and construction phases; and which mitigation and monitoring items are still outstanding."

2. Project Overview

2.1 Project Description

SERC will be a nominal 98-megawatt (MW) natural gas-fired EGT plant consisting of two General Electric (GE) LM6000 PC natural gas-fired combustion turbine generators (CTGs) and related facilities, with integrated batteries for hybrid operation and clutch gear for synchronous condenser operation. EGT refers to the LM6000 PC Hybrid EGT jointly developed by General Electric International, Inc. and Wellhead Power Solutions. The EGT combines a combustion gas turbine with an integrated battery storage component operated by a proprietary software system. Project elements include the generation equipment, battery array, and connections to natural gas, municipal water supply, and the electrical grid.

A battery energy storage system will be installed at the SERC site. The system can be operated in conjunction with the thermal power plant using the proprietary EGT Hybrid technology, jointly developed by Wellhead and GE. The storage system will consist of three main components: batteries, inverters, and Balance of Plant (BOP) (e.g., step-up transformers and site controller). Each set of batteries will be installed in a purpose-built battery enclosure to meet fire protection requirements and provide secondary containment. Stanton Energy Reliability Center, LLC expects the energy storage system to enable the EGT to be used for greenhouse gas (GHG)-free operating reserve, regulation up and regulation down, frequency regulation, and voltage regulation.

As a reliability plant, the SERC is expected to operate during periods of increased need on the grid such as times of high electrical load, during periods when intermittent renewable source generation fluctuates, when baseload plants are not operating or being brought online, or during emergency conditions and local reliability needs.

Additional project elements include:

- Interconnection to SCE's Barre Substation via a 0.35-mile-long underground generator tie-line that runs the SERC site east to the substation
- Natural gas pipeline connection via a new pipe no larger than 12 inches in diameter that will extend 2.75 miles north along Dale Avenue to Southern California Gas Company's (SoCalGas's) Line 1014 in La Palma Avenue
- Process and potable water supply from Golden State Water Company via connections in Dale Avenue and Pacific Street
- Industrial wastewater will be discharged west to the City of Stanton sanitary sewer line in Pacific Street or east to a line in Dale Avenue
- Temporary construction facilities will include a 2.89-acre worker parking area at the Bethel Romanian Pentecostal Church, 350 feet south of the SERC site along Dale Avenue.
- The construction laydown area for the gas-fired power plant will be Parcel 2, site of the battery storage system. The battery storage system is to be constructed after construction of the gas turbine part of the EGT is complete.

2.2 Project Location

The SERC site is located along the west side of Dale Avenue with secondary access to the site from the west via the corner of Pacific Street and Fern Avenue (Figure 1 and Figure 2). The project site is bounded on the north by light industrial facilities and overhead electrical transmission lines, including Southern California Edison's (SCE) Barre-Ellis 220-kilovolt (kV) line; on the east by the SCE Barre Substation, Barre Peaker Unit, overhead electrical transmission lines, and residential areas; on the south by Union Pacific Railroad (UPRR) right-of-way and a storage facility; and on the west by light industrial facilities and residential areas.

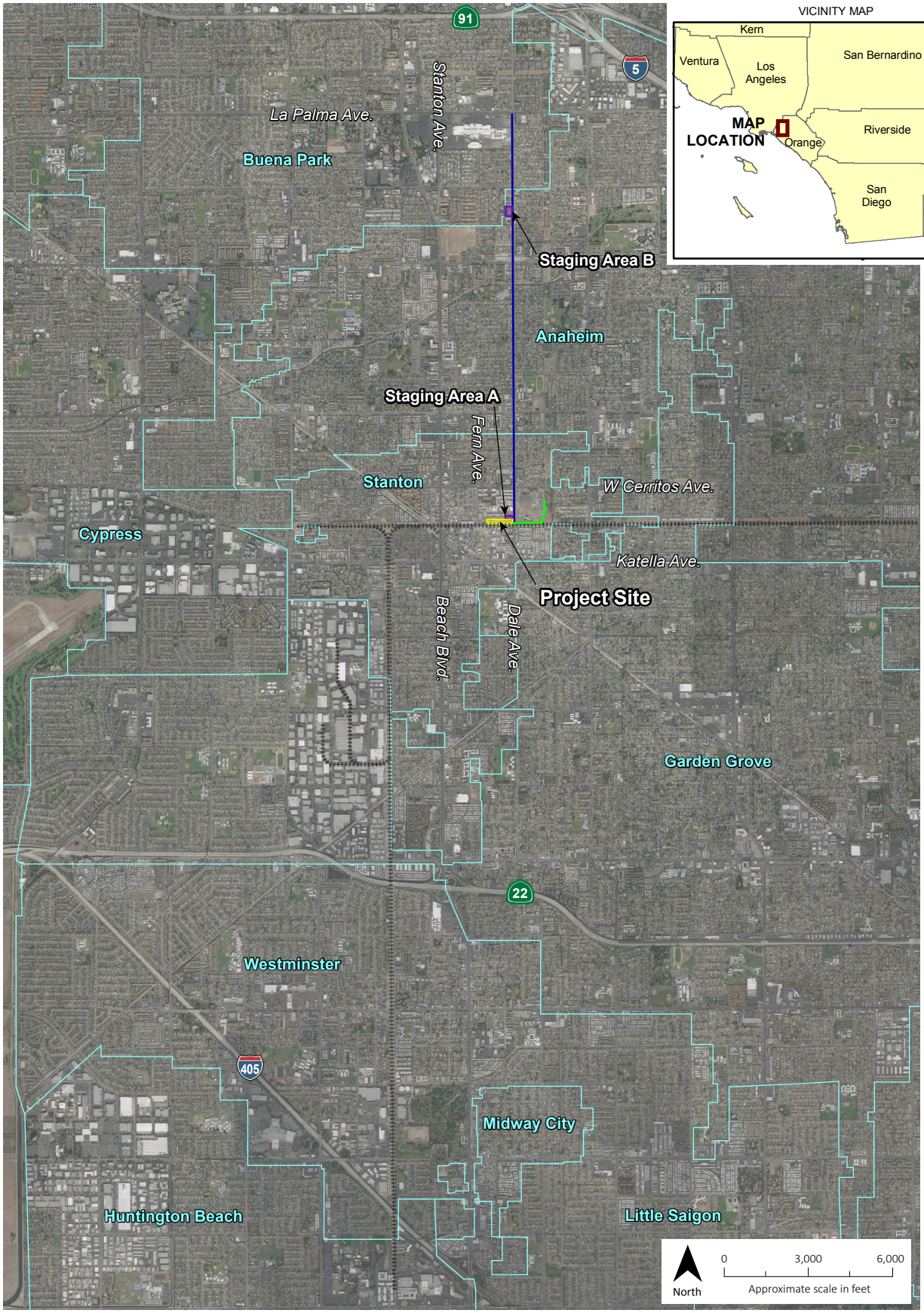
The proposed project site consists of two parcels totaling approximately 4 acres. Parcel 1 is previously disturbed and currently undeveloped land covered in ruderal vegetation (1.764 acres) and Parcel 2 is currently developed and used for vehicle and pallet storage with both paved and unpaved, graveled areas (2.214 acres). The two parcels are bisected by the Stanton Storm Channel which is a concrete-lined drainage channel and part of Orange County's Bolsa Chica drainage system that drains into the Pacific Ocean at Huntington Harbor. Storm water from both parcels will be discharged into the Stanton Storm Channel, however, wastewater will be hauled away by a licensed waste hauler (SERC 2016a).

New offsite linear facilities will be required for connections to existing natural gas supply network and electrical grid. Natural gas will be delivered to the project via a new 2.75-mile-long pipeline extending north along Dale Avenue to La Palma Avenue. The natural gas pipeline will be via 12-inches in diameter or less. Electricity will be transmitted to the regional electrical grid via a new approximately 0.35-mile, 66-kV underground generator tie-line (or underground transmission line) that will run from the Stanton site to SCE's 66-kV Barre Substation (SERC 2016a).

Construction worker parking for the Stanton project will occupy approximately 0.7 acres at the Bethel Romanian Pentecostal Church, located approximately 350 feet south of the site. Parcel 2 of the site will function as a construction laydown area during the first phase of construction at Parcel 1 and will also be used for equipment staging, material storage, worker parking, and temporary administrative buildings (SERC 2016a). In addition, SoCalGas has identified two possible offsite laydown yards to be used during construction of the natural gas pipeline. Staging Area A and Staging Area B are both 0.50-acre vacant lots. Staging Area A adjoins Parcel 1 and Staging Area B is located within a currently inaccessible (fenced) parking lot, 2.08 miles north of Parcel 1 (SERC 2017b).

The SERC site lies within the Los Angeles Plain subsection of the Southern California Coast Section, which is characterized by nearly level floodplains and terraces to gently sloping alluvial fans with small areas of marine terraces (USDA 1997). Land use proximate to the proposed project area primarily includes light industrial areas, electricity generation and transmission facilities, and residential development. Further from the proposed site, land uses also include commercial development, scattered parks and recreational facilities, and small strips of open space. Native habitats no longer exist in the project vicinity due to development of commercial, industrial, and residential areas as the city of Stanton has urbanized from historical ranch land (COS 2017a).

The Santa Ana River (channelized) is located approximately 6 miles east of the project site. The site is located on a relatively flat coastal plain of the Los Angeles Basin (SERC 2016a). Extensive urban and industrial development throughout the region has replaced most of the natural communities which are restricted to scattered open space preserves and other protected areas.

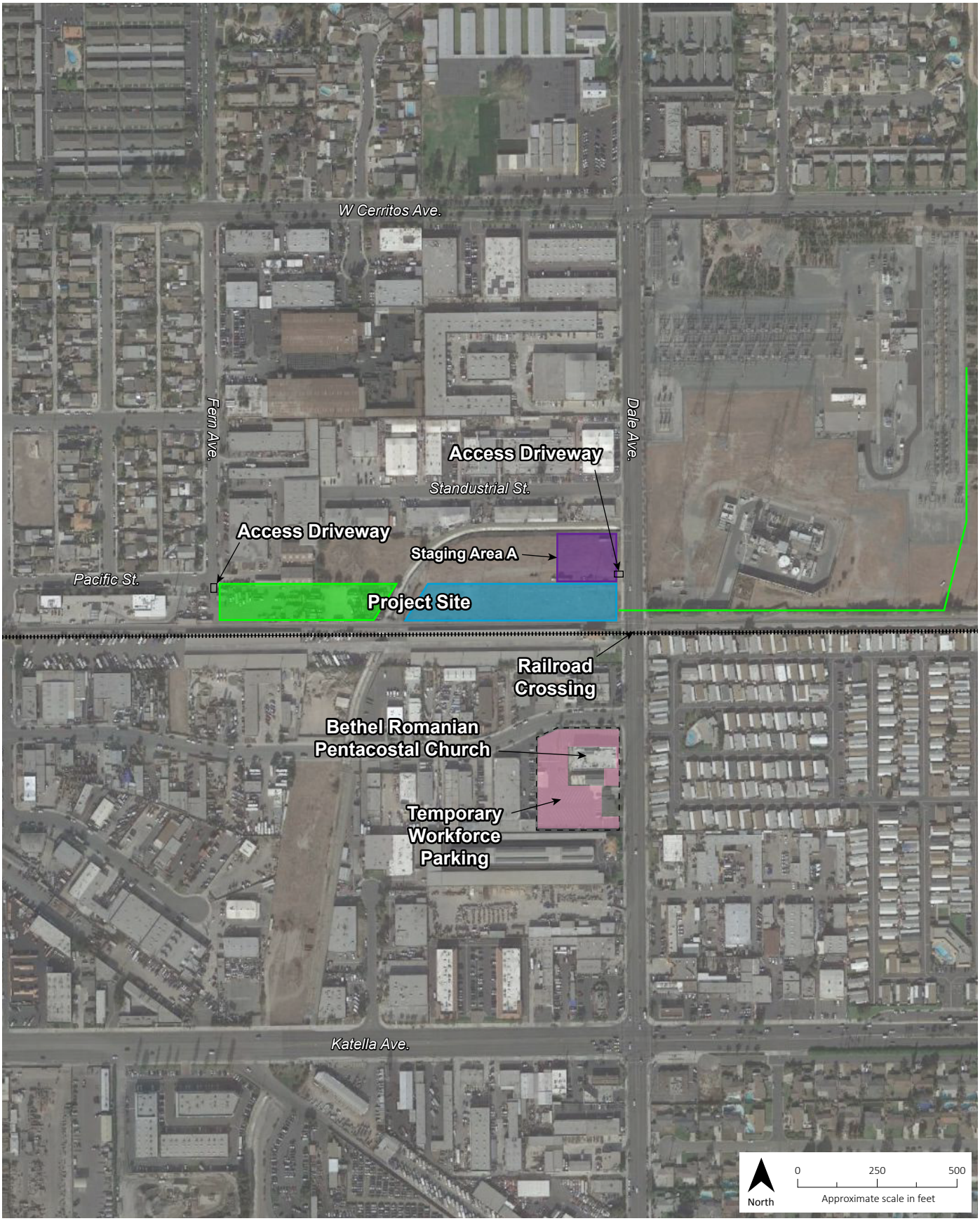


Aerial image source: Google™ Earth, 2018.

LEGEND

- City Limits
- Natural Gas Pipeline
- Generator Tie-Line
- Project Site
- Natural Gas Pipeline Staging Area

Figure 1
Project Location Map
Stanton Energy Reliability Center
Stanton, California



Aerial image source: Google™ Earth, 2018.

LEGEND

- Natural Gas Pipeline
- Generator Tie-Line
- UPRR Union Pacific Railroad
- Parcel 1
- Parcel 2
- Temporary Workforce Parking

Figure 2
Site Location Map
Stanton Energy Reliability Center
Stanton, California

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3. Summary of Biological Resources

3.1 Existing Vegetation and Wildlife

3.1.1 SERC

The project site, offsite linear facilities, and staging and worker parking areas are previously disturbed and either unpaved, paved, and/or graveled. There is a row of trees on the north side of Parcel 2 of the project site, however these trees are located outside the parcel and within the SCE transmission line corridor right-of-way. Vegetation on the unpaved parcel is limited to weedy species and is regularly maintained by mowing for fire prevention. In addition, vegetation within the SCE Barre Substation is primarily disturbed land with relatively compacted soils and ruderal and ornamental vegetation, including landscape trees, within the survey area.

3.1.2 Special-Status Plant Species

The SERC project site, offsite linear facilities, and offsite staging and worker parking areas are entirely disturbed or developed with no natural habitats present. The vegetation is limited to ruderal vegetation, primarily composed of non-native grasses and herbaceous species and a few scattered trees and shrubs (June 2016 and April 2017 reconnaissance surveys [CEC 2018]).

Seventeen special-status plant species have been documented within the regional vicinity (10-mile radius) of the proposed project, however 14 of those special-status plant species are “not likely to occur” (meaning that conditions are considered unsuitable for occurrence) in the project impact area. Three species were considered as having a “low” potential to occur (meaning these species or sign of these species was not observed on the site and conditions are considered marginal for occurrence) in the project impact area (CEC 2018); these include:

- **Southern tarplant (*Centromadia parryi* ssp. *australis*):** California Native Plant Society (CNPS) Rare Plant Rank 1B.1 (rare or endangered in California and elsewhere and seriously threatened in California [over 80 of occurrences threatened/high degree and immediacy of threat])
- **Southern California black walnut (*Juglans californica*):** CNPS Rare Plant Rank 4.2 (plants of limited distribution [watch list] and moderately threatened in California [20-80 percent of occurrence threatened/moderate degree and immediacy of threat])
- **San Bernardino aster (*Symphyotrichum defoliatum*):** CNPS Rare Plant Rank 1B.2 (rare or endangered in California and moderately threatened in California [20-80 percent of occurrence threatened/moderate degree and immediacy of threat])

Existing conditions in the proposed project area are not likely to support any special-status plants, and none have been recorded at either the Stanton site, offsite staging or worker parking areas, or along the generator tie-line route within the SCE Barre Substation property. The SERC is located entirely within previously developed areas with no natural habitat; therefore, the project is not anticipated to affect any special-status plant species.

3.1.3 Special-Status Wildlife Species

Wildlife habitat in the project area has been significantly fragmented by urban development. Thirty-eight special-status wildlife species have been documented within the regional vicinity (10-mile radius) of the proposed project, however 32 of those special-status wildlife species are “not likely to occur” (meaning that conditions are considered unsuitable for occurrence) in the project impact area. Only 6 species were considered as having a “low” potential to occur (meaning these species or sign of these species was not

observed on the site and conditions are considered marginal for occurrence) in the project impact area (CEC 2018); these include:

- **Monarch butterfly (*Danaus plexippus*) California overwintering population:** Global rank of Apparently Secure (uncommon but not rare; some cause for long-term concern due to declines other factors) and State rank of Imperiled in the state (because of rarity due to very restricted range, few populations [often 20 or fewer], steep declines, or other factors machining vulnerable to extirpation from state)
- **Western pond turtle (*Emys marmorata*):** CDFW California Species of Special Concern (SSC).
- **Great blue heron (*Ardea herodias*) nesting colony:** Global and State rank of Secure (Common, widespread and abundant), State rank Apparently Secure (Uncommon but not rare, some long-term concern), and CDF Sensitive (CA. Department of Forestry and Fire Protection)
- **Burrowing owl (*Athene cunicularia*):** CDFW SSC and Bird of Conservation Concern (BCC)
- **Swainson's hawk (*Buteo swainsoni*):** State listed as threatened under the California Endangered Species Act (CESA) and CDFW BCC
- **Western mastiff bat (*Eumops perotis californicus*):** CDFW SSC

The project site, offsite linear facilities, offsite staging areas, and the offsite worker parking areas are in developed areas; therefore, there would be no direct impacts resulting from disruption of wildlife movement, or habitat loss or fragmentation. The SERC is located entirely within previously developed areas with no natural habitat; therefore, the project is not anticipated to affect any special-status wildlife species.

3.2 Sensitive Habitat

Critical Habitat, Significant Ecological Areas, significant natural communities (as identified by the CDFW's California Natural Diversity Database [CNDDB]) and other protected areas (i.e., reserves and preserves) occur within the regional vicinity (10-mile radius) of the proposed project. These protected areas represent some of the best remaining native habitat in the region and provide important habitat for migratory birds along the Pacific Flyway as well as habitat for several special-status plants and animals. However, within one mile of the project site, offsite linear facilities, and offsite staging and worker parking areas the only land cover types present are urban, industrial, and parks and recreational facilities (Figure 3). No sensitive habitats occur within or adjacent to the project impact area; therefore, the project is not anticipated to affect any sensitive habitats.

3.3 Jurisdictional Waters

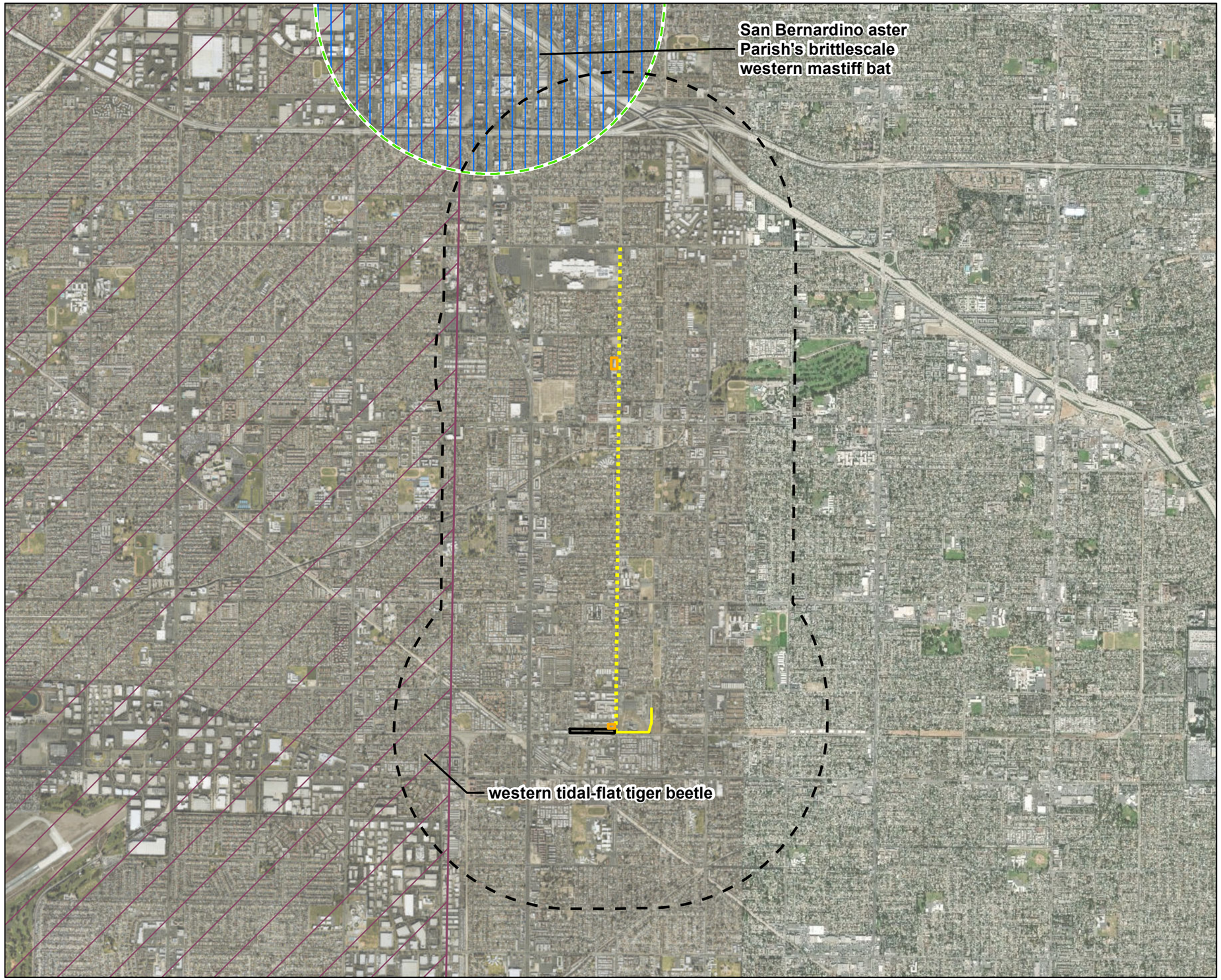
The Stanton site does not support wetlands potentially under the jurisdiction of the United States Army Corps of Engineers (USACE). In addition, there are no wetlands potentially under the jurisdiction of USACE located adjacent to the project site or offsite linear facilities, staging areas, or worker parking areas. There are two waters under the jurisdiction of USACE (i.e., of the United States) that occur in the Stanton project area. These waters are the Stanton Storm Channel and Carbon Creek Channel (CEC 2018). Both channels are also considered Waters of the State and protected by the Regional Water Quality Control Board (RWQCB).

The Stanton Storm Channel bisects the project site and as part of the proposed project the Stanton Storm Channel would be crossed by two bridges, a vehicle bridge and a utility bridge (SERC 2016i). The Stanton Storm Channel drains into the Bolsa Chica Channel that ultimately flows into Huntington Harbor. It is maintained by the Orange County Public Works Department (OCPW 2013). The Stanton Storm Channel is classified in the National Wetland Inventory (NWI) as an intermittent riverine system with temporary flooding (CEC 2018). It is composed of reinforced concrete and engineered earth.

Carbon Creek Channel is located approximately 1.6 miles north from the proposed project site and the project applicant proposes to have the 2.75-mile natural gas pipeline cross under this waterway on Dale

Street. Jack and bore drilling under the channel will be necessary to install the natural gas line underground for the entire route. Carbon Creek flows from the foothills into Coyote Creek and joins the San Gabriel River to ultimately drain into Anaheim Bay. Carbon Creek Channel is a flood protection work constructed by the USACE (CEC 2018). It is maintained by the Orange County Flood Control District (OCFCD) and is composed of reinforced concrete and engineered earth. Carbon Creek Channel is classified in the NWI as an intermittent riverine system that may seasonally flood (CEC 2018).

Impacts to biological resources located downstream could occur if work was conducted in the channels or if debris entered the channels during construction. In addition, the natural gas line route will be installed using jack and bore drilling techniques and impacts could occur if jack and bore drilling activities result in a frac-out. A frac-out occurs when the drilling fluid inadvertently escapes and moves up through the soil into the channels. Indirect impacts to biological resources may result if construction contaminants, sediment, or untreated storm water effluent from the proposed project area enter these areas.



LEGEND

- Generator Tie-Line
- Natural Gas Pipeline
- Project Site
- Natural Gas Pipeline Staging Area
- 1-Mile Buffer

Animals

- Western mastiff bat
- Western tidal-flat tiger beetle

Plants

- Parish's brittlescale; San Bernardino aster

Source:
CNDDB (August 2016)

The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDB about species or an area can never be used as proof that no special status species occur in an area.

N

0 1,500 3,000 6,000
Feet

Figure 3
Special Status Species (within1 mile)
Stanton Energy Reliability Center
Stanton, California

4. Authority and Lines of Communication

The first part of this section describes the responsibilities of three groups of participants: regulatory agencies; the Designated Biologist; and the Project Owner, its employees, contractors, and demolition crews. The qualifications of the Designated Biologist are also described in this section.

The second part of this section describes the lines of communication and chain of command and identifies which persons have the authority to stop or temporarily suspend surface-disturbing activities during SERC construction and demolition.

4.1 Definitions of Participants

The CEC has designated a staff member to serve as the CPM. The CPM oversees compliance with the CEC COCs for the SERC. The CPM is also responsible for processing post-certification changes, documenting and tracking compliance filings, and ensuring that compliance files are maintained and accessible.

The Designated Biologist and Biological Monitors will represent the Project Owner. The Designated Biologist will be responsible for supervising, mitigation and impact avoidance/minimization, monitoring and compliance reporting to the CPM. These responsibilities and relationships are described in more detail in this section.

Project Owner construction personnel will be referred to as contractors and include the construction project manager, construction inspector, plant manager, contractor supervisor, resident engineer, and the crew foreman and crew.

Regulatory agencies involved may include USFWS, CDFW, and US Army Corps of Engineers (USACE). However, special-status plant and wildlife species are not expected to occur within the SERC boundary, so additional agency coordination regarding special-status plant and wildlife species is not anticipated.

4.2 Responsibilities of Participants

Although responsibilities are divided, ultimately the Project Owner construction team and the Designated Biologist collectively have the responsibility to reach a consensus when conflicts arise during demolition and construction activities. From time to time, it is possible that one or more of the regulatory agencies may be consulted as part of conflict resolution.

4.2.1 Designated Biologist Selection

The Designated Biologist proposed for the Project is Ava Edens of Jacobs. As required, Ms. Edens has the following minimum qualifications:

- Bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field;
- Three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society; and
- At least one year of field experience with biological resources found in or near the project area.

No pre-construction site mobilization or construction-related activities shall commence until a CPM-approved Designated Biologist is available to be on site. If a Designated Biologist is replaced, the specified information for the proposed replacement must be submitted to the CPM at least ten working days prior to the termination or release of the preceding Designated Biologist. In an emergency, the project owner shall immediately notify the CPM to discuss the qualifications and approval of a short-term replacement while a permanent Designated Biologist is proposed to the CPM for consideration.

4.2.2 Designated Biologist Duties

The Project Owner shall ensure that the Designated Biologist performs the following during any site (or related facilities) mobilization, ground disturbance, grading, demolition, and construction activities. The Designated Biologist may be assisted by the approved Biological Monitor(s) but remains the contact for the project owner and CPM. As listed in COC BIO-2, "The Designated Biologist Duties shall include the following:

1) Advise the project owner's Construction and Operation Managers on the implementation of the biological resources conditions of certification;
2) Consult on the preparation of the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) to be submitted by the project owner;
3) Be available to supervise, conduct and coordinate mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as special status species or their habitat;
4) Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions;
5) Inspect active construction areas where animals may have become trapped prior to construction commencing each day. Inspect, or train and direct the site personnel how to inspect, the installation of structures that prevent entrapment or allow escape during periods of construction inactivity. Periodically inspect areas with high vehicle activity (e.g., parking lots) for animals in harm's way;
6) Notify the project owner and the CPM of any non-compliance with any biological resources condition of certification;
7) Respond directly to inquiries of the CPM regarding biological resource issues;
8) Maintain written records of the tasks specified above and those included in the BRMIMP. Summaries of these records shall be submitted in the Monthly Compliance Reports (MCRs) and the Annual Compliance Report (ACR);
9) Train the Biological Monitors as appropriate, and ensure their familiarity with the BRMIMP, Worker Environmental Awareness Program (WEAP) training, and all permits; and
10) Maintain the ability to be in regular, direct communication with representatives of California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), and CPM, including notifying these agencies of dead or injured listed species and reporting special status species observations to the California Natural Diversity Database.

Verification: The Designated Biologist shall submit in the monthly compliance report to the CPM copies of all written reports and summaries that document construction activities that have the potential to affect biological resources. If actions may affect biological resources during operation, the Biological Monitor(s), under the supervision of the Designated Biologist, shall be available for monitoring and reporting. During project operation, the Designated Biologist(s) shall submit record summaries in the annual compliance report unless their duties cease, as approved by the CPM."

4.2.3 Biological Monitor Qualifications

The project owner is submitting resumes, including at least three references and contact information, for Jake Ashford, Hannah Buckley, Ken Levenstein, and Robert Hernandez to the CPM for approval as Biological Monitors. Each resume demonstrates that each proposed Biological Monitor has the appropriate education and experience to accomplish the assigned biological resource tasks.

Biological Monitor(s)'s training by the Designated Biologist will include familiarity with the COCs, BRMIMP, WEAP, and all permits. Upon completion of training, the Designated Biologist will submit a written statement to the CPM confirming that the individual Biological Monitor(s) has been trained, including the date when training was completed. If additional biological monitors are needed during

construction, the specified information shall be submitted to the CPM for approval at least 10 days prior to their first day of monitoring activities.

4.2.4 Agency Responsibilities

Regulatory agency personnel are responsible for enforcing state and federal laws protecting sensitive species and natural resources. Staff from these agencies generally have broad authority to monitor and evaluate projects implemented under permits authorized by the agencies and can take enforcement actions if violations occur. The following agencies have authority associated with biological and water resources at the SERC:

- CEC through the CPM verifies compliance with COCs and approves changes in implementation methodology.
- USFWS is responsible for protecting federally-listed Endangered and Threatened species and for taking actions pursuant to an Endangered Species Act (ESA) Section 7, Incidental Take authorization. This would include measures in the project description or mitigation intended to avoid, minimize, or compensate for adverse impacts to federally listed, proposed, or candidate species and designated critical habitat. The USFWS contact will be notified immediately if a federally-listed wildlife species is involved in an injury or fatality.
- CDFW is responsible for protecting species under the CESA and Fish and Game Code. The CDFW contact will be notified immediately if a listed wildlife species is involved in an injury or fatality. They will also be notified of special-status species sightings (via CNDDB per CDFW requirements).
- State Water Resources Control Board (via Regional Water Quality Control Boards) is responsible for enforcing Operational Storm Water Pollution Prevention Plans (SWPPP) and the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (CGP).

These agencies and the CPM will receive copies of the relevant monitoring reports that detail compliance with the permits and authorizations issued for the project. These agencies may also be consulted with on biological resources related issues and may conduct unannounced site visits to ensure compliance with project conditions as applicable. CPM, CDFW, and USFWS will be notified 2 weeks prior to initiating pre-construction surveys and will be given field survey results prior to the start of any construction activities.

4.3 Authority and Lines of Communication

The regulatory agencies and the Designated Biologist have different responsibilities regarding implementing mitigation measures to protect biological resources. This section of the BRMIMP describes how they will interact on the SERC.

4.3.1 Roles and Authority of the Designated Biologist and Biological Monitors

4.3.1.1 Roles of the Designated Biologist and Biological Monitors

The Designated Biologist and Biological Monitor(s), although contracted to the Project Owner, are responsible for independently ensuring that the requirements described in the BRMIMP are carried out completely and in a timely manner. Resumes for the Designated Biologist and qualified Biological Monitors are included in Appendix D.

4.3.1.2 Authority of the Designated Biologist and Biological Monitors

As stated in COC BIO-4, “The project owner's construction/operation manager shall act on the advice of the Designated Biologist and Biological Monitor(s) to ensure conformance with the biological resources conditions of certification.

If required by the Designated Biologist and/or Biological Monitor(s) the project owner's construction/operation manager shall halt all site mobilization, ground disturbance, grading, construction, and operation activities in areas specified by the Designated Biologist. The Designated Biologist shall:

1) Require a halt to all activities in any area when determined that there would be an unauthorized adverse impact to biological resources if the activities continued;

2) Inform the project owner and the construction/operation manager when to resume activities; and

3) Notify the CPM if there is a halt of any activities and advise the CPM of any corrective actions that have been taken or would be instituted because of the work stoppage.

If the Designated Biologist is unavailable for direct consultation, the Biological Monitor shall act on behalf of the Designated Biologist.

Verification: The project owner shall ensure that the Designated Biologist or Biological Monitor notifies the CPM immediately (and no later than the morning following the incident, or Monday morning in the case of a weekend) of any non-compliance or a halt of any site mobilization, ground disturbance, grading, construction, and operation activities. The project owner shall notify the CPM of the circumstances and actions being taken to resolve the problem.

Whenever corrective action is taken by the project owner, a determination of success or failure would be made by the CPM within five working days after receipt of notice that corrective action is completed, or the project owner would be notified by the CPM that coordination with other agencies would require additional time before a determination can be made."

The form that the Biological Monitor and contractors will use to report observations of wildlife within the project site is provided in Appendix E.

4.3.2 Regulatory Agencies

If compliance problems arise during any phase of the project, agency representatives would discuss the issue with the CPM, Designated Biologist, and the project owner, including contractors. If violations occur, work can be stopped on the whole project, or on portions of the project. However, before work is stopped, the aforementioned parties will undertake a good-faith effort to resolve any violations.

4.3.3 Roles and Authority of the Project Owner Personnel

The project owner is committed to implementing the COCs and mitigation measures described in this BRMIMP. Demolition and construction contractors, by signing the contract documents when the job is awarded, will also commit to comply with the relevant mitigation measures and to cooperate with the Designated Biologist and/or Biological Monitors. The bid package will clearly identify the need to comply with environmental protection regulations, including requirements for the WEAP and cooperation with the Designated Biologist and/or Biological Monitors.

The Resident Engineer is obligated to cooperate with the Designated Biologist by (1) assisting with formulating solutions to problems and potential problems related to the protection of biological resources, and (2) requiring all crews to follow the directions of the Designated Biologist and/or Biological Monitors. Table 4-1 summarizes the applicable laws, ordinances, regulations, and standards (LORS).

Table 4-1. Laws, Ordinances, Regulations, and Standards Applicable to Biological Resources

Element	Goal/Policy	Applicability
Federal		

Table 4-1. Laws, Ordinances, Regulations, and Standards Applicable to Biological Resources

Element	Goal/Policy	Applicability
Endangered Species Act (Title 16, United States Code, section 1531 et seq., and Title 50, Code of Federal Regulations, part 17.1 et seq.)	Designates and provides for protection of threatened and endangered plant and animal species, and their critical habitat. Take of federally listed species as defined in the Act is prohibited without incidental take authorization, which may be obtained through Section 7 consultation (between federal agencies) or Section 10 Habitat Conservation Plan. The administering agencies are the USFWS and National Marine Fisheries Service.	Construction and operation of the proposed project would not result in any impacts to federally-listed species or their critical habitat.
Clean Water Act (Title 33, United States Code, sections 1251 through 1376, and Code of Federal Regulations, part 30, section 330.5(a)(26))	Requires the permitting and monitoring of all discharges to surface water bodies. Section 404 requires a permit from the U.S. Army Corps of Engineers (USACE) for a discharge from dredged or fill materials into Waters of the U.S., including wetlands. Section 401 requires a permit from a regional water quality control board (RWQCB) for the discharge of pollutants.	Conditions of Certification BIO-1, BIO-2, and BIO-4 ensure qualified biologists conduct pre-construction surveys and are on site during construction to ensure no activities take place within the Stanton Storm Channel. Condition of Certification BIO-9 provides for a qualified biologist to monitor all activities pertaining to drilling under Carbon Creek Channel.
Migratory Bird Treaty Act (Title 16, United States Code, sections 703 through 712)	Makes it unlawful to take or possess any migratory nongame bird (or any part of such migratory nongame bird including nests with viable eggs). The administering agency is the USFWS.	Conditions of Certification BIO-1, BIO-2, and BIO-4 ensure qualified biologists conduct pre-construction surveys and are available during construction. BIO-8 provides for pre-construction nest surveys, protective buffers, and monitoring if nests are found. The project owner is required to implement a WEAP (BIO-5) to educate workers about compliance with environmental regulations, including the MBTA.
State		
California Endangered Species Act of 1984 (Fish and Game Code, sections 2050 through 2098)	Protects California's rare, threatened, and endangered species. The administering agency is CDFW.	Construction and operation of the proposed project would not result in any impacts to state listed rare, threatened, and endangered species.
California Code of Regulations (Title 14, sections 670.2 and 670.5)	Lists the plants and animals of California that are declared rare, threatened, or endangered. The administering agency is CDFW.	Construction and operation of the proposed project would not result in any impacts to state listed rare, threatened, and endangered species.
Fully Protected Species (Fish and Game Code sections 3511, 4700, 5050, and 5515)	Designates certain species as fully protected and prohibits the take of such species or their habitat unless for scientific purposes (see also Title 14, California Code of Regulations, section 670.7). The administering agency is CDFW.	Construction and operation of the proposed project would not result in any impacts to fully protected species.
Nest or Eggs (Fish and Game Code section 3503)	Protects California's birds by making it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. The administering agency is CDFW.	Conditions of Certification BIO-1, BIO-2, and BIO-4 ensure qualified biologists conduct pre-construction surveys and are available during construction. Condition of Certification BIO-8 provides for pre-construction nest surveys, protective buffers, and monitoring if nests are found. The project owner is required to implement a WEAP (BIO-5) to educate workers about compliance with environmental regulations, including Fish and Game Code.

Table 4-1. Laws, Ordinances, Regulations, and Standards Applicable to Biological Resources

Element	Goal/Policy	Applicability
Migratory Birds (Fish and Game Code section 3513)	Protects California's migratory birds by making it unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame birds. The administering agency is CDFW.	Conditions of Certification BIO-1, BIO-2, and BIO-4 ensure qualified biologists conduct pre-construction surveys and are on site during construction. Condition of Certification BIO-8 provides for pre-construction nest surveys, protective buffers, and monitoring if nests are found. The project owner is required to implement a WEAP (BIO-5) to educate workers about compliance with environmental regulations, including Fish and Game Code.
Lake and Streambed Alteration Agreement (Fish and Game Code sections 1600 et seq.)	Regulates activities that may divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake in California designated by CDFW in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit. Impacts to vegetation and wildlife resulting from disturbances to waterways are also reviewed and regulated during the permitting process. The administering agency is CDFW.	Conditions of Certification BIO-1, BIO-2, and BIO-4 ensure qualified biologists conduct pre-construction surveys and are on site during construction to ensure no activities take place within the Stanton Storm Channel. Condition of Certification BIO-9 provides for a qualified biologist to monitor all activities pertaining to drilling under Carbon Creek Channel.
Native Plant Protection Act of 1977 (Fish and Game Code, §1900 et seq.)	The Native Plant Protection Act designates state rare and endangered plants and provides specific protection measures for identified populations. The act also includes a salvage provision, enabling CDFW to collect rare and endangered plants from properties in advance of construction or other activities that would destroy the plants. The administering agency is the CDFW.	Construction and operation of the proposed project would not result in any impacts to state rare and endangered plants on the Stanton site or along the natural gas line route.
Local and Other Jurisdictions		
County of Orange General Plan	The Resources Element of the General Plan contains Orange County's policies on the conservation and management of resources. The principal natural resources of concern are vegetation and wildlife habitat, including oak woodlands, landforms, and coastal resources. It identifies and addresses concerns about the county's natural resources (land, air, water and plant and animal species). It contains policies and programs designed to protect and conserve these areas and provides decision making guidelines for advancing development, maintaining, preserving and conserving these resources. It includes a discussion of Orange County's Central-Coastal Natural Community Conservation Plan (NCCP)/ Habitat Conservation Plan (HCP) approved in 1996.	Construction and operation of the proposed project would not result in any conflicts with the General Plan Goals, Policies, or Objectives.

5. Worker Environmental Awareness Program

As required by COC BIO-5, the Project Owner will develop and implement a CPM-approved WEAP in which each of Project Owner's employees, as well as employees of contractors and subcontractors who work on the project or in any related facilities during site mobilization, ground disturbance, grading, demolition, and construction, are informed about the biological resources potentially associated with the project. Throughout the life of the project, the worker education program shall be repeated annually for permanent employees and shall be routinely administered within one week of arrival to any new construction personnel, foremen, contractors, subcontractors, and other personnel potentially working within the project area.

5.1 Program Overview

Consistent with the CEC's requirements set forth in COC BIO-5, the WEAP:

- Was developed by or in consultation with the Designated Biologist and consists of an on-site or training center presentation in which supporting electronic media and written material is made available to all participants;
- Discusses the locations and types of sensitive biological resources on the project site and adjacent areas, as applicable;
- Presents the reasons for protecting these resources;
- Presents the function of flagging in designating sensitive resources and authorized work areas;
- Discusses federal and state laws afforded to protect the sensitive species and explains the penalties for violation of applicable LORS (e.g., federal and state endangered species acts);
- Places special emphasis on the known and potentially occurring bird species protected by the Migratory Bird Treaty Act and California Fish and Game Code, including information on physical characteristics, distribution, behavior, ecology, sensitivity to human activities, legal protection and status, penalties for violations, reporting requirements, and protection measures;
- Includes a discussion of fire prevention measures to be implemented by workers during project activities; requests workers dispose of cigarettes and cigars appropriately and not leave them on the ground or buried;
- Presents the meaning of various temporary and permanent habitat protection measures;
- Identifies whom to contact if there are further comments and questions about the material discussed in the program; and
- Includes a training acknowledgment form to be signed by each worker indicating that they received the WEAP training and shall abide by the guidelines.

A copy of the WEAP training presentation is included in Appendix A.

5.2 Documentation of Training

The Project Owner prepared and submitted the WEAP for SERC to the CEC for review and approval (see Appendix A). All supporting written materials and script for electronic media (video or DVD) were prepared or reviewed by the Designated Biologist. The Project Owner will provide in the monthly compliance report the number of people who have completed the training in the prior month and a running total of all persons who have completed the training to date. The signed training acknowledgement forms from construction will be kept on file by the Project Owner for a period of at least six months after the start of commercial operation.

The project owner will also provide documentation of the dates of annual training and number of participants who complete the training in the Annual Compliance Report. During project operation, signed statements for operational personnel will be kept on file for six months following the termination of an individual's employment. Training acknowledgement forms will be maintained by the project owner and will be made available to the CPM upon request.

6. Impacts and Mitigation

6.1 Construction Impacts and Mitigation

6.1.1 Impacts to Native Vegetation

The SERC is not located adjacent to any riparian habitat or sensitive natural communities that exist in the region; therefore, the project will not result in significant impacts to native vegetation.

6.1.2 Impacts to Common Wildlife

6.1.2.1 Breeding Birds

Construction and demolition activities during the nesting season (February 15 through August 31) could adversely affect breeding birds. The Project Owner will conduct pre-construction nesting bird surveys (COC BIO-8; Pre-Construction Nest Surveys and Impact Avoidance and Minimization Measures for Breeding Birds) in the Stanton project area, including areas within 500 feet of all Stanton project facilities, utility corridors, and access roads including the SCE Barre Substation property to avoid impacts to nesting birds. If an active nest is identified a no-disturbance buffer will be implemented to avoid impacts to nesting birds (CEC 2018), as described in more detail in Section 7.

Additionally, general measures presented in Condition of Certification BIO-7 (Impact Avoidance and Minimization Measures) (e.g., limit disturbance areas) would avoid and minimize impacts to nesting birds. With implementation of Conditions of Certification BIO-7 and BIO-8, significant impacts to nesting birds would not result from project construction and associated site clearance activities and compliance with MBTA and California Fish and Game Code (Sections 3503 and 3513) would be achieved. Active nests would be monitored, and the results included in the Monthly Compliance Reports (MCRs) to the CPM.

6.1.2.2 Wildlife Entrapment

Wildlife could become entrapped in open trenches during construction, especially if trenches remain open during inactive construction periods. COC BIO-7 (General Impact Avoidance and Minimization Measures) would require exclusion measures for open trenches (e.g., fencing or covering), inspection of trenches prior to resuming construction activities each day, and installation of escape ramps so that animals that fall in the trench could escape. Implementation of this measure would mitigate adverse impacts to wildlife from entrapment.

6.1.3 Impacts to Special-Status Species

6.1.3.1 Special Status Plants

There are no sensitive or special-status plants with potential to occur within the SERC; therefore, the project will not result in significant impacts to sensitive or special-status plant species.

6.1.3.2 Special-Status Wildlife

There are no threatened, endangered, candidate or special-status animals within the SERC; therefore, construction and demolition activities are not expected to significantly impact special-status wildlife species. The SERC will not result in the removal of any natural vegetation or sensitive wildlife habitat and will not result in any additional regional habitat fragmentation.

6.1.4 Impacts to Jurisdictional Waters

In order to minimize impacts to jurisdictional waters the applicant has committed to follow relevant procedures and best management practices (BMPs) for sedimentation prevention to avoid potential water

quality impacts from construction in accordance with the project's Storm Water Pollution Prevention Plan (SWPPP) and General Construction National Pollutant Discharge Elimination System (NPDES) Permit, which has been included as a requirement of Condition of Certification SOIL&WATER-1 (NPDES Construction Permit Requirements).

In addition, COC BIO-9 would require the Designated Biologist or Biological Monitor to be present during jack and bore drilling under the channel to monitor operations in the event of frac-out (accidental release) of drilling fluid into the channel. COC SOIL&WATER-7 recommends the development and implementation of a frac-out plan, which would specify the emergency and remedial measures to protect Carbon Creek Channel in the event drilling mud is released to the creek or creek bed.

With implementation of these measures, indirect and direct water quality impacts and associated impacts to biological resources located downstream in adjacent jurisdictional waters are not anticipated.

6.1.5 General Construction Impacts

6.1.5.1 Noise

The Stanton project site is located in an area already occupied by other industrial uses including SCE's Barre Substation, Barre Peaker Unit, Barre-Ellis 220-kV transmission line, and other existing industrial facilities. The existing industrial uses as well as rail traffic on the UPRR and automobile traffic on Dale Avenue, Pacific Street, and Fern Avenue create elevated ambient noise levels to which most local wildlife species have acclimated. However, noise from construction and associated site clearance activities could discourage wildlife from foraging and nesting near the proposed Stanton project area, due to interference with communication, disturbance or disruption of activities, or startling from loud noises.

Construction and associated site clearance noise as well as noise from power plant commissioning is expected to be a constant noise source lasting approximately 12 months. Completion of the electric interconnection facilities by SCE is forecasted to require an additional 2 months. Construction (including site clearance) noise impacts would be created by heavy machinery such as a dump truck, backhoe, concrete mixer, Derrick crane, jack hammer, pneumatic tools, rock drill, and various associated trucks. Construction activities would typically occur between 7:00 a.m. and 8:00 p.m. on weekdays and Saturdays and would result in a short-term, temporary increase in the ambient noise level.

With implementation of COC BIO-8 and NOISE-6, impacts to nesting birds are not anticipated.

6.1.5.2 Lighting

If night construction were required, the applicant proposes to use temporary lighting that would be focused and directed on the work areas and away from nearby residences (SERC 2016a). These measures are incorporated into Condition of Certification VIS-3 (Site Lighting - Project Construction and Commissioning) (refer to the Visual Resources section of the staff assessment for the full text of this condition). With implementation of these measures, impacts to wildlife from construction night lighting are not anticipated.

6.1.5.3 Invasive Weeds

No substantial invasive weed populations exist within the proposed project area as it is currently maintained by regular mowing. However, construction activities and soil disturbance could introduce new invasive weeds to areas adjacent to the Stanton project site or areas downstream via the Stanton Storm Channel and could further spread weeds already present in the project vicinity. To avoid and minimize the spread of existing weeds and the introduction of new ones, weed management measures are included in COC BIO-7 and SOIL&WATER-1. With the implementation of COC BIO-7 and SOIL&WATER-1 impacts from introduction and spread of invasive weeds into downstream sensitive habitats are not anticipated.

6.1.5.4 Storm Water Runoff

There are no creeks, drainages, or wetlands on the project site, offsite laydown area, or offsite parking areas. However, storm channels that bisect the proposed Stanton site could be impacted from storm water runoff during construction and associated site clearance if appropriate measures are not taken to prevent water from draining off site. Toxic materials washed from the site into downstream aquatic resources can injure or kill wildlife and vegetation and degrade habitat.

BIO-7 (Impact Avoidance and Minimization Measures) which would require standard BMPs from the project SWPPP to be implemented during all phases of the proposed project to control storm water runoff. SOIL&WATER-1, which would require the applicant to develop and implement a site-specific construction SWPPP. With the implementation of COC BIO-7 and SOIL&WATER-1 impacts to biological resources from storm water runoff are not anticipated.

6.2 Operation Impacts and Mitigation

6.2.1 Noise

The operational noise level at SERC would be less than the ambient noise level. The implementation of COC NOISE-4 (Operational Noise Restrictions and Survey) would require the project to meet the city of Stanton Noise Ordinance limit of 50 decibels (dBA) during operation. With implementation of this measure impacts associated with operational noise would be less than significant.

6.2.2 Lighting

Operational lighting for SERC would be shielded and/or directed downward in order to minimize the potential for glare or spillover onto adjacent properties. To minimize backscatter of light to the sky and so that lighting does not obtrude beyond the project site, COC VIS-4 (Lighting Management Plan – Project Operation) will be implemented. With implementation of this measure impacts to wildlife from operational night lighting would be less than significant.

6.2.3 Avian collision

The SERC project would interconnect to the regional electrical grid via a new approximately 0.35-milelong, single-circuit, three-phase 66-kV generator tie line that would be constructed as an entirely underground transmission line. Therefore, direct and indirect impacts to birds from collision with transmission structures are not expected.

6.2.4 Storm water runoff

Storm water runoff from open areas on both parcels of the SERC site during operation would be discharged into the Stanton Storm Channel. BMPs to avoid, minimize, and mitigate potential impacts from construction and operational storm water runoff will be implemented through COC SOIL&WATER-1 and SOIL&WATER-2 (SERC 2016a). In addition, COC BIO-7 (Impact Avoidance and Minimization Measures) would require BMPs from the project SWPPP to be implemented during all phases of the project to control storm water runoff. With implementation of these measures project impacts from storm water runoff during operation would be less than significant.

6.2.5 Nitrogen deposition

Nitrogen deposition is the input of nitrogen oxide (NOx) and ammonia (NH_3) derived pollutants, primarily nitric acid (HNO_3), from the atmosphere to the biosphere. Nitrogen deposition sources are primarily industrial and vehicle emissions, including power plants. The area of potential effects of nitrogen deposition from a power plant project is within a 6-mile radius. Beyond a 6-mile radius impacts are considered to be less than significant. There are no sensitive natural communities, as listed by CDFW in the CNDDB, or any designated critical habitat for federally-listed species that are considered sensitive to

nitrogen deposition within the 6-mile radius of the SERC project site. Therefore, nitrogen deposition impacts from the proposed project would be less than significant.

7. Mitigation, Monitoring, and Compliance Measures

7.1 General Impact Avoidance and Minimization Measures

As stated in COC BIO-7 (CEC 2018), "The project owner shall implement the following measures during site mobilization, construction, operation, and closure to manage their project site and related facilities in a manner to avoid or minimize impacts to biological resources:

1) Delineation of Project Site. The boundaries of all areas to be temporarily or permanently disturbed (including staging areas, access roads, and sites for temporary placement of spoils) shall be delineated with stakes and flagging prior to construction activities in consultation with the Designated Biologist. All disturbances, vehicles, and equipment shall be confined to the flagged areas. All stakes, flagging, fencing or barriers shall be removed from the project site and vicinity of any waterbodies upon completion of project activities.

2) Escape Ramp in Trench. At the end of each work day, the Designated Biologist, Biological Monitor, and/or trained site personnel shall ensure that all potential wildlife pitfalls (trenches, bores, and other excavations) have been backfilled. If backfilling is not feasible, all trenches, bores, and other excavations shall have an escape ramp at each end constructed of either dirt fill or wood planking or other suitable material that is placed at an angle no greater than 30 degrees to allow any animals that may have become trapped in the trench to climb out overnight or they shall be covered completely to prevent wildlife access. Should wildlife become trapped, the Designated Biologist or Biological Monitor shall remove and relocate the individual to a safe location. If trained site personnel are inspecting trenches, bores, and other excavations and wildlife is trapped, they will immediately notify the Designated Biologist and/or Biological Monitor. Any wildlife encountered during the course of construction shall be allowed to leave the construction area unharmed.

3) Soil Wind and Water Erosion Control. Spoils shall not be stockpiled adjacent to any channels (i.e., Stanton Storm Channel, Carbon Creek Channel) to minimize potential for spoils to enter into these waterbodies. Soil bonding and weighting agents used on unpaved surfaces shall be non-toxic to wildlife and plants. The project owner shall keep the amount of water used for dust abatement to the minimum amount needed and shall not allow water to form puddles. During construction, a Biological Monitor shall patrol these areas and shall take appropriate action to reduce water application rates where necessary.

4) Notification of Take, Injury, or Death of Common Wildlife Species. Site personnel shall report all inadvertent death or injuries of wildlife species to the appropriate project representative, including road kill. During construction, injured or dead animals detected by personnel in the project area shall be reported immediately to a Biological Monitor or Designated Biologist, who shall remove the carcass or injured animal promptly. During operations, the Plant Manager shall be notified who shall promptly notify the Designated Biologist to remove the carcass or injured animal. Species name, physical characteristics of the animal (sex, age class, length, weight), and other pertinent information shall be noted and reported in the compliance reports by the Designated Biologist.

   The project owner shall immediately notify the Designated Biologist or Biological Monitor if a special-status species is taken or injured at the project site, or if a special status species is otherwise found dead or injured within the vicinity of the project. The Designated Biologist or Biological Monitor shall provide initial immediate notification to the CPM as well as CDFW and/or USFWS. The initial immediate notification shall include information regarding the location of the animal and/or carcass, date and incident location, time of incident, name of the Designated Biologist or Biological Monitor(s) present, the activity that caused the take or injury, and common and scientific names of species taken or injured. Following initial notification, the project owner shall send the CPM and CDFW and/or USFWS a written report via email within two (2) calendar days. The written report shall include the information in the initial notification and if possible provide a photograph of the species that was taken or injured, and preventative measures that will be implemented to prevent take or injury of special-status species.

5) Hazardous Waste. All vehicles and equipment shall be maintained in proper working condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The project owner shall ensure that work shall immediately stop and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so. The Designated Biologist shall be informed immediately of any spills of hazardous material or wastes. Servicing of construction equipment shall take place only at designated areas. Service/maintenance vehicles shall carry a bucket and pads to absorb leaks or spills.

6) Trash Abatement and Feeding Wildlife. All general trash, food-related trash items (e.g., wrappers, cans, bottles, food scraps, cigarettes, etc.) and other human-generated debris will be stored in animal proof containers and/or removed from the site each day. No deliberate feeding of wildlife will be allowed. Workers shall not feed wildlife or bring pets to the project site.

7) Firearms and Dogs. The project owner shall prohibit firearms and domestic dogs (except service dogs) from the project site, except those in the possession of authorized security personnel or local, state, or federal law enforcement officials.

8) Erosion Control Materials. Standard best management practices (BMPs) from the project Stormwater Pollution Prevention Plan shall be implemented during all phases of the project (construction, operation, and decommissioning) where storm water run-off from the site could enter adjacent creeks or channels. Sediment and other flow-restricting materials shall be moved to a location where they shall not be washed back into any jurisdictional waters. All disturbed soils within the project site shall be stabilized to reduce erosion potential, both during and following construction (See SOIL & WATER-1).

9) Invasive Weeds. The project owner shall implement the following measures during construction and operation to prevent the spread and propagation of nonnative, invasive weeds:

   a) Limit the size of any vegetation and/or ground disturbance to the absolute minimum and limit ingress and egress to defined routes;

   b) Use only weed-free straw, hay bales, and seed for erosion control and sediment barrier installations;

   c) Invasive non-native species shall not be used in landscaping plans and erosion control;

   d) Monitor and rapidly implement control measures to ensure early detection and eradication of weed invasions.

10) Herbicides. During construction and operation, only herbicides containing a harmless dye and registered with the California Department of Pesticide Regulation (DPR) shall be used. All herbicides shall be applied in accordance with regulations set by DPR. All herbicides shall be used according to labeled instructions. Labeled instructions for the herbicide used shall be made available to the CPM upon request. No herbicide shall be applied when winds are greater than five (5) miles per hour.

11) Rodenticides and Insecticides. During construction and operation, the project owner shall not use rodenticides and/or insecticides on the project site without prior written permission from the CPM. The project owner shall not use any second-generation anticoagulant rodenticide (brodifacoum, bromadiolone, difethialone, and difenacoum) on the project site. The project owner shall not use any first-generation anticoagulant rodenticide (diphacinone, chlorophacinone, and warfarin) on the project site without prior written permission from the CPM.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the monthly compliance reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed and which items are still outstanding."

7.2 Preconstruction Nest Surveys and Impact Avoidance and Minimization Measures for Breeding Birds

As stated in COC BIO-8 (CEC 2018), “Pre-construction nest surveys shall be conducted if construction work will occur from February 15 through August 31. The term “work” shall be defined as all site assessment, pre-construction activities, site mobilization, and ground disturbing construction activities. The Designated Biologist or Biological Monitor shall perform surveys in accordance with the following guidelines:

1) Surveys shall cover all potential nesting habitat and substrate within the project site and any offsite facilities (e.g. generator tie-line and natural gas pipeline, worker parking areas and staging areas) and publicly-accessible areas within 500 feet of the project boundary. These surveys shall include the orders *Falconiformes* and *Strigiformes* (raptors and owls). Surveys shall be conducted at appropriate nesting times and concentrate on potential roosting or perch sites. Any habitat areas adjacent to the project site but not publicly accessible shall be surveyed with binoculars.

2) At least two pre-construction surveys shall be conducted, separated by a minimum 10-day interval. Pre-construction surveys shall be conducted no more than 14 days prior to initiation of construction activity. One survey shall be conducted within the 3-day period preceding initiation of construction activity. Additional follow-up surveys may be required if periods of construction inactivity exceed three weeks in any given area, an interval during which birds may establish a nesting territory and initiate egg laying and incubation.

3) If active nests are detected during on-site surveys, a no-disturbance buffer zone (protected area surrounding the nest) shall be established around each nest with fencing, flagging and/or signage, as appropriate. The size of each buffer zone shall be determined by the Designated Biologist in consultation with the CPM (in coordination with CDFW and USFWS). If any nests of birds of prey are observed, these nests shall be designated an ecologically sensitive area and protected (while occupied) by a minimum 500-foot radius during project construction. Off-site special-status nests shall be mapped and monitored but shall not be fenced. Nest locations shall be mapped using global positioning system (GPS) technology and submitted, along with a weekly report stating the survey results, to the CPM in the monthly compliance reports.

4) If active nests of special-status species are detected during surveys, the Designated Biologist or Biological Monitor shall inform the CPM within one business day and shall monitor all on-site and off-site nests at least once per week, to determine whether birds are being disturbed. If signs of disturbance or distress are observed, the Designated Biologist or Biological Monitor shall immediately implement adaptive measures to reduce disturbance in coordination with the CPM. These measures may include, but are not limited to, increasing buffer size, halting disruptive construction activities in the vicinity of the nest until fledging is confirmed, or placement of visual screens or sound-dampening structures between the nest and construction activity, where possible.

5) If active nests are detected during surveys, the Designated Biologist or Biological Monitor shall monitor the nest until he or she determines that nestlings have fledged and dispersed, or the nest is no longer active. Activities that might, in the opinion of the Designated Biologist or Biological Monitor, disturb nesting activities (e.g., exposure to exhaust), shall be prohibited within the buffer zone until such a determination is made.

6) The Designated Biologist shall provide the CPM and CDFW with field notes or other documentation within 24 hours of completing the surveys. An email report with a letter report to follow may be used. The email/letter report shall state how impacts of any nesting birds will be avoided by citing the appropriate information from this condition of certification. The letter report/email report shall include the time, date, methods, and duration of the surveys; identity and qualifications of the surveyor(s); and a list of species observed.

7) If active nests are detected during the surveys, the reports shall include a map or aerial photo identifying the location of the nest(s), species, and shall depict the boundaries of the proposed no-disturbance buffer zone around the nest(s).

Verification: The project owner shall provide notification to the CPM, CDFW, and USFWS at least 2 weeks prior to initiating surveys; notification shall include the name and resume of the biologist(s) conducting the surveys and the timing of the surveys. Prior to the start of any pre-construction site mobilization, the project owner shall provide the CPM, CDFW, and USFWS a letter-report describing the findings of the preconstruction nest surveys. All impact avoidance and minimization measures related to nesting birds shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the monthly compliance reports by the Designated Biologist."

7.3 Jack-and-Bore Drilling Best Management Practices

As stated in COC BIO-9 (CEC 2018), "During construction, using jack-and-bore drilling techniques, the Designated Biologist or Biological Monitor must be present at all times. The Designated Biologist or Biological Monitor must be allowed to monitor all activities pertaining to drilling under Carbon Creek Channel, and shall be given authority to do the following, including but not limited to:

1) visually inspect the drill path,
2) monitor the creek for evidence of frac-out or drilling fluid release,
3) examining the drilling fluid pressures and return flows,
4) approval of the drilling setup locations,
5) verifying the perimeter of the work site is adequately flagged prior to equipment setup, and
6) having the authority to halt any drilling if the operations lead to frac-out or the drilling fluid pressures and return flows drop.

Verification: The Designated Biologist or Biological Monitor must notify the CPM and CDFW (no later than the following morning of the incident, or Monday morning in the case of a weekend) in the event of frac-out. The CPM and CDFW must also be notified of any non-compliance or a halt of any jack and bore drilling operations. The project owner shall notify the CPM and CDFW of the circumstances and actions being taken to resolve the problem.

Whenever corrective action is taken by the project owner, a determination of success or failure will be made by the CPM within five working days after receipt of notice that corrective action is completed, or the project owner will be notified by the CPM that coordination with other agencies will require additional time before a determination can be made."

8. Construction Monitoring and Reporting

8.1 Scope of Monitoring

The intensity and frequency of monitoring depends on the biological resources in and near the work area and the kinds of activity underway. When trenches and holes are open, large volumes of supplies are deployed for installation, and construction traffic is very heavy, some environmental compliance monitoring would be necessary. During such periods, monthly or more frequent inspections would include the following:

- Conduct all surveys as mentioned previously and perform required monitoring as necessary
- Evaluate the fencing and staking of exclusion zones and no work activities are conducted within the designated exclusion zones
- Evaluate that BMPs for sedimentation prevention are in place where appropriate
- Check that project-generated debris, building materials, and rubbish is handled appropriately
- Verify excess project materials are removed from the project site by the completion of construction
- Check that construction and operation workers in the project area have completed an employee orientation and the WEAP
- Evaluate compliance with installation of escape ramps or covers to prevent entrapment of wildlife

Although the inspections listed below may be done whenever a monitor is in the construction area, inspections will be conducted monthly, at a minimum, to confirm that the following are being performed:

- Compliance inspection reports are maintained by the Project Owner for review by USFWS, CEC, and CDFW upon request
- Exclusion zones are clearly delineated and flagging and/or fencing is in place where needed and has been removed in areas where construction is complete
- Equipment storage and parking are confined to the designated areas
- Food-related trash items are being disposed of in closed containers and are being removed at least once a week from the site
- Deliberate feeding of wildlife is not occurring
- Firearms, except for those carried by security personnel, are not on the project
- No pets are on the project
- Use of rodenticides or herbicides in project areas is minimized

8.2 Conflict Resolution

Noncompliance issues will require the cooperation of the Designated Biologist, CPM, Resident Engineer, Construction Inspector, Contractor Supervisor, and Crew Foreman. Through this cooperative effort, all involved parties will be notified of the issues, recommended measures, and means for future avoidance of similar and related noncompliance issues.

8.3 Summary of Reporting Responsibilities of Construction Monitoring

MCRs will be prepared by the Designated Biologist and will be submitted to the CEC CPM. In addition, the CPM will be notified immediately, in writing, if monitoring reveals that any of the protective measures were not implemented during the period indicated in this program, or if it appears that measures will not be implemented within the time period specified. The CPM will also be notified if any of the protective

measures are not providing a level of protection that is appropriate for the impact that is occurring. The CPM will be notified of recommendations, if any, for alternative protective measures.

The first MCR will be prepared within one month of the beginning of surface-disturbing activities or as determined by the CEC CPM. Subsequent reports will be prepared for any month during which the Designated Biologist determines that monitoring is necessary for the protection of sensitive biological resources. Each MCR will include the following information:

- Areas and activities monitored during the reporting month
- Summary of the BRMIMP measures that were implemented
- Incident Reports and resolution of each reported situation
- Dead or injured wildlife detected by personnel (species name, physical characteristics of the animal, and other pertinent information shall be noted)
- Brief summary of construction and demolition activities
- Methods used to resolve noncompliance issues, including agency and Project Owner personnel contacted

In addition, any reporting or documentation requirements that are specified by other permits will be performed and submitted to applicable agencies as needed.

8.4 Reporting Injured Wildlife

Any employee who inadvertently kills or injures a wildlife species, or who finds any animal either dead, injured, or entrapped, is required to report the incident immediately to the Designated Biologist. Injured special-status animals will be reported to CDFW and USFWS as applicable. The Project Owner will follow instructions that are provided by CDFW and USFWS for special-status species.

In the case of entrapped listed animals, escape ramps or structures would be installed immediately, if possible, to allow the subject animal(s) to escape unimpeded.

In the event that an animal is found dead on the project and the species of animal is classified as threatened or endangered, the Designated Biologist would immediately (within 24 hours) notify USFWS (Carlsbad Fish & Wildlife Office at 760-431-9440) and CDFW (CDFW South Coast Region at 858-467-4201) by phone and would document initial notification in writing within two (2) working days of the finding of any such animal(s). Notification would include the date, time, location, species, and circumstances of the incident.

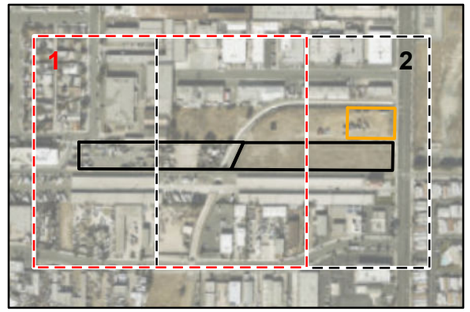
Any listed species found dead or injured would be delivered to the USFWS, CDFW, or designated veterinarian immediately for care, analysis, or disposition as applicable.

9. Post-Construction Monitoring and Reporting

According to COC BIO-6, within 30 days after completion of project construction, the Project Owner will provide to the CEC CPM a written Construction Closure Report for review and approval. This report will identify which items of the BRMIMP have been completed; a summary of all modifications to mitigation measures made during the project's site mobilization, ground disturbance, grading, and construction phases; and which mitigation and monitoring items are still outstanding. This report will also include a set of aerial photographs, obtained by the Project Owner, for comparison to the pre-construction aerial photographs (Figures 4 and 5). The Designated Biologist will conduct a post-construction site visit to determine whether all implemented protection measures related to biological resources were successful. The results of the inspection will be included in the post-construction report (COC BIO-6).

Upon completion of construction, all areas subject to temporary disturbances will be subject to post-construction cleanup by the contractors. Cleanup will consist of removal of gravel, stakes, lathes, temporary erosion control devices, flagging, barrels, cans, drums, accidental spills, and any other refuse generated by construction. Reclamation will consist of recontouring soil surfaces to natural lines and grades.

Although the construction area will be kept cleared of trash, food-related items, construction debris, and other litter during the entire construction period, a post-construction inspection and cleanup will be conducted. The Designated Biologist will accomplish the inspection within 15 days of completion of construction in each construction area. All construction debris, unneeded signs, and other trash and litter will be removed within 15 days of the inspection. The Designated Biologist will be responsible for removing all stakes, lathes, flagging, and signs associated with protected areas; the construction contractor will be responsible to remove all other debris. Disposal of all debris will be at an approved waste facility.



LEGEND

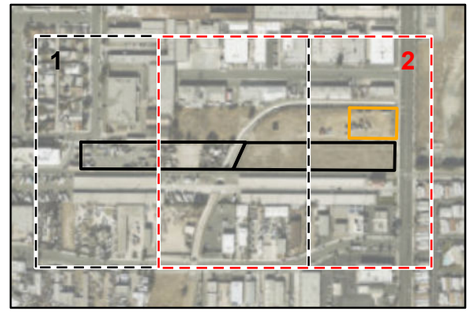
- Generator Tie-Line
- Natural Gas Pipeline
- Project Site
- Natural Gas Pipeline Staging Area

Aerial Imagery Source: ESRI, Port of Long Beach
(Image Dated 12/16/2017)

N

0 25 50 75 100 125 150
Feet

Figure 4 (1 of 2)
Pre-Construction Aerial View of Project Site
Stanton Energy Reliability Center
Stanton, California



LEGEND

- Generator Tie-Line
- Natural Gas Pipeline
- Project Site
- Natural Gas Pipeline Staging Area

Aerial Imagery Source: ESRI, Port of Long Beach (Image Dated 12/16/2017)

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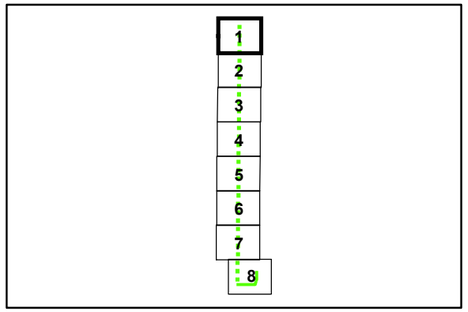
Figure 4 (2 of 2)
Pre-Construction Aerial View of Project Site
Stanton Energy Reliability Center
Stanton, California



LEGEND

- Generator Tie-Line
- Natural Gas Pipeline
- Project Site
- Natural Gas Pipeline Staging Area

Aerial Imagery Source: ESRI, Port of Long Beach
(Image Dated 12/16/2017)

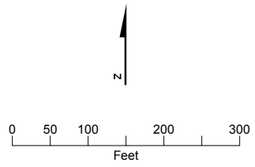
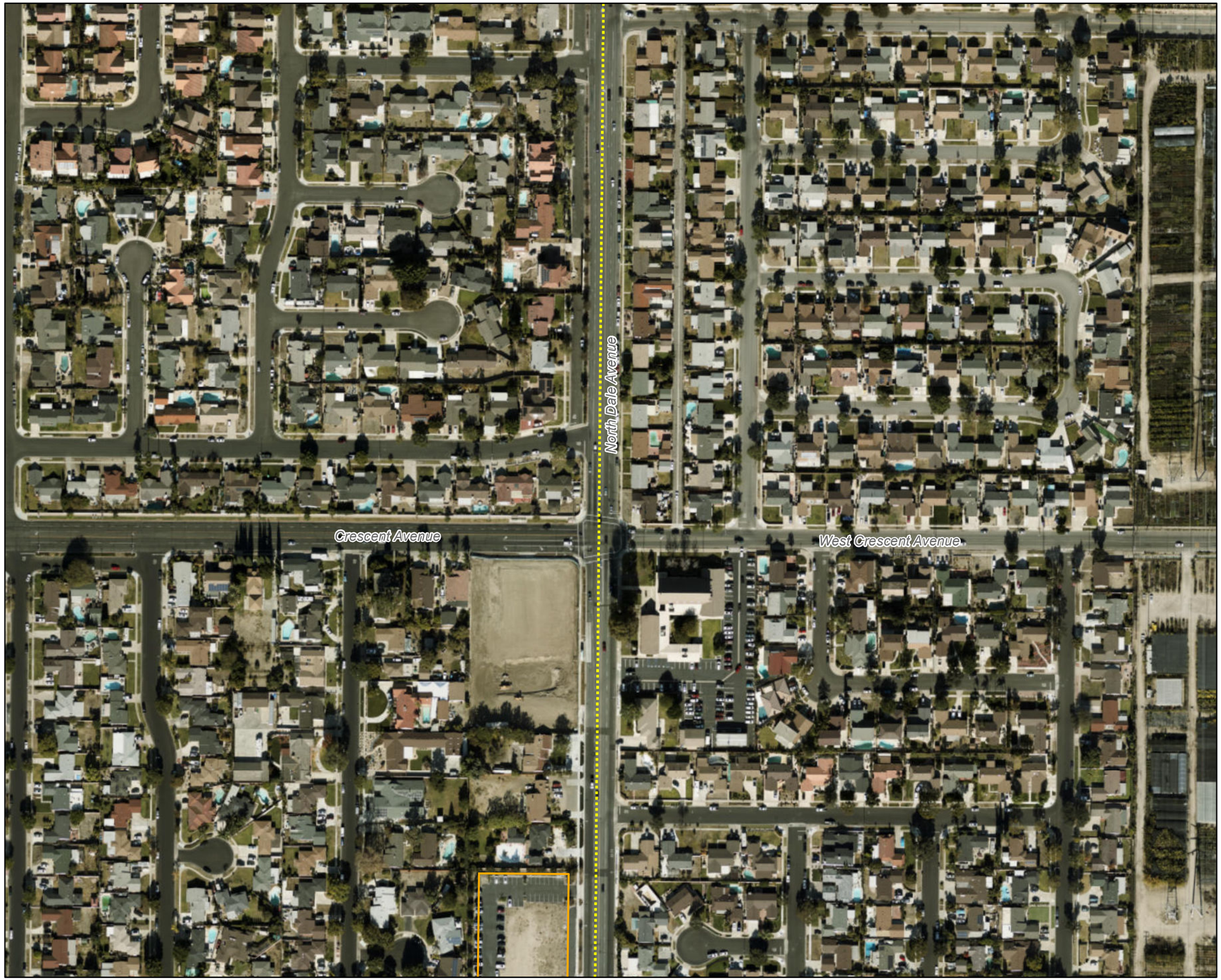
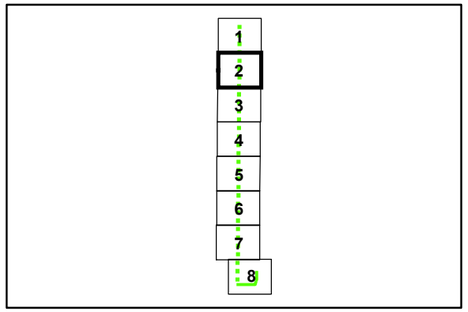


Figure 5 (Page 1 of 8)
Pre-Construction Aerial View of Natural Gas Pipeline and Generator Tie-Line Routes
Stanton Energy Reliability Center
Stanton, California





LEGEND

- Generator Tie-Line
- Natural Gas Pipeline
- Project Site
- Natural Gas Pipeline Staging Area

Aerial Imagery Source: ESRI, Port of Long Beach
(Image Dated 12/16/2017)

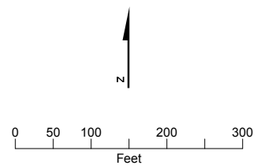
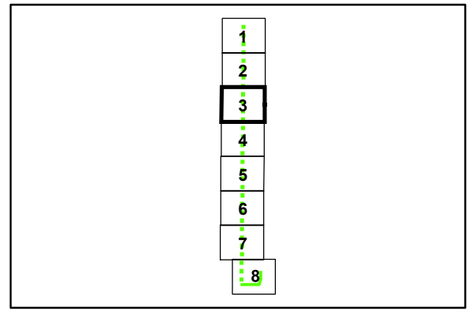


Figure 5 (Page 2 of 8)
Pre-Construction Aerial View of Natural Gas Pipeline and Generator Tie-Line Routes
Stanton Energy Reliability Center
Stanton, California



LEGEND

- Generator Tie-Line
- Natural Gas Pipeline
- Project Site
- Natural Gas Pipeline Staging Area

Aerial Imagery Source: ESRI, Port of Long Beach
(Image Dated 12/16/2017)

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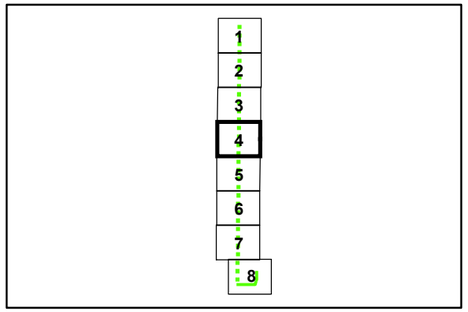
Figure 5 (Page 3 of 8)
Pre-Construction Aerial View of Natural Gas Pipeline and Generator Tie-Line Routes
Stanton Energy Reliability Center
Stanton, California



LEGEND

- Generator Tie-Line
- Natural Gas Pipeline
- Project Site
- Natural Gas Pipeline Staging Area

Aerial Imagery Source: ESRI, Port of Long Beach
(Image Dated 12/16/2017)

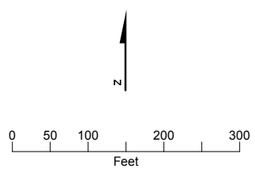
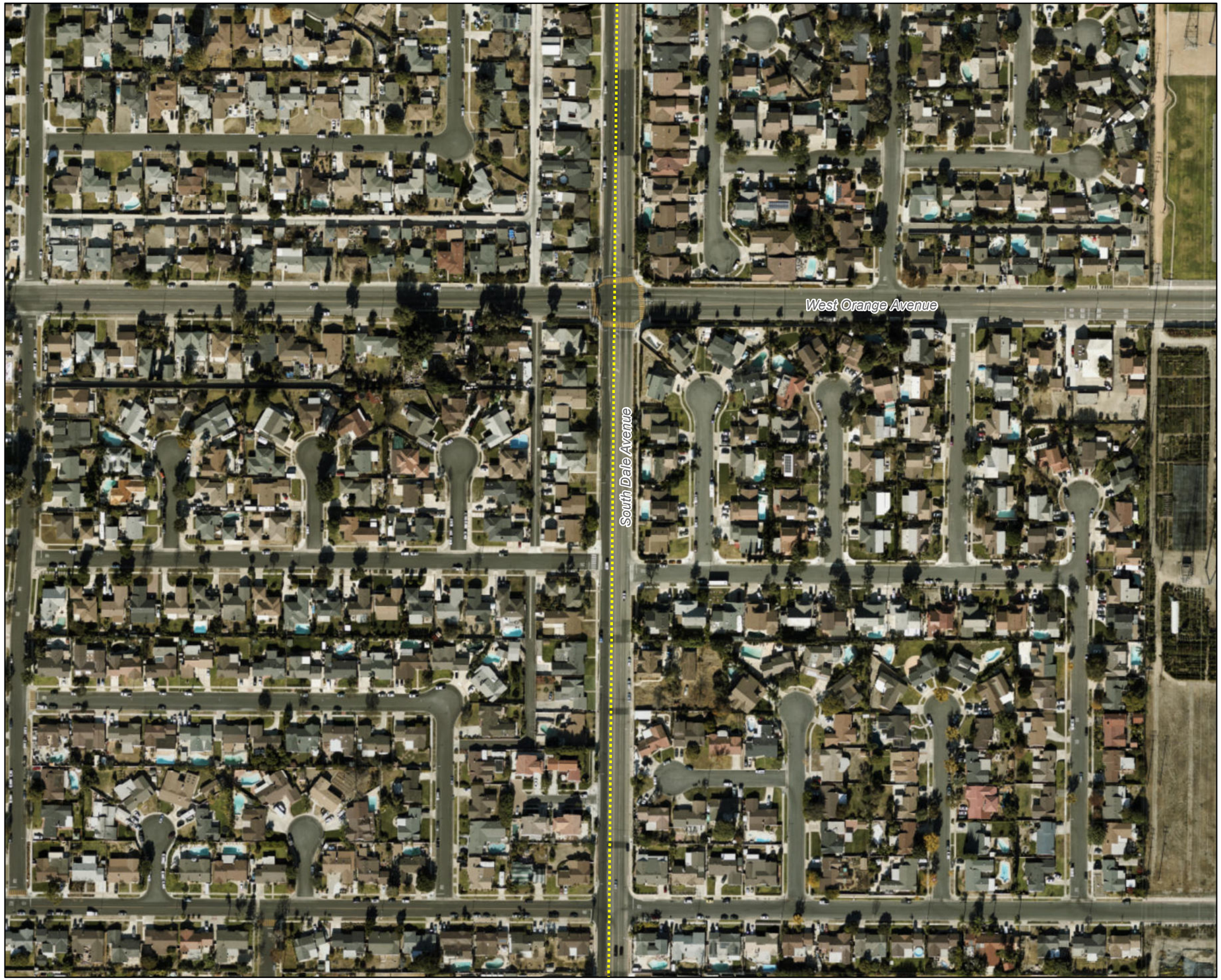
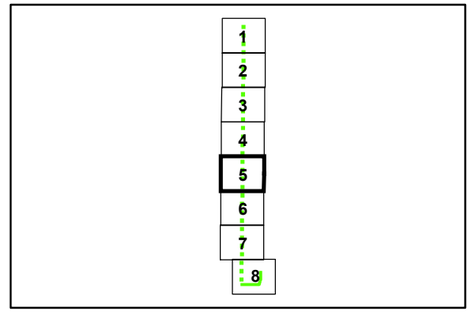


Figure 5 (Page 4 of 8)
Pre-Construction Aerial View of Natural Gas Pipeline and Generator Tie-Line Routes
Stanton Energy Reliability Center
Stanton, California





LEGEND
- Generator Tie-Line
- Natural Gas Pipeline
- Project Site
- Natural Gas Pipeline Staging Area

Aerial Imagery Source: ESRI, Port of Long Beach
(Image Dated 12/16/2017)

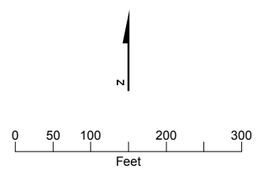
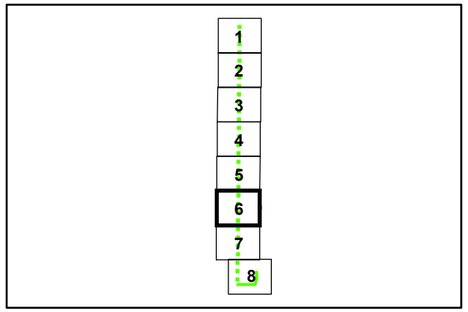


Figure 5 (Page 5 of 8)
Pre-Construction Aerial View of Natural Gas Pipeline and Generator Tie-Line Routes
Stanton Energy Reliability Center
Stanton, California



LEGEND

- Generator Tie-Line
- Natural Gas Pipeline
- Project Site
- Natural Gas Pipeline Staging Area

Aerial Imagery Source: ESRI, Port of Long Beach
(Image Dated 12/16/2017)

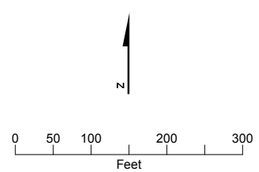
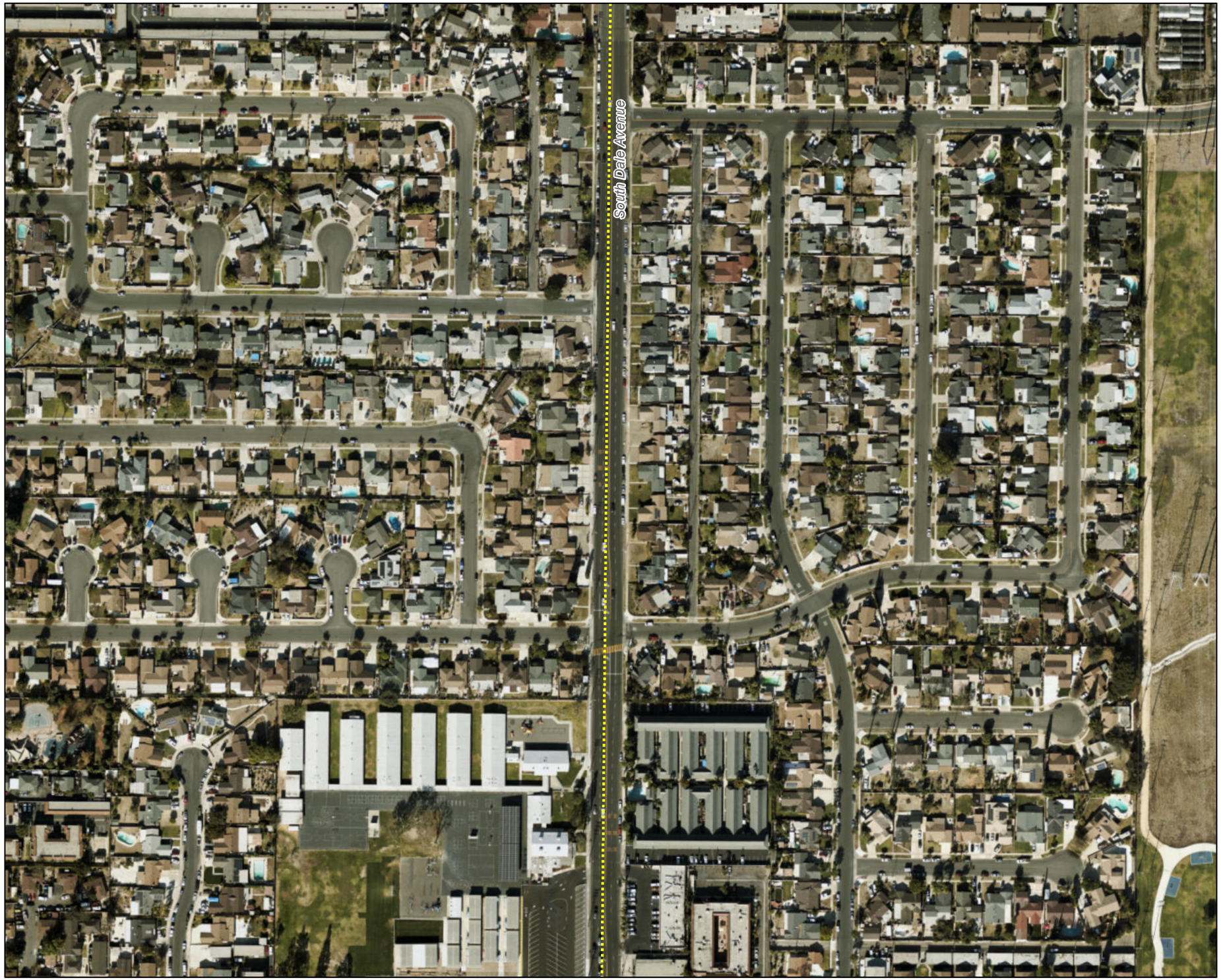
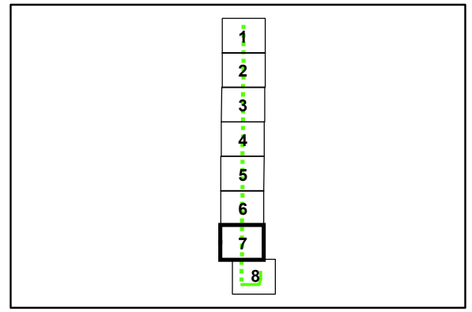


Figure 5 (Page 6 of 8)
Pre-Construction Aerial View of Natural Gas Pipeline and Generator Tie-Line Routes
Stanton Energy Reliability Center
Stanton, California





LEGEND

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- Natural Gas Pipeline Staging Area

Aerial Imagery Source: ESRI, Port of Long Beach
(Image Dated 12/16/2017)

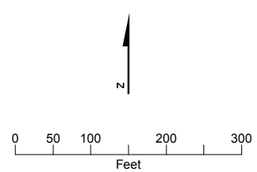
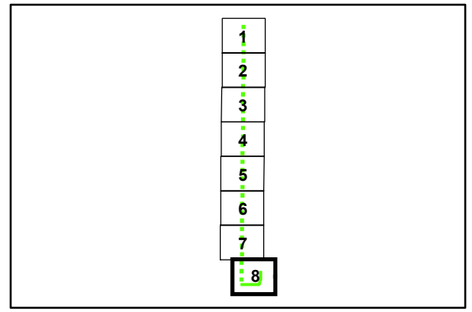


Figure 5 (Page 7 of 8)
Pre-Construction Aerial View of Natural Gas Pipeline and Generator Tie-Line Routes
Stanton Energy Reliability Center
Stanton, California



LEGEND

- Generator Tie-Line
- Natural Gas Pipeline
- Project Site
- Natural Gas Pipeline Staging Area

Aerial Imagery Source: ESRI, Port of Long Beach
(Image Dated 12/16/2017)

N

0 50 100 200 300
Feet

Figure 5 (Page 8 of 8)
Pre-Construction Aerial View of Natural Gas Pipeline and Generator Tie-Line Routes
Stanton Energy Reliability Center
Stanton, California

10. Implementation Monitoring/Verification Program

Verification of compliance with the COCs will be documented in monitoring logs, MCRs, and in the final BRMIMP Summary of Mitigation Measures for the SERC that will be submitted to the CEC within 30 days after completion of construction.

Compliance of each mitigation measure will be monitored by the Designated Biologist and/or Biological Monitors and will be documented in monitoring logs for each site visit. The monitoring logs will record where, when, and how demolition and construction activities are performed and whether compliance was met. MCRs will summarize the activities for each month. The summaries will include a discussion of whether the mitigation measures were successful, compared with the success criteria where applicable. The summaries will also include all plan modifications and remedial measures taken if the success criteria were not met during the mitigation monitoring process.

11. Facility Closure

Permanent closure will occur at the end of the facility's operational phase, but unexpected permanent or temporary closures may be necessary in the event of disastrous events or unfavorable economic conditions. All of the potential circumstances in existence during a closure cannot reasonably be foreseen. However, closure of SERC must comply with all applicable CEC COCs and LORS in effect at that time including COC for Compliance Conditions, COM-14 and COM-15.

In the case of unexpected permanent or temporary closure, measures to protect biological resources will be needed only if surface disturbances or releases of harmful materials occurred during a disaster. If such an event occurs, the Project Owner would consult with responsible agencies to plan cleanup and mitigation of impacts to biological resources.

12. Modifications to the BRMIMP

Permits that have not yet been received when the BRMIMP is first submitted, will be submitted to the CPM within five days of their receipt, and the BRMIMP will be revised or supplemented to include the permit received in Appendix B and submitted to the CPM for review within 10 days of their receipt by the Project Owner. The Project Owner will ensure SERC will adhere to all permit conditions.

The Project Owner will notify the CEC CPM no less than 5 working days before implementing any modifications to the approved BRMIMP to obtain CPM approval. The following list of items is required when modifications to the BRMIMP and CPM approval are necessary:

1) Identify changes considered necessary:
    a) Describe the proposed change
    b) Describe the reasons for the change
    c) Describe how the change will be implemented
2) Determine whether changes require a project amendment (approval of full Commission is necessary):
    a) Contact CPM

Permitting agencies must be notified to make sure conflicts do not exist. Notify other interested parties as applicable.

13. References

California Energy Commission (CEC). 2018. Final Staff Assessment for Stanton Energy Reliability Center (SERC). Docket Number 16-AFC-01. June.

COS 2017a – City of Stanton/James A.Box (TN 220101). Letter to John Heiser Re: Bicycle Facilities Clarification. Submitted to John Heiser/CEC/Docket Unit on July 10, 2017.

OCPW 2013 – Orange County Public Works, Orange County General Plan, Chapter VI Resources Element, dated December 2013, https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=40235, accessed on June 9, 2017.

SERC 2016a – Stanton Energy Reliability Center, LLC (TN 214206-2 to 27). Application for Certification Vol.1, dated October 26, 2016. Submitted to CEC/Docket Unit on October 27, 2016.

SERC 2016i – CH2M/Applicant Consultant (TN 215097). Stanton Energy Reliability Center Application for Certification Data Adequacy Supplement, dated December 21, 2016. Submitted to John Heiser/CEC/Docket Unit on December 22, 2016.

SERC 2017b – CH2M/Applicant Consultant (TN 217461). Stanton Energy Reliability Center Application for Certification Data Request Response, Set 1 (A1-A63). Submitted to CEC/Docket Unit on May 5, 2017.

USDA (United States Department of Agriculture), Forest Service. 1997. Ecological Subregions of California. Scott Miles and Charles Goudey (editors). Pacific Southwest Division. R5-EM-TP-005. San Francisco.

Appendix A
Worker Environmental Awareness Program PowerPoint

STANTON ENERGY RELIABILITY CENTER

Worker Environmental Awareness Program

JACOBS®

WELLHEAD

WPower
Keeping the Lights On

MONITORS' ROLES AND RESPONSIBILITIES

- Ensure compliance with avoidance and mitigation measures and Conditions of Certification.
- Perform clearance sweeps prior to starting work.
- Respond to resource issues and concerns.
- Advise project personnel of resource concerns in the project area.
- Avoid resources as appropriate and permitted.

MONITORS' ROLES AND RESPONSIBILITIES

- Monitors have the authority and the requirement to stop work if any part of construction or other permitted site activities do not comply with the project's mitigation measures and/or Conditions of Certification.
- Monitors on-site during site mobilization, ground disturbance, grading, demolition and construction activities.
- Monitors will clear all construction areas before any surface disturbance begins.

BIOLOGICAL RESOURCES

DESIGNATED BIOLOGIST AND BIOLOGICAL MONITOR

- Designated Biologist – Ava Edens
- Designated Biologist and Monitor Duties:
  - Advise
  - Supervise
  - Notify
  - Mark/Delineate Resources
  - Inspect
  - Halt Activities (if impacting biological resources)
  - Alert Non-Compliance
  - Report
- A Biological Monitor will be on-site during earthwork activities and will "clear" areas before any and all surface disturbance begins

SPECIAL-STATUS SPECIES

- Special-status species are defined as the following:
  - Officially listed or proposed under State and/or Federal Endangered Species Acts (ST, SE, FT, FE, and WL);
  - Species of Special Concern (SSC), Fully Protected (FP);
  - Species that are biologically rare, restricted in distribution, or declining throughout their range;
  - Species closely associated with declining habitats; or
  - Species that are designated as special status, sensitive, or declining by other agencies of non-governmental organizations (NGOs).
- No suitable habitat for special-status species at SERC.

SENSITIVE BIOLOGICAL RESOURCES

- Sensitive species found in the vicinity include:
  - Rare plants (including trees)
  - Reptiles
  - Raptors (including owls and hawks)
  - Bats
  - Butterflies (when overwintering)
  - Migratory birds (such as herons and songbirds)
- These species and their habitats are protected by state and federal laws.
- All employees are required to protect these species during construction and operation of the project.

SENSITIVE BIOLOGICAL RESOURCES

- **Southern tarplant (*Centromadia parryi* ssp. *australis*):** California Native Plant Society (CNPS) Rare Plant Rank 1B.1 (rare or endangered in California and elsewhere and seriously threatened in California [over 80 of occurrences threatened/high degree and immediacy of threat]).

SENSITIVE BIOLOGICAL RESOURCES

- **Southern California black walnut (*Juglans californica*):** CNPS Rare Plant Rank 4.2 (plants of limited distribution [watch list] and moderately threatened in California [20-80 percent of occurrence threatened/moderate degree and immediacy of threat]).

SENSITIVE BIOLOGICAL RESOURCES

- **San Bernardino aster (*Symphyotrichum defoliatum*):** CNPS Rare Plant Rank 1B.2 (rare or endangered in California and moderately threatened in California [20-80 percent of occurrence threatened/moderate degree and immediacy of threat]).

SENSITIVE BIOLOGICAL RESOURCES

- **Monarch butterfly (*Danaus plexippus*) California overwintering population:** Global rank of Apparently Secure (uncommon but not rare; some cause for long-term concern due to declines other factors) and State rank of Imperiled in the state (because of rarity due to very restricted range, few populations [often 20 or fewer], steep declines, or other factors machining vulnerable to extirpation from state). Monarchs spend each winter (November-February) in tree groves (often *Eucalyptus*) where they are protected from wind and storms.

SENSITIVE BIOLOGICAL RESOURCES

- **Western pond turtle (*Emys marmorata*):** California Species of Special Concern (SSC). May be found in or near water.

- **Western mastiff bat (*Eumops perotis californicus*):** California Species of Special Concern (SSC). May be seen flying (often low, below trees) at night or roosting in crevices in buildings, trees, or tunnels.

SENSITIVE BIOLOGICAL RESOURCES

- **Great blue heron (*Ardea herodias*) nesting colony:** Global and State rank of Secure (Common, widespread and abundant), State rank Apparently Secure (Uncommon but not rare, some longterm concern), and CDF Sensitive (CA. Department of Forestry and Fire Protection). These birds are large and grayish-blue in color. They nest in colonies at the tops of trees staring around February/ March each year. Feeding behavior includes standing motionless in one place, probing, pecking, or walking slowly. They commonly feed on fish in shallow water, but will also prey on small rodents, amphibians, and insects on land.

SENSITIVE BIOLOGICAL RESOURCES

- **Burrowing owl (*Athene cunicularia*):** California Species of Special Concern (SSC) and Bird of Conservation Concern (BCC). These small owls nest in burrows and may be seen on the ground, flying low, or perched on fences or posts. They are opportunistic feeders (eating rodents, reptiles, insects, etc.) and are active day and night.

SENSITIVE BIOLOGICAL RESOURCES

- **Swainson's hawk (*Buteo swainsoni*):** State listed as threatened (ST) and Bird of Conservation Concern (BCC). These birds may be observed soaring or flying as they search for small rodents, birds, and insects. They prefer perching and nesting in lone trees or roadside trees when available and adjacent to suitable foraging habitat, such as agricultural fields.

NESTING AND MIGRATORY BIRDS

- The project site has potential nesting places for hawks and owls, waterfowl, and songbirds.
- Common nesting season - February 15 through August 31
- Nests can be in trees, in human structures, or on the ground.
- Other birds, like mourning doves and house finches, may build their nests directly in or on equipment.

IN CASE YOU FIND SOMETHING

- Contact a monitor or the on-site compliance manager immediately.
- Do not disturb the animal or area.
- If an active nest is found, the immediate area will be temporarily off limits.
- Be sure to get clearance from a Biological Monitor before you start working in previously undisturbed areas, including gravel pads and equipment yards.

IMPACT MINIMIZATION

Measures to minimize impacts:

- All disturbances, vehicles, and equipment shall be confined to the flagged areas.
- Escape ramps in all trenches, bores, and other excavations that cannot be backfilled at the end of each work day.
- Spoils shall not be stockpiled adjacent to any channels (i.e. Stanton Storm Channel or Carbon Creek Channel).
- Use only approved, non-toxic to wildlife, soil bonding and weighting agents.
- Minimize use of water to avoid accumulation of water into puddles.
- Maintain vehicles and equipment.
- Schedule construction activities outside of the nesting season, where possible.
- Parking and store equipment only in designated areas.
- Maintain proper housekeeping onsite.

EMPLOYEE RESPONSIBILITIES

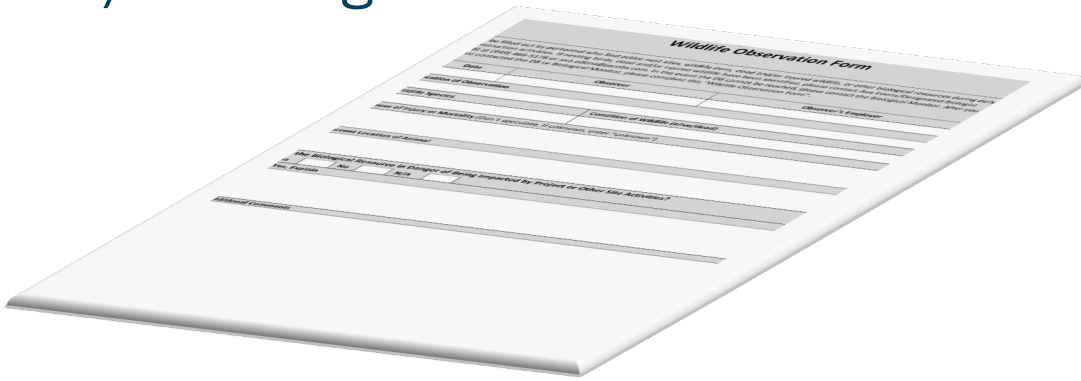
1) Stay in approved work areas at all times.

2) Notify and stop work if you see any sensitive wildlife or nesting birds in your work area.

3) Notify if wildlife or nest is accidentally harmed.

4) Do not handle, feed or disturb wildlife.

5) Report trapped, injured, or dead wildlife, or wildlife signs to the Designated Biologist and/or Biological Monitor and complete the Wildlife Observation Form.



GENERAL WORK PRACTICES

1) Work within approved work areas
2) Designated exclusion areas
3) Inspect open trenches for wildlife and install escape ramps or backfill
4) No littering
5) Dispose of trash within closed trash cans
6) Pets and firearms not permitted
7) Fires prohibited
8) Smoke in authorized areas and dispose of cigarettes and cigars appropriately (DO NOT leave them on the ground or buried)
9) Minimize use of rodenticides or herbicides (approved products only)

GENERAL WORK PRACTICES

10) Do not feed or disturb wildlife
11) Immediately clean up/report all hazardous material spills
12) Keep fluid spill containment and clean-up materials readily available
13) Do not drain water into unapproved areas
14) Protect waterways and storm drains
15) Report wildlife observations
16) Report trapped, injured, or dead wildlife
17) Avoid marked environmentally sensitive areas (i.e. nest during bird nesting season)

BIOLOGICAL RESOURCES SERC

- BIO-1: Designated Biologist Selection
- BIO-2: Designated Biologist Duties
- BIO-3: Biological Monitor Selection
- BIO-4: Designated Biologist and Biological Monitor Authority
- BIO-5: Worker Environmental Awareness Program (WEAP)
- BIO-6: Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP)
- BIO-7: General Impact Avoidance and Minimization Measures
- BIO-8: Pre-construction Nest Surveys and Impact Avoidance and Minimization Measures for Breeding Birds
- BIO-9: Jack and Bore Drilling Best Management Practices

CONSEQUENCES OF VIOLATIONS

1. Destruction of nests or eggs is a violation of the Migratory Bird Treaty Act and California Fish and Wildlife codes.
2. Fines ($100,000) and possible jail time (1 year).
3. Corporate and individual penalties.
4. Work stoppages.
5. Project shutdown.

THANK YOU

Appendix B
Other Permits

For future use as needed.

Appendix C
CEC Conditions of Certification

Appendix C. Biological Resources Conditions of Certification for the Stanton Energy Reliability Center

	Conditions of Certification	Comments
BIO-1 Designated Biologist Selection	The project owner shall assign at least one Designated Biologist to the project. The project owner shall submit the resume of the proposed Designated Biologist, with at least three references and contact information, to the Energy Commission compliance project manager (CPM) for approval. The Designated Biologist must meet the following minimum qualifications: 1. Bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field; 2. Three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society; and 3. At least one year of field experience with biological resources found in or near the project area. In lieu of the above requirements, the resume shall demonstrate to the satisfaction of the CPM that the proposed Designated Biologist or alternate has the appropriate training and background to effectively implement the conditions of certification. Verification: The project owner shall submit the specified information at least 75 days prior to the start of pre-construction site mobilization activities. No pre-construction site mobilization or construction-related activities shall commence until a CPM-approved Designated Biologist is available to be on site. If a Designated Biologist is replaced, the specified information for the proposed replacement must be submitted to the CPM at least ten working days prior to the termination or release of the preceding Designated Biologist. In an emergency, the project owner shall immediately notify the CPM to discuss the qualifications and approval of a short-term replacement while a permanent Designated Biologist is proposed to the CPM for consideration.	The Designated Biologist will be biologist Ava Edens. Ms. Edens' qualifications are provided in Appendix D.
BIO-2 Designated Biologist Duties	The project owner shall ensure that the Designated Biologist performs the following during any site (or related facilities) mobilization, ground disturbance, grading, construction, operation, closure, or restoration activities. The Designated Biologist may be assisted by the approved Biological Monitor(s) but remains the contact for the project owner and CPM. The Designated Biologist duties shall include the following: 1. Advise the project owner's Construction and Operation Managers on the implementation of the biological resources conditions of certification; 2. Consult on the preparation of the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) to be submitted by the project owner; 3. Be available to supervise, conduct and coordinate mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as special status species or their habitat; 4. Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions; 5. Inspect active construction areas where animals may have become trapped prior to construction commencing each day. Inspect, or train and direct the site personnel how to inspect, the installation of structures that prevent entrapment or allow escape during periods of construction inactivity. Periodically inspect areas with high vehicle activity (e.g., parking lots) for animals in harm's way; 6. Notify the project owner and the CPM of any non-compliance with any biological resources condition of certification; 7. Respond directly to inquiries of the CPM regarding biological resource issues; 8. Maintain written records of the tasks specified above and those included in the BRMIMP. Summaries of these records shall be submitted in the Monthly Compliance Reports (MCRs) and the Annual Compliance Report (ACR); 9. Train the Biological Monitors as appropriate, and ensure their familiarity with the BRMIMP, Worker Environmental Awareness Program (WEAP) training, and all permits; and	No supplemental comments.

Appendix C. Biological Resources Conditions of Certification for the Stanton Energy Reliability Center

	Conditions of Certification	Comments
	10. Maintain the ability to be in regular, direct communication with representatives of California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), and CPM, including notifying these agencies of dead or injured listed species and reporting special status species observations to the California Natural Diversity Database. **Verification:** The Designated Biologist shall submit in the monthly compliance report to the CPM copies of all written reports and summaries that document construction activities that have the potential to affect biological resources. If actions may affect biological resources during operation, the Biological Monitor(s), under the supervision of the Designated Biologist, shall be available for monitoring and reporting. During project operation, the Designated Biologist(s) shall submit record summaries in the annual compliance report unless their duties cease, as approved by the CPM.	
BIO-3 Biological Monitor Selection	The project owner's CPM-approved Designated Biologist shall submit the resume, at least three references, and contact information of the proposed Biological Monitors to the CPM for approval. The resume shall demonstrate, to the satisfaction of the CPM, the appropriate education and experience to accomplish the assigned biological resource tasks. **Verification:** The project owner shall submit the specified information to the CPM for approval at least 30 days prior to the start of any pre-construction site mobilization activities. The Designated Biologist shall submit a written statement to the CPM confirming that individual Biological Monitor(s) have been trained, including the date when training was completed. If additional biological monitors are needed during construction, the specified information shall be submitted to the CPM for approval at least 10 days prior to their first day of monitoring activities.	Qualifications of Biological Monitors for the SERC are provided in Appendix D.
BIO-4 Designated Biologist and Biological Monitor Authority	The project owner's construction/operation manager shall act on the advice of the Designated Biologist and Biological Monitor(s) to ensure conformance with the biological resources conditions of certification. If required by the Designated Biologist and/or Biological Monitor(s) the project owner's construction/operation manager shall halt all site mobilization, ground disturbance, grading, construction, and operation activities in areas specified by the Designated Biologist. The Designated Biologist shall: 1. Require a halt to all activities in any area when determined that there would be an unauthorized adverse impact to biological resources if the activities continued; 2. Inform the project owner and the construction/operation manager when to resume activities; and 3. Notify the CPM if there is a halt of any activities and advise the CPM of any corrective actions that have been taken or would be instituted as a result of the work stoppage. If the Designated Biologist is unavailable for direct consultation, the Biological Monitor shall act on behalf of the Designated Biologist. **Verification:** The project owner shall ensure that the Designated Biologist or Biological Monitor notifies the CPM immediately (and no later than the morning following the incident, or Monday morning in the case of a weekend) of any non-compliance or a halt of any site mobilization, ground disturbance, grading, construction, and operation activities. The project owner shall notify the CPM of the circumstances and actions being taken to resolve the problem. Whenever corrective action is taken by the project owner, a determination of success or failure would be made by the CPM within five working days after receipt of notice that corrective action is completed, or the project owner would be notified by the CPM that coordination with other agencies would require additional time before a determination can be made.	No supplemental comments.

Appendix C. Biological Resources Conditions of Certification for the Stanton Energy Reliability Center

	Conditions of Certification	Comments
BIO-5 Worker Environmental Awareness Program (WEAP)	The project owner shall develop and implement a project-specific Worker Environmental Awareness Program (WEAP) and shall secure approval for the WEAP from the CPM in consultation with USFWS and CDFW. The WEAP shall be administered to all on site personnel including surveyors, construction engineers, employees, contractors, contractor's employees, supervisors, inspectors, and subcontractors. The WEAP shall be implemented during site mobilization, ground disturbance, grading, construction, operation, and closure. The WEAP shall: 1. Be developed by or in consultation with the Designated Biologist and consist of an on-site or training center presentation in which supporting electronic media and written material is made available to all participants; 2. Discuss the locations and types of sensitive biological resources on the project site and adjacent areas, explain the reasons for protecting these resources, and the function of flagging in designating sensitive resources and authorized work areas; 3. Discuss federal and state laws afforded to protect the sensitive species and explain penalties for violation of applicable laws, ordinances, regulations, and standards (e.g., federal, and state endangered species acts); 4. Place special emphasis on the known and potentially occurring bird species protected by the Migratory Bird Treaty Act and California Fish and Game Code, including information on physical characteristics, distribution, behavior, ecology, sensitivity to human activities, legal protection and status, penalties for violations, reporting requirements, and protection measures; 5. Include a discussion of fire prevention measures to be implemented by workers during project activities; request workers to dispose of cigarettes and cigars appropriately and not leave them on the ground or buried; 6. Present the meaning of various temporary and permanent habitat protection measures; 7. Identify whom to contact if there are further comments and questions about the material discussed in the program; and 8. Include a training acknowledgment form to be signed by each worker indicating that they received the WEAP training and shall abide by the guidelines. **Verification:** The specific WEAP shall be administered by a competent individual(s) acceptable to the Designated Biologist. At least 45 days prior to the start of any preconstruction site mobilization, the project owner shall provide to the CPM a copy of the draft WEAP and all supporting written materials and electronic media prepared or reviewed by the Designated Biologist and a resume of the person(s) administering the program. The CPM shall approve the WEAP materials prior to their use. The project owner shall provide in the monthly compliance report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. At least 10 days prior to site and related facilities mobilization, the project owner shall submit two copies of the CPM-approved final WEAP. Training acknowledgement forms signed during construction shall be kept on file by the project owner for at least six months after the start of commercial operation. Workers shall receive and be required to visibly display a hardhat sticker or certificate indicating that they have completed the required training. Throughout the life of the project, the worker education program shall be repeated annually for permanent employees, and shall be routinely administered within one week of arrival to any new construction personnel, foremen, contractors, subcontractors, and other personnel potentially working within the project area. The project owner will provide documentation of the dates of annual training and number of participants who complete the training in the Annual Compliance Report. During project operation, signed statements for operational personnel shall be kept on file for six months following the termination of an individual's employment. Training acknowledge forms shall be maintained by the project owner and shall be made available to the CPM upon request.	The WEAP is provided in Appendix A.

Appendix C. Biological Resources Conditions of Certification for the Stanton Energy Reliability Center

	Conditions of Certification	Comments
BIO-6 Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP)	The project owner shall develop a BRMIMP and submit two copies of the proposed BRMIMP to the CPM (for review and approval) and to CDFW and USFWS (for review and comment), if applicable, and shall implement the measures identified in the approved BRMIMP. The BRMIMP shall be prepared in consultation with the Designated Biologist and shall include the following: 1. All biological resource mitigation, monitoring, and compliance measures proposed by the project owner and agreed to by staff; 2. All biological resource conditions of certification identified in the Commission Decision as necessary to avoid or mitigate impacts; 3. All biological resource mitigation, monitoring, and compliance measures required in other state or federal agency terms and conditions, such as those provided in the National Pollution Discharge Elimination System (NPDES) Construction Activities Storm Water General Permit; 4. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation, and closure; 5. All required mitigation measures for each sensitive biological resource; 6. A detailed description of measures that shall be taken to avoid or mitigate disturbances from construction and associated site clearance activities; 7. All locations on a map, at an approved scale, of sensitive biological resource areas subject to disturbance and areas requiring temporary protection and avoidance during construction; 8. Aerial photographs, at an approved scale, of all areas to be disturbed during project construction activities; include one set prior to any site or related facilities mobilization disturbance and one set subsequent to completion of project construction; 9. Duration for each type of monitoring and a description of monitoring methodologies and frequency; 10. Performance standards to be used to help decide if/when proposed mitigation and conditions are or are not successful; 11. All performance standards and remedial measures to be implemented if performance standards are not met; 12. A discussion of biological resources-related facility closure measures including a description of funding mechanism(s); 13. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval; and A requirement to submit any sightings of any special-status species that are observed on or in proximity to the project site, or during project surveys, to the California Natural Diversity Database (CNDDB) per CDFW requirements. **Verification:** The project owner shall provide the BRMIMP to the CPM for review (in consultation with CDFW) and approval at least 45 days prior to start of any pre-construction site mobilization. If there are any permits that have not yet been received when the BRMIMP is first submitted, copies of these permits shall be submitted to the CPM within 5 days of their receipt, and a revised BRMIMP shall be submitted to the CPM within 10 days of receipt of permits by the project owner. The project owner shall notify the CPM no less than 5 working days before implementing any modifications to the approved BRMIMP to obtain CPM approval. Any changes to the approved BRMIMP must also be approved by the CPM in consultation with appropriate agencies to ensure no conflicts exist. Implementation of BRMIMP measures shall be reported in the monthly compliance reports by the Designated Biologist (i.e., survey results, construction activities that were monitored, species observed). Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written Construction Closure Report identifying which items of the BRMIMP have been completed; a summary of all modifications to mitigation measures made during the project's site mobilization, ground disturbance, grading, and construction phases; and which mitigation and monitoring items are still outstanding.	No supplemental comments.

Appendix C. Biological Resources Conditions of Certification for the Stanton Energy Reliability Center

	Conditions of Certification	Comments
BIO-7 General Impact Avoidance and Minimization Measures	The project owner shall implement the following measures during site mobilization, construction, operation, and closure to manage their project site and related facilities in a manner to avoid or minimize impacts to biological resources: 1. Delineation of Project Site. The boundaries of all areas to be temporarily or permanently disturbed (including staging areas, access roads, and sites for temporary placement of spoils) shall be delineated with stakes and flagging prior to construction activities in consultation with the Designated Biologist. All disturbances, vehicles, and equipment shall be confined to the flagged areas. All stakes, flagging, fencing or barriers shall be removed from the project site and vicinity of any waterbodies upon completion of project activities. 2. Escape Ramp in Trench. At the end of each work day, the Designated Biologist, Biological Monitor, and/or trained site personnel shall ensure that all potential wildlife pitfalls (trenches, bores, and other excavations) have been backfilled. If backfilling is not feasible, all trenches, bores, and other excavations shall have an escape ramp at each end constructed of either dirt fill or wood planking or other suitable material that is placed at an angle no greater than 30 degrees to allow any animals that may have become trapped in the trench to climb out overnight or they shall be covered completely to prevent wildlife access. Should wildlife become trapped, the Designated Biologist or Biological Monitor shall remove and relocate the individual to a safe location. If trained site personnel are inspecting trenches, bores, and other excavations and wildlife is trapped, they will immediately notify the Designated Biologist and/or Biological Monitor. Any wildlife encountered during the course of construction shall be allowed to leave the construction area unharmed. 3. Soil Wind and Water Erosion Control. Spoils shall not be stockpiled adjacent to any channels (i.e., Stanton Storm Channel, Carbon Creek Channel) to minimize potential for spoils to enter into these waterbodies. Soil bonding and weighting agents used on unpaved surfaces shall be non-toxic to wildlife and plants. The project owner shall keep the amount of water used for dust abatement to the minimum amount needed, and shall not allow water to form puddles. During construction, a Biological Monitor shall patrol these areas and shall take appropriate action to reduce water application rates where necessary. 4. Notification of Take, Injury, or Death of Common Wildlife Species. Site personnel shall report all inadvertent death or injuries of wildlife species to the appropriate project representative, including road kill. During construction, injured or dead animals detected by personnel in the project area shall be reported immediately to a Biological Monitor or Designated Biologist, who shall remove the carcass or injured animal promptly. During operations, the Plant Manager shall be notified who shall promptly notify the Designated Biologist to remove the carcass or injured animal. Species name, physical characteristics of the animal (sex, age class, length, weight), and other pertinent information shall be noted and reported in the compliance reports by the Designated Biologist. The project owner shall immediately notify the Designated Biologist or Biological Monitor if a special-status species is taken or injured at the project site, or if a special status species is otherwise found dead or injured within the vicinity of the project. The Designated Biologist or Biological Monitor shall provide initial immediate notification to the CPM as well as CDFW and/or USFWS. The initial immediate notification shall include information regarding the location of the animal and/or carcass, date and incident location, time of incident, name of the Designated Biologist or Biological Monitor(s) present, the activity that caused the take or injury, and common and scientific names of species taken or injured. Following initial notification, the project owner shall send the CPM and CDFW and/or USFWS a written report via email within two (2) calendar days. The written report shall include the information in the initial notification and if possible provide a photograph of the species that was taken or injured, and preventative measures that will be implemented to prevent take or injury of special-status species. 5. Hazardous Waste. All vehicles and equipment shall be maintained in proper working condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The project owner shall ensure that work shall immediately stop and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so. The Designated Biologist shall be informed immediately of any spills of hazardous material or wastes. Servicing of construction equipment shall take place only at designated areas. Service/maintenance vehicles shall carry a bucket and pads to absorb leaks or spills. 6. Trash Abatement and Feeding Wildlife. All general trash, food-related trash items (e.g., wrappers, cans, bottles, food scraps, cigarettes, etc.) and other human-generated debris will be stored in animal proof containers and/or removed from the site each day. No deliberate feeding of wildlife will be allowed. Workers shall not feed wildlife or bring pets to the project site.	No supplemental comments.

Appendix C. Biological Resources Conditions of Certification for the Stanton Energy Reliability Center

	Conditions of Certification	Comments
	7. Firearms and Dogs. The project owner shall prohibit firearms and domestic dogs (except service dogs) from the project site, except those in the possession of authorized security personnel or local, state, or federal law enforcement officials. 8. Erosion Control Materials. Standard best management practices (BMPs) from the project Stormwater Pollution Prevention Plan shall be implemented during all phases of the project (construction, operation, and decommissioning) where storm water run-off from the site could enter adjacent creeks or channels. Sediment and other flow-restricting materials shall be moved to a location where they shall not be washed back into any jurisdictional waters. All disturbed soils within the project site shall be stabilized to reduce erosion potential, both during and following construction (See **SOIL & WATER-1**). 9. Invasive Weeds. The project owner shall implement the following measures during construction and operation to prevent the spread and propagation of nonnative, invasive weeds: a. Limit the size of any vegetation and/or ground disturbance to the absolute minimum and limit ingress and egress to defined routes; b. Use only weed-free straw, hay bales, and seed for erosion control and sediment barrier installations; c. Invasive non-native species shall not be used in landscaping plans and erosion control; d. Monitor and rapidly implement control measures to ensure early detection and eradication of weed invasions. 10. Herbicides. During construction and operation, only herbicides containing a harmless dye and registered with the California Department of Pesticide Regulation (DPR) shall be used. All herbicides shall be applied in accordance with regulations set by DPR. All herbicides shall be used according to labeled instructions. Labeled instructions for the herbicide used shall be made available to the CPM upon request. No herbicide shall be applied when winds are greater than five (5) miles per hour. 11. Rodenticides and Insecticides. During construction and operation, the project owner shall not use rodenticides and/or insecticides on the project site without prior written permission from the CPM. The project owner shall not use any second generation anticoagulant rodenticide (brodifacoum, bromadiolone, difethialone, and difenacoum) on the project site. The project owner shall not use any first generation anticoagulant rodenticide (diphacinone, chlorophacinone, and warfarin) on the project site without prior written permission from the CPM. **Verification:** All mitigation measures and their implementation methods shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the monthly compliance reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed and which items are still outstanding.	

Appendix C. Biological Resources Conditions of Certification for the Stanton Energy Reliability Center

	Conditions of Certification	Comments
BIO-8 Pre-Construction Nest Surveys and Impact Avoidance and Minimization Measures for Breeding Birds	Pre-construction nest surveys shall be conducted if construction work will occur from February 15 through August 31. The term "work" shall be defined as all site assessment, pre-construction activities, site mobilization, and ground disturbing construction activities. The Designated Biologist or Biological Monitor shall perform surveys in accordance with the following guidelines: 1. Surveys shall cover all potential nesting habitat and substrate within the project site and any offsite facilities (e.g. generator tie line and natural gasline, worker parking areas and staging areas) and publicly-accessible areas within 500 feet of the project boundary. These surveys shall include the orders *Falconiformes* and *Strigiformes* (raptors and owls). Surveys shall be conducted at appropriate nesting times and concentrate on potential roosting or perch sites. Any habitat areas adjacent to the project site but not publicly accessible shall be surveyed with binoculars. 2. At least two pre-construction surveys shall be conducted, separated by a minimum 10-day interval. Pre-construction surveys shall be conducted no more than 14 days prior to initiation of construction activity. One survey shall be conducted within the 3-day period preceding initiation of construction activity. Additional follow-up surveys may be required if periods of construction inactivity exceed three weeks in any given area, an interval during which birds may establish a nesting territory and initiate egg laying and incubation. 3. If active nests are detected during on-site surveys, a no-disturbance buffer zone (protected area surrounding the nest) shall be established around each nest with fencing, flagging and/or signage, as appropriate. The size of each buffer zone shall be determined by the Designated Biologist in consultation with the CPM (in coordination with CDFW and USFWS). If any nests of birds of prey are observed, these nests shall be designated an ecologically sensitive area and protected (while occupied) by a minimum 500-foot radius during project construction. Off-site special-status nests shall be mapped and monitored, but shall not be fenced. Nest locations shall be mapped using GPS technology and submitted, along with a weekly report stating the survey results, to the CPM in the monthly compliance reports. 4. If active nests of special-status species are detected during surveys, the Designated Biologist or Biological Monitor shall inform the CPM within one business day, and shall monitor all on-site and off-site nests at least once per week, to determine whether birds are being disturbed. If signs of disturbance or distress are observed, the Designated Biologist or Biological Monitor shall immediately implement adaptive measures to reduce disturbance in coordination with the CPM. These measures may include, but are not limited to, increasing buffer size, halting disruptive construction activities in the vicinity of the nest until fledging is confirmed, or placement of visual screens or sound-dampening structures between the nest and construction activity, where possible. 5. If active nests are detected during surveys, the Designated Biologist or Biological Monitor shall monitor the nest until he or she determines that nestlings have fledged and dispersed or the nest is no longer active. Activities that might, in the opinion of the Designated Biologist or Biological Monitor, disturb nesting activities (e.g., exposure to exhaust), shall be prohibited within the buffer zone until such a determination is made. 6. The Designated Biologist shall provide the CPM and CDFW with field notes or other documentation within 24 hours of completing the surveys. An email report with a letter report to follow may be used. The email/letter report shall state how impacts of any nesting birds will be avoided by citing the appropriate information from this condition of certification. The letter report/email report shall include the time, date, methods, and duration of the surveys; identity and qualifications of the surveyor(s); and a list of species observed. 7. If active nests are detected during the surveys, the reports shall include a map or aerial photo identifying the location of the nest(s), species, and shall depict the boundaries of the proposed no-disturbance buffer zone around the nest(s). **Verification:** The project owner shall provide notification to the CPM, CDFW, and USFWS at least 2 weeks prior to initiating surveys; notification shall include the name and resume of the biologist(s) conducting the surveys and the timing of the surveys. Prior to the start of any pre-construction site mobilization, the project owner shall provide the CPM, CDFW, and USFWS a letter-report describing the findings of the preconstruction nest surveys. All impact avoidance and minimization measures related to nesting birds shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the monthly compliance reports by the Designated Biologist.	No supplemental comments.

Appendix C. Biological Resources Conditions of Certification for the Stanton Energy Reliability Center

	Conditions of Certification	Comments
BIO-9 Jack and Bore Drilling Best Management Practices	During construction, using jack and bore drilling techniques, the Designated Biologist or Biological Monitor must be present at all times. The Designated Biologist or Biological Monitor must be allowed to monitor all activities pertaining to drilling under Carbon Creek Channel, and shall be given authority to do the following, including but not limited to: 1. visually inspect the drill path, 2. monitor the creek for evidence of frac-out or drilling fluid release, 3. examining the drilling fluid pressures and return flows, 4. approval of the drilling setup locations, 5. verifying the perimeter of the work site is adequately flagged prior to equipment setup, and 6. having the authority to halt any drilling if the operations lead to frac-out or the drilling fluid pressures and return flows drop. **Verification:** The Designated Biologist or Biological Monitor must notify the CPM and CDFW (no later than the following morning of the incident, or Monday morning in the case of a weekend) in the event of frac-out. The CPM and CDFW must also be notified of any non-compliance or a halt of any jack and bore drilling operations. The project owner shall notify the CPM and CDFW of the circumstances and actions being taken to resolve the problem.	No supplemental comments.

Appendix D
Resumes of Designated Biologist and Biological Monitors

Ava R. Edens

Wildlife Biologist

Education

B.A., Biology, University of California, Santa Barbara

Professional Licenses

- U.S. Fish and Wildlife Service Endangered Species Act Section 10(a)(1)(A) Recovery Permit for Endangered and Threatened Vernal Pool Crustaceans (expires 2019)
- State of California Department of Fish and Wildlife Scientific Collecting Permit (expires 2019)
- U.S. Fish and Wildlife Service Certified Surveyor for the Federally Threatened Utah Prairie Dog (expired)
- California Rapid Assessment Method (CRAM) practitioner
- Wetland Training Institute Certified Wetland Delineator

Specialized Training

- Desert Tortoise Council 19th Annual Introduction to Desert Tortoise Surveying, Monitoring, and Handling Techniques Workshop (November 2010)
- Designated OSHA-Site Safety Coordinator

Relevant Experience

Ava Edens is a biologist specializing in wildlife and aquatic resource assessments, permitting and compliance. She has experience throughout the western United States and specializes in southern California species and habitats. She is experienced in agency coordination, and preparation of biological resource reports and other environmental documents pursuant to the National Environmental Policy Act, the California Environmental Quality Act and the Endangered Species Act. In addition to her technical expertise, Ava is an experienced project manager and compliance manager.

Representative Projects

Construction Compliance Project Manager, NextEra Energy Resources, McCoy Solar Energy Project and Blythe Solar Power Project, Blythe, California; 2014-2017. Ava managed the third-party environmental (including biological and cultural resources) construction compliance monitoring for two concurrent solar energy projects in support of the Environmental Construction Compliance Monitoring Program (ECCMP) for the Bureau of Land Management (BLM) Palm Springs-South Coast Field Office. Overseeing compliance monitors and monitoring of daily construction activities while evaluating compliance or non-compliance with the project measures and conditions. Biological resource issues included kit fox dens, desert tortoise, and nesting birds. As the approved compliance manager, Ava provided continuous information to the BLM and other agencies/parties (as authorized) regarding non-compliance issues and resolution. Documented compliance or non-compliance through daily, weekly, and monthly status reports to BLM. Facilitated timely resolution of compliance related issues including coordinating with BLM for variance requests for unforeseen or unavoidable site conditions.

Lead Biologist; Defense Fuel Support Point San Pedro, San Pedro, California; 2014—present. Coordinated with USFWS and CDFW to fulfill the requirements of the Defense Fuel Support Point San Pedro Integrated Natural Resources Management Plan (INRMP) in accordance with the Sikes Act.

Developed a Biological Avoidance and Minimization Plan for a remedial investigation and assisted with natural resources for the Special Project Fuel Tank Closure at the last known occupied habitat area for the Palos Verdes blue butterfly, a federally endangered species.

Biologist; Watershed Selenium and Organochlorines (OC) TMDL monitoring; Newport Bay, California; 2012-present. Aquatic life and aquatic-dependent wildlife, as exemplified by fish and aquatic birds are often the most sensitive and/or exposed receptor of selenium and OCs. Assisted with monitoring to comply with regional monitoring to the selenium and OC concentrations in fish in the watershed and evaluated fish habitat in the watershed. Collected fish tissue samples via seine net, hook and line, and electrofishing.

Biological Resources Lead; SR-79 Realignment Project; Riverside County Transportation Commission, Caltrans District 8; Riverside County, California; 2004-2017. Ava's work with the vernal pools and wildlife movement contributed significantly in the project winning the 2010 U.S. Fish and Wildlife Service Transportation Environmental Stewardship Excellence Award. She also prepared the Natural Environment Study (NES) and helped prepare the Draft EIR/EIS for the 19-mile realignment of SR-79 in Hemet and San Jacinto. Ava was lead biologist for vernal pool branchiopod surveys on approximately 200 ponded areas, small mammal trapping for Stephens' Kangaroo rat and Los Angeles pocket mouse, and wildlife corridor analysis. Surveys conducted over a 3-year period covered approximately 15,000 acres in western Riverside County and included agricultural areas, rural residential and grassland and playa habitats. Field work encompassed habitat assessments and presence/absence surveys. In addition, Ava met with the local resource agencies (including USFWS, USACE, and CDFW) monthly to provide updated on the project status and coordinate permitting activities.

Biologist, Southern California Confidential Public Utility Pipeline Enhancement Safety Project (PSEP), Various Sites, California; 2013-present. Responsible for biological compliance in a range of areas and habitats throughout southern California. Assists project teams with local, state, and federal compliance including threatened and endangered species, migratory/nesting birds, sensitive vegetation and protected trees.

Project Biologist; Southern California Edison (SCE); Devers-Palo Verde No. 2 Transmission Line Project (DPV2); Palm Desert Area, California; 2010-2014. Provided biological compliance support, including local HCP compliance, for approximately 153 miles of new 500-kV transmission line. This included evaluating regulatory requirements, forecasting staffing needs, managing large scale biological survey and monitoring efforts (over 50 biologists), planning, permitting, reviewing reports and mitigation plans, as well as developing electronic data collection and reporting methods.

Lead Biologist; Riverside Fairy Shrimp Relocation Project; Los Angeles International Airport (LAX); Los Angeles County, California; 2010-2012. Assisted with resolving an Endangered Species Act (Section 7) conservation commitment that had been outstanding for 7 years with USFWS. Federally endangered Riverside fairy shrimp cysts had been removed from the LAX airfield (prior to 9/11) in anticipation of translocation, but when plans fell through and no resolution could be made using the original consultant, CH2M was asked to step in. Ava was responsible for fairy shrimp habitat creation, enhancement, maintenance, and monitoring plans as well as the identification of vernal pool plant species seed sources, storage, and propagation procedures.

Lead Biologist; Fontana Energy Center; Calpine; Fontana, California; 2008. Biological resource survey and analysis including vegetation mapping in support of the Application for Certification (AFC) before the California Energy Commission (CEC). Potential species included Delhi Sands flower-loving fly (*Rhaphiomidas terminates abdominalis*), San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*),

coastal California gnatchatcher *(Polioptila californica californica*), Santa Ana River woolly-star (*Eriastrum densifolium* spp. *sanctorum*), and slender-horned spineflower (*Dodecahema leptoceras*).

Biologist; Southern California Edison (SCE); San Onofre Nuclear Generating Station (SONGS) Decommissioning Project; North San Diego County, California; 2016-present. Provides terrestrial (from upland to coastline) biological resource permitting support for the approximately 100-acre site and surrounding easement areas on public lands. Potential threatened and endangered species and habitat assessed include California coastal gnatcatcher, vernal pools, San Diego fairy shrimp, snowy plover, and rare plants.

Lead Biologist; Doble 33 kV Distribution Line Rebuild Project; Southern California Edison (SCE); San Bernardino County, California; 2016-present. Ava is the lead biologist the proposed Doble 33 kilovolt (kV) Overhead Distribution Line Rebuild Project on the Mountaintop Ranger District of the San Bernardino National Forest (SBNF), private land, and areas managed by the BLM in the Lucerne Valley. The project traverses 15 miles of desert, rocky cliffs, forest, and very rare pebble plains. Biological issues include golden eagles, riparian birds, desert tortoise, big horn sheep, and over a dozen federally listed rare plants. Seasonal challenges on this project include winter challenges for construction such as ice and snow, lambing restrictions for bighorn sheep which impacts helicopter use for golden eagle surveys and construction on steep terrain, fire seasons and nesting season restrictions. Ava is working closely with U.S. Forest Service and BLM to write a Biological Assessment/Evaluation (BA/BE), EA, Desert Renewable Energy Conservation Plan (DRECP) Conservation and Management Action (CMA) Checklist, and consult with USFWS to permit this project and reduce catastrophic outages.

Biological Resources Lead; Chiquita Canyon Landfill; Waste Connections; Los Angeles County, California; 2003-present. Provides ongoing biological resource support including preparation of the Draft EIR/EIS for the landfill expansion, agency correspondence, biological surveys, and vegetation monitoring in compliance with the revegetation and erosion control programs.

Lead Biologist; Water Quality Reporting, Marine Corps Base Camp Pendleton; San Diego County, California; 2012-present. Leads the monitoring efforts and reporting for annual Rapid Stream Bioassessments, periphyton sampling, and pesticide monitoring to comply with permits and assess the health of the six main watersheds on base.

Biologist; Morris Reservoir Fish Sampling Investigation, U.S. Navy; Azusa, California; June-July 2015. Sampled freshwater fish in the Former Naval Command, Control and Ocean Surveillance Center Morris Dam Research and Development Facility Reservoir and the San Gabriel Reservoir to analyze the tissue samples for PCBs. The fish sampling targeted collection of species representative of fish consumed by human and wildlife receptors, which include a top-level predator (smallmouth bass) and a bottom feeder (common carp). Used hook and line as well as gill nets for fish capture.

Lead Biologist, Douglas Drive Bridge Project, City of Oceanside, California; 2015-present. As the lead biologist, Ava is managing the biological survey and permitting for seismic retrofit improvements to the existing bridge, which may include a full replacement and widening option, which has the potential to impact federally endangered arroyo toad, least Bell's vireo, southwestern willow flycatcher, and light-footed Ridgway's (clapper) rail.

Lead Biologist, Kinder Morgan, CalNev Pipeline, San Bernardino, County, California, 2016-2017. Provided environmental consulting services for pipeline maintenance activities on BLM land including biological field surveys, preparation of Environmental Assessments (EAs), and DRECP CMA Checklist. Ava was the project manager and technical biological lead for several of these projects and coordinated with

Kinder Morgan and BLM to minimize impacts to biological and cultural resources while enabling fast paced pipeline testing to move ahead for the safety of the public.

Lead Biologist; Zone 5 Remedial Investigation Field Activities for the Stringfellow Superfund Site, Riverside County, California; 2012-2014. Worked closely with EPA to ensure remedial investigation activities would not adversely affect threatened and endangered species. Consulted directly with the USFWS Inland Division Chief for avoidance concurrence, avoiding formal consultation and the need for a Biological Opinion.

Lead Biologist; Tracy Wastewater Treatment Plant Outfall Project; City of Tracy; San Joaquin County, California; 2010. Conducted a wetland delineation, biological resource surveys, and USFWS consultation; including Biological Assessment (BA); for giant garter snake (*Thamnophis gigas*) and Valley elderberry longhorn beetle (*Desmocerus californica dimorphus*).

Biologist; California High Speed Rail; Merced to Fresno route; 2010. Mapped wetlands, sensitive natural communities, and potential habitat for sensitive species using current and historic aerials and infrared technology to support the Affected Environment analysis. Sensitive species included vernal pool crustaceans, California tiger salamander, Valley elderberry longhorn beetle, Swainson's hawk, and Blunt-nosed leopard lizard.

Biologist; Caltrans District 4 On-Call Environmental Services; San Francisco Bay Area, California; 2007-2009. Provided resource guidance on various biological issues including technical report reviews, NES and Biological Assessment write-ups, wetland delineations, fish removal and relocation (including native salmonids), and rare plant and vernal pool branchiopod focused surveys. Project involvement included Sonoma 101 North, SR12 Jameson Canyon Road Widening, SR12/SR29 Interchange Improvement Projects, SR12 Currie Road to Liberty Island Road Widening, Soscol Flyover Project in Napa and SR12 improvements.

References

Cindy Salazar, Planner IV
Orange County Public Works
Development Services
300 N. Flower St.
Santa Ana, CA 92703
(714) 667-8870
Cindy.Salazar@ocpw.ocgov.com

Morgan King, Biologist
Jacobs Engineering Group
2485 Village View Drive, Suite 350
Henderson, NV, 89074
(916) 335-9141
Morgan.King10@jacobs.com

Todd Ellwood, Biologist
Jacobs Engineering Group
2485 Natomas Park Drive, Suite 600
Sacramento, CA 95833
(408) 839-2402
Todd.Ellwood@jacobs.com

Jake Ashford

SCIENTIST

Jake Ashford is a biologist/environmental scientist with one year of experience working throughout California as an Environmental/Biological Consultant throughout central and southern California. Mr. Ashford has experience serving as a Biological Monitor for transmission line projects, gas power energy projects, waste management facilities, and railroad projects. He has also conducted wildlife surveys, nesting bird surveys, botanical surveys, construction monitoring, wetland delineations, and habitat assessments. Mr. Ashford is familiar with and understands project mitigation/compliance for general wildlife species of southern California.

EDUCATION

Bachelor of Science
Aquatic Biology
University of California, Santa Barbara
2012

Master of Science
Environmental Sciences
University of California, Riverside
2017

CONTACT INFORMATION

JACOBS
2600 Michelson Drive
Suite 500
Irvine, CA 92612

Jake.Ashford@Jacobs.com
(760) 500-6047

AWARDS/HONORS

Outstanding Teaching Award
CALMS Student Scholarship
Albert Marsh Scholarship
Chancellor's Distinguished Fellowship Award
Worster Summer Research Fellowship

Work Experience

Biological Monitor/Support

Chiquita Canyon Landfill

Client: Waste Connections Inc.

Start/End Dates: Jan 2018 – Present

Responsibilities:

Mr. Ashford conducted preconstruction surveys, delineations of jurisdictional waters, and monitored construction crews for biological and environmental compliance during expansion activities within the project site. Primary duties included: conducting clearance sweeps before the crews began work, monitoring crews for compliance based on project mitigation measures, updating biological resources, and completing daily reports. Activities monitored included: vegetation removal, site grading, and excavation. Additionally, Mr. Ashford supported protocol level surveys for Coastal California Gnatcatcher. Mr. Ashford facilitated the successful relocation of rare plants in addition to supporting botanical surveys on site.

Biological Monitor/Support

North of Magunden/West of Devers Upgrade Project

Client: Southern California Edison

Start/End Dates: March 2018 – Present

Responsibilities:

Mr. Ashford monitored construction crews for biological and environmental compliance during construction. Primary duties included: conducting clearance sweeps before the crews began work, monitoring crews for compliance based on project mitigation measures, updating biological resources, completing daily reports, and supporting nesting bird surveys and nest updates.

Jake Ashford

SCIENTIST

Biological Monitor/Environmental Scientist

Assorted Projects

Client: Union Pacific Railroad

Start/End Dates: May 2018 – Present

Responsibilities:

Mr. Ashford conducted nesting bird surveys and monitored construction crews for biological and environmental compliance during vegetation removal tasks along railroad property in Palm Desert. Additionally, Mr. Ashford participated in wetland delineations, site closure activities, and post construction photodocumentation.

Biological Monitor

Huntington Beach Energy Project/Los Alamitos Energy Center

Client: AES Southland

Start/End Dates: July 2018 – Present

Responsibilities:

Mr. Ashford monitored construction and conducted biological sweeps for general wildlife species focusing on nesting birds. Primary duties included: monitoring construction activities within nesting bird buffers, conducting clearance sweeps of the construction areas and wetlands, conducting compliance sweeps of construction areas, and monitoring construction within the buffer of natural vegetation.

Contact

Jacobs Engineering Group, Inc.
2600 Michelson Drive Suite 500
Irvine, CA 92612
(714) 429-2000
(760) 500-6047 (mobile)
Jake.Ashford@jacobs.com

References

James Gorham: (714) 679-1590, James.Gorham@jacobs.com

Matt Kelahan: (916) 920-0212, Matt.Kelahan@jacobs.com

Brenda Eells: (310) 562-9374, Brenda.Eells@jacobs.com

Hannah Buckley

BIOLOGIST

Applicable projects for Construction Monitoring

- West of Devers Upgrade Project
- MCBCP Phase II and Phase III Annual Habitat Restoration
- March AFB Site FT007 Soil and Soil Gas Sampling
- Remedial Investigation for MRP Sites 2 and 4 NAF El Centro
- Huntington Beach Energy Project
- Expanded Kern Substation and Well Destruction
- MCBCP Municipal Watershed Monitoring and Compliance Requirements
- North of Magunden Redundant BCT Upgrade Project
- Blythe and McCoy Solar Power Projects

Applicable projects for Desert Tortoise Support

- West of Devers Upgrade Project
- Eagle Mountain Blythe 161kV Project
- North of Magunden Redundant BCT Upgrade Project
- Blythe and McCoy Solar Power Projects *(1 free DETO observed)*

Applicable projects for Nesting Bird Support

- West of Devers Upgrade Project
- Malibu Mesa Wastewater Reclamation Plant
- Stanton Energy Reliability Center
- North of Magunden Redundant BCT Upgrade Project
- Vetter Mountain Fire Lookout and Wildwood Picnic Area Design Project

Applicable projects for BUOW Support

- West of Devers Upgrade Project
- March AFB Site FT007 Soil and Soil Gas Sampling
- Remedial Investigation for MRP Sites 2 and 4 NAF El Centro
- Huntington Beach Energy Project
- Expanded Kern Substation and Well Destruction

Hannah Buckley is a biologist with over six years of experience working throughout Southern California as an Environmental/Biological Consultant on multiple large-scale projects. Ms. Buckley has experience serving as a Biological Monitor, Environmental Scheduler, and Third-party Monitor for solar projects, transmission line projects, and pipeline projects. She has also conducted wildlife surveys, botanical surveys, and habitat assessments. Ms. Buckley is familiar with and understands project mitigation/compliance for wildlife species of the Mojave Desert, Colorado Desert, Los Angeles Basin, San Gabriel Mountains, Orange County Coastal Plain, Santa Ana Mountains, and North Coast San Diego County, including but not limited to: special-status bats, Western burrowing owl, desert tortoise, Stephens' kangaroo rat, flat-tailed horned lizard, desert kit fox, Coachella Valley milk-vetch, Southwestern willow flycatcher, Western yellow-billed cuckoo, least bell's vireo, and California gnatcatcher.

EDUCATION

Bachelor of Science
Environmental Biology
Chemistry Minor
Fitchburg State University
Fitchburg, MA
2012

CONTACT INFORMATION

JACOBS
2600 Michelson Drive, Suite 500
Irvine, CA 92612
Hannah.Buckley@Jacobs.com
(774) 722-1240

MEMBERSHIPS AND AFFILIATIONS

Western Bat Working Group

California Bat Working Group

Desert Tortoise Council

California Native Plant Society

Massachusetts Audubon Society

Hannah Buckley
BIOLOGIST

Work Experience

Biological Surveyor, Monitor, and Environmental Scheduler

West of Devers Upgrade Project

Client: Barnard Construction (Southern California Edison)

Start/End Dates: December 2016 – Present

Responsibilities:

The West of Devers Upgrade Project (WODUP) would upgrade the existing West of Devers (WOD) electric transmission system by replacing existing 220 kilovolt (kV) transmission lines and associated structures with new, higher-capacity 220 kV transmission lines and structures; making various telecommunication improvements to increase transmission capacity to accommodate generation from solar energy and other providers in support of the California Renewables Portfolio Standards (CRPS). Ms. Buckley monitored construction crews for biological and environmental compliance throughout the project. Primary duties included: acting as environmental scheduler, environmental coordination between client and monitors, compliance coordination between client and agency personnel, conducting clearance sweeps before the crews began work, monitoring crews for compliance based on project mitigation measures, updating biological resources, and completing daily FRED reports. Ms. Buckley was approved on the project to monitor and conduct species-specific protocol surveys for Western burrowing owl, bats, desert tortoise, and nesting birds. Activities monitored included: vegetation removal, site grading, foundation drilling/pouring, and tower assembly. During this time, Ms. Buckley also conducted general biological surveys in desert tortoise, burrowing owl, and bat habitat. Ms. Buckley conducted bat surveys for night roosts using Sonobat software for bat call analysis. Ms. Buckley conducted protocol burrowing owl habitat assessments and non-breeding and breeding season surveys including four visits, spread evenly, throughout the nonbreeding season. Burrowing owl sign was observed within 150 meters of the project site during the surveys. Ms. Buckley conducted general botanical surveys and vegetation transects, and soil sampling. Ms. Buckley assisted with permitting document review, mitigation impacts analysis, and assisted small mammals trapping. Ms. Buckley helped coordinate the implementation of ArcGIS Collector App for the project and aided in the design of a site status tracker to monitor the project-wide activity.

Biological Surveyor and Monitor

Phase II and Phase III Annual Habitat Restoration; Advanced Water Treatment Plant and Associated Facilities and Pipelines Project

Client: Marine Corps Base Camp Pendleton

Start/End Dates: Surveys and Monitoring in July 2017, September 2017 (Phase II) as well as May 2018, and July 2018 (Phase III)

Hannah Buckley

BIOLOGIST

Responsibilities:

The advanced water treatment plant (AWTP) is being constructed on an approximately 8.5-acre site roughly 2,000 feet south of Basilone Road on Marine Corps Base Camp Pendleton. Ms. Buckley performed monitoring for restoration crews at associated disturbance areas as non-native plants (weed) were removed for restoration. Ms. Buckley also conducted subsequent surveying and reporting to assess native species richness. Primary duties included: conducting clearance sweeps before the crews began work, monitoring crews for compliance based on project mitigation measures, updating biological resources, and completing daily reports.

Biological Surveyor and Monitor

March AFB Site FT007 Soil and Soil Gas Sampling

Client: Former March Air Force Base (AFB)

Start/End Dates: Surveys and Monitoring conducted October 2017 and February 2018

Responsibilities:

Former March AFB, located at the northern end of the Perris Valley, east of the city of Riverside, California. March Site FT007P is a former location of a fire training area and disposal/burn site. Test-pitting construction activities have been proposed at this site. Ms. Buckley conducted habitat assessments and species-specific protocol surveys for Stephens' kangaroo rat and Western burrowing owl. Ms. Buckley also monitored soil sampling and soil boring activities. Suitable habitat for Western burrowing owl was present at the site. Ms. Buckley conducted burrowing owl habitat assessments and discovered burrowing owl sign throughout the project site and within 150 meters of the project site. Burrowing owl surveys and subsequent reports were conducted in October 2017 at Site FT007 including four visits, spread evenly, throughout the nonbreeding season. During these surveys, two active burrowing owl burrows were observed, and two adult burrowing owls were visually located. Another survey conducted in February 2018 resulted in observations of the same two active burrows, and one adult BUOW was observed. During the sampling activities, Ms. Buckley monitored the two active burrows. Primary duties included: conducting clearance sweeps before the crews began work, monitoring crews for compliance based on project mitigation measures, updating biological resources, and completing daily reports. Nondisturbance buffer zones of 50 meters were maintained around occupied burrows during the sampling activities. Nondisturbance buffer zones were clearly marked with stakes, flagging, and signage.

Trainings and Certifications

- SCE WOD Project Wildlife Handling Workshop (Redlands, CA – 2018)
- Bat acoustics: A Practical Workshop on Acoustic Monitoring of Bats (Idyllwild, CA – 2018)
- HAZWOPER 40-hour training course from OSHA (September 2017)

Hannah Buckley
BIOLOGIST

- Attended “red rope” training for photovoltaic solar power plant cell activation (Blythe, CA – 2014)
- Flat-tailed Horned Lizard Take Possession Permit Workshop (El Centro, CA – 2013)
- Least Bell's Vireo Workshop (San Diego, CA – 2013)
- Western Yellow-billed Cuckoo Workshop (Weldon, CA – 2013)
- Coastal California Gnatcatcher Workshop (Trabuco Canyon, CA – 2013)
- Southwestern Willow Flycatcher Workshop (Weldon, CA – 2013)
- Desert Tortoise Council Surveying, Monitoring, and Handling Techniques Workshop (Ridgecrest, CA - 2012)
- Mapping and Database Management Techniques Workshop (Palm Desert, CA – 2013)

Contact

Jacobs Engineering Group, Inc.
2600 Michelson Drive Suite 500
Irvine, CA 92612
(714) 429-2000
(774) 722-1240 (mobile)
hannah.buckley@jacobs.com

References

Robert Hernandez
(714) 227-4546
Robert.Hernandez@Jacobs.com

Morgan King
(916) 335-9141
Morgan.King10@Jacobs.com

Mike Cox
(801) 231-3507
Mike.Cox@Jacobs.com

Robert Hernandez

BIOLOGIST

EDUCATION/QUALIFICATIONS

B.S., Wildlife Management; Minor in Natural Resources, Humboldt State University, 2000

LANGUAGES

Fluency in Spanish

OTHER

- Length of service in the profession: 21 years
- Year joined Jacobs: 2001
- Office location: Irvine, CA

Mr. Hernandez is a project biologist in Jacob's Southern California office. He has more than 20 years' experience conducting a variety of wildlife surveys and wetland delineation throughout California, Nevada, Arizona, and Utah. He has experience with identifying Northern and Southern California flora and fauna. He has conducted focused surveys for desert tortoise, least Bell's vireo, western snowy plover, burrowing owl, northern spotted owl, northern goshawk, Del Norte salamander, and terrestrial mollusks. He is experienced in remote sensing such as photogrammetry, topographic map interpretation, radio telemetry, photographic bait stations, sooted track-plates, geographic information systems (GIS), and use of global positioning systems (GPS) with sub-meter accuracy. Mr. Hernandez is also well versed in environmental regulations and policies and in the preparation of state and federal permit application process for the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife. Mr. Hernandez has several years of experience serving as an environmental compliance monitor on large scale construction projects.

Relevant Project Experience

Avian Pre-Construction Surveys, North of Magunden Project, Kern and Tulare Counties, California

Client: Southern California Edison

Title: Lead Biological Construction Monitor

Start/End Dates: March 2017 – May 2018.

Scope/Description: The project includes new and upgraded transmission line infrastructure along 65 miles of existing transmission line corridor extending south from the Rector Substation in southern Tulare County to Magunden Substation in Southern Kern County.

Responsibilities: As the Lead Biological Construction Monitor for Segments 1 and 2 of the North of Magunden Project, Mr. Hernandez was tasked with scheduling biological construction monitors for compliance with the biological mitigation measures, applicant proposed measures, and other federal, state, and local permit conditions. He facilitated compliance through communication and coordination with client, construction, and environmental resource personnel. Mr. Hernandez tracked construction progress and reported compliance issues via daily reporting and in accordance with the client communication plan. He also helped to refine the general monitoring approach for all segments of the project, and trained additional monitors as the project progressed. In addition, other tasks included identifying new active nests and updating nest status, establishing an environmentally sensitive area and buffers.

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Biological Construction Monitoring Remedial Investigation, Installation Restoration Program Site 6, South Ravine, San Pedro, California

Client: Department of the Navy Defense Fuel Support Point San Pedro

Title: Lead Field Biologist

Start/End Dates: August 2017 – October 2017.

Scope/Description: The project involved remedial investigation at Installation Restoration Program Site 6, South Ravine at Defense Fuel Support Point for the Department of the Navy for the presence of semivolatile organic compounds and metals in soil at concentrations above applicable screening criteria.

Responsibilities: As the Lead Field Biologist, Mr. Hernandez was tasked to identify and protect host plants and construction monitoring for the endangered Palos Verdes Blue Butterfly and suitable habitat for the Coastal California Gnatcatcher occurring at the project site. Other tasks included biological construction monitoring of vegetation mowing, monitoring investigation activities such as trenching and drilling, and supporting sampling activities.

Biological Pre-Construction Surveys, Antelope to Magunden Project, Kern and Los Angeles Counties, California

Client: Southern California Edison

Title: Lead Field Biologist

Start/End Dates: August 2017

Scope/Description: The project includes new and upgraded transmission line infrastructure along 59 miles of existing transmission line corridor extending south from the Magunden Substation in southern Kern County to Antelope Substation in northern Los Angeles County.

Responsibilities: As the Lead Field Biologist for Segment 3, Mr. Hernandez was tasked with leading a general biological pre-construction survey of proposed work areas and buffers which included identifying new bird nests, updating nest status on existing nests, and establishing an environmentally sensitive area for jurisdictional surface waters and sensitive vegetation communities.

Jurisdictional Waters Delineations, Chiquita Canyon Landfill, Valencia, California

Client: Republic Services Inc.

Title: Biologist

Start/End Dates: July 2002 – Current

Scope/Description: The project would extend the waste footprint of the landfill, better utilize the landfill's remaining and potential disposal capacity, and allow for the disposal of all non-hazardous wastes acceptable at a Class III solid waste disposal landfill.

Robert Hernandez
BIOLOGIST

Responsibilities: Conducted jurisdictional waters and wetland delineation of the 592-acre Chiquita Canyon Landfill. Other responsibilities include habitat mapping, vegetation sampling, literature review, and report writing.

Tehachapi Renewable Transmission Line Project (TRTP), Los Angeles, San Bernardino, and Kern Counties, California

Client: Southern California Edison

Title: Environmental Compliance Monitor

Start/End Dates: July 2010 to November 2016

Scope/Description: TRTP includes new and upgraded transmission line infrastructure along 173 miles of new and existing transmission line corridor extending south from the Tehachapi Wind Resource Area in southern Kern County, through the Angeles National Forest, to substations in Los Angeles and San Bernardino Counties. In addition to upgrading the existing transmission infrastructure, TRTP serves to increase transmission capacity to accommodate transmission of renewable energy from the Tehachapi Wind Resource Area in support of the California Renewable Portfolio Standards.

Responsibilities: As the Environmental Compliance Monitor for Segments 6, 7, 8, and 11 of TRTP, Mr. Hernandez monitored construction activities for compliance with the general environmental mitigation measures, applicant proposed measures, and other federal, State, and Local permit conditions. He facilitated compliance through communication and coordination with client, construction, regulatory, and environmental resource personnel. Among other matters within his purview, Mr. Hernandez worked closely with construction staff to improve the stormwater pollution prevention plan best management practices implemented during what was a significant rainy season, and provided oversight of project stormwater pollution prevention plan logs. Mr. Hernandez tracked construction progress and reported compliance issues via daily reporting and in accordance with the client communication plan. He also helped to refine the general monitoring approach for all segments of the project, and trained additional monitors as the project progressed.

In addition to environmental compliance monitoring, Mr. Hernandez also conducted 4 days of protocol-level desert tortoise surveys and burrowing owl surveys on Segment 6B.

U.S. Environmental Protection Agency HALACO Superfund Site, Oxnard, California

Client: U.S. Environmental Protection Agency

Title: Principal Biologist

Start/End Dates: May 2010 and 2011

Scope/Description: The project included characterization of large quantity of solid and liquid wastes, which consisted of residual metals,

Robert Hernandez
BIOLOGIST

salts added during the smelting process, and other materials Halaco produced during its 40 years of operation.

Responsibilities: Responsibilities included pre-activity nesting bird survey, rare plant survey, tidewater goby sampling; and monitoring of soil/sediment sampling activities within occupied western snowy plover habitat. Other activities included GPS/GIS mapping, and report writing.

Professional Development

Utah Prairie Dog Survey Protocol Training – Utah Division of Wildlife/BLM, 2009

Advanced Jurisdictional Wetland Hydrology – Wetland Training Institute, 2006

Advanced Hydric Soils - Wetland Training Institute, 2005

Bat Ecology and Field Techniques – The Wildlife Society, 2005

Surveying, Monitoring, and Handling Techniques Workshop – The Desert Tortoise Council, 2004

Southwestern Willow Flycatcher Workshop – Friends of the Kern River Preserve 2004

Wetland Delineation Training - Wetland Training Institute, 2004

Marbled Murrelet Survey Workshop – Mad River Biologist, 1998, 1999, 2000

Western Snowy Plover Survey Workshop – Mad River Biologist, 1999

Contact

Jacobs Engineering Group, Inc.
2600 Michelson Drive Suite 500
Irvine, CA 92612
(714) 429-2000
(714) 227-4546 (mobile)
robert.hernandez@jacobs.com

References

Tim Smith: (714) 267-6702, Tim.Smith1@jacobs.com

Morgan King: (916) 335-9141, Morgan.King10@jacobs.com

Bryan Litton: (949) 394-1322, Bryan.Litton@jacobs.com

JACOBS

Ken Levenstein

SENIOR BIOLOGIST

- With more than 20 years of experience studying avian ecology across the United States and overseas, both in academia and the private sector, Ken is a highly-experienced wildlife biologist and Project Manager, handling environmental compliance and research on a variety of taxa and study types.
- Expert at making objective assessments of biological resource issues, Ken has special expertise in avian issues relative to wind and solar projects, renewable energy infrastructure/wildlife interaction research, and environmental compliance for pipeline and transmission line corridor construction projects.
- Ken's work typically includes communicating with state and federal agencies on behalf of our clients to resolve regulatory issues, create survey protocols, and assess the impact of a proposed project based on interpreting the survey results.
- Ken possesses a thorough knowledge of the regulatory environment and is expert at designing wildlife studies to meet the needs of clients and resource agencies, study implementation, and compliance stemming from NEPA/CEQA, ESA/CESA, MBTA, and BGEPA related documents.
- Ken has served as Project Manager handling environmental compliance on numerous pre- and post-construction wind and solar projects as well as projects under construction.
- In addition, Ken has served as a Subject Matter Expert and Biological Task Leader on numerous renewable energy projects and has provided expert witness testimony for clients engaging both County Boards and State Commissions.

Areas of Expertise

- Phase I and II site assessments
- Helicopter-based golden and bald eagle/raptor nest surveys - California, Kansas, Wyoming, Montana, and North Dakota
- Pre-construction golden and bald eagle behavioral observation/spatial use studies/surveys
- Pre-construction avian use surveys
- Nocturnal migration radar studies
- Threatened, endangered, and sensitive species surveys
- Post-construction avian and bat fatality monitoring,
- California condor and golden eagle mitigation studies,
- Bird and Bat Conservation Strategies, Eagle Conservation Plans, and Take Permits

EDUCATION/QUALIFICATIONS

Ph.D., Environmental Biology, Arkansas State University, 2008

M.S., Environmental Biology, Antioch University, 1995

B.A., Communications, Antioch College, 1990

MEMBERSHIPS AND AFFILIATIONS

American Ornithological Society

Raptor Research Foundation

The Wildlife Society

California/Nevada Golden Eagle Working Group

AWARDS/HONORS

North American Ornithological Conference Travel Award. 2006. Wilson Ornithological Society.

Marcia Brady Tucker Award. 2005.
American Ornithologists Union.

Wetmore Research Grant. 2004.
American Ornithologists Union.

Sigma Xi Grant in Aid of Research. 2004.
National Academy of Sciences.

Grant in Aid of Research. 2004.
Arkansas Audubon Society Trust.

Grant in Aid of Research. 2004.
Arkansas State University Graduate Research Fund.

Grant in Aid of Research. 2003.
Arkansas Audubon Society Trust.

Grant in Aid of Research. 2002.
Arkansas Audubon Society Trust.

- Year joined Jacobs: 2017
- Office location: Irvine, CA

Relevant Project Experience

Washington Republic North and South, Kansas

Client: NextEra Energy Resources

Title: Biological Task Leader

Start/End Dates: April 2018 – Present

Scope/Description: Preconstruction studies for two large proposed wind facilities that will be ongoing through 2019. Studies include Avian and Eagle Point Count Surveys, Helicopter-based Eagle and other Raptor Nest Survey, Greater Prairie-Chicken Surveys, and Acoustic Bat Monitoring.

Responsibilities: Scoped and budgeted biological tasks, identified field technicians to hire for projects, provide senior review of biological reports, lead biologist for helicopter-based eagle/raptor nest surveys, provide direction and support for field technicians, and QA/QC. Was able to budget services at a highly competitive rate while at the same time ensuring the quality of work and resulting documents were of the highest caliber.

Environmental Assessment of a Programmatic Eagle Take Permit for a Large Wind Facility in the Tehachapi Wind Resource Area, California

Client: EDP Renewables

Title: Senior Biologist

Start/End Dates: November 2017 – Present

Scope/Description: CH2M (now Jacobs) was hired by EDP Renewables (EDPR) as the 3rd party consultant to prepare an Environmental Assessment for the Client's Eagle Take Permit Application.

Responsibilities: Lead biologist providing oversight and senior review of Environmental Assessment of Programmatic Eagle Take Permit including cumulative effects write-up and associated appendices.

Huntington Beach Energy Project, Orange County, California

Client: AES Southland Development, LLC

Title: Senior Biologist/Biological Monitor

Start/End Dates: July 2018 – Present

Scope/Description: AES has prepared a Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) for the Amended Huntington Beach Energy Project (HBEP). The Amended HBEP is a nominal 844-megawatt (MW) electrical generating facility that will replace, and be constructed on the site of, the AES Huntington Beach Generating Station, an existing and operating power plant in Huntington Beach, California. The Amended HBEP will consist of a 644-MW (net) two-on-one combined-cycle gas turbine, a steam turbine generator (STG), an air-cooled condenser, and related ancillary equipment; and two simple-cycle gas turbine (SCGT) generators.

Responsibilities: Aid AES in their effort to avoid, minimize, or compensate for impacts to biological resources that potentially will be affected by the Amended HBEP.

Wallula McNary Transmission Line Avian Surveys, Oregon and Washington

Client: Pacific Power

Title: Senior Biologist

Start/End Dates: April 2018 – Present

Scope/Description: Pacific Power is developing a new 29-mile, 230-kilovolt transmission line between Wallula, Washington, and Umatilla, Oregon. The line will connect Pacific Power's Wallula substation to Bonneville Power Administration's (BPA's) McNary substation near Umatilla.

Responsibilities: Lead biologist for raptor, burrowing owl and other sensitive avian species nest survey along entire route of proposed transmission line and 1/4-mile buffer. Ensured accurate identification of all raptor species nesting along survey corridor, provided estimates of nestling age, and projected date of fledging.

Pacific Gas & Electric Company (PG&E) Gas Transmission Program

Client: PG&E

Title: Environmental Inspector

Start/End Dates: September 2017 – January 2018

Scope/Description: Project consisted of strength testing [e.g., hydrotest], pipeline replacement, in line inspection (retrofit or inspection by "smart" pigs), and digs (inspection for corrosion underground) with the goal of ensuring safety and resilience of PG&E's pipeline infrastructure.

Responsibilities: Inspected day-to-day field environmental compliance and acted as the field environmental point of communication for PG&E construction inspectors and contractor staff regarding compliance with applicable environmental requirements (as defined in the project ERTC, SWPPP, or other documents provided by PG&E). Reviewed ERTC, SWPPP, and site before construction; documented existing conditions, lead environmental training during mobilization and as needed, communicated field environmental compliance updates to EFS & ECC, coordinated with any Specialty Monitors, as needed, and CM regarding activities and communicated observations and concerns, inspected project's compliance against ERTC and program requirements; documented compliance; assigned compliance levels, performed Air/Water/Hazardous Materials/Waste and BMP inspections; soil, water, and groundwater sampling; assisted with field review and preparation of variance requests.

Experience prior to Jacobs

2011 – 2016 – Project Manager – Western EcoSystems Technology, Inc. (WEST)

Scoped, budgeted, awarded, and subsequently managed numerous Environmental Compliance Projects, often several logistically complex Projects at a time. Managed all phases of pre-and post-construction studies at renewable energy facilities and mitigation compliance monitoring at facilities under construction. Highly experienced in all aspects of project management including budget and proposal preparation, hiring and training field survey crews, coordinating with clients, designing wildlife studies from a client-based perspective to meet the needs of both clients and resource agencies, study implementation, and report preparation. Studies have included initial site evaluation, pre-construction avian and bat use surveys, nocturnal migration radar studies, threatened, endangered, and sensitive species surveys, golden eagle behavioral observation/spatial use studies, ground- and aerial-based raptor nest surveys, breeding bird surveys, land cover/habitat mapping, post-construction avian and bat fatality monitoring, California condor and golden eagle radar/visual observation/telemetry mitigation efforts. Preparation of Bird and Bat Conservation Strategies (BBCS) and Eagle Conservation Plans (ECP).

2009 – 2011 – Senior Ornithologist – BHE Environmental, Inc.

Wrote proposals, oversaw fatal flaw, critical issues, Tier I and II analyses of proposed wind farms for confidential clients in the Midwest U.S. MBTA compliance surveys and monitoring both on the ground (Oklahoma, Kansas, Wyoming, Montana, and South Dakota) and by air (golden eagle/raptor nest surveys by helicopter; Wyoming, Montana, and South Dakota) for corridor construction projects. Agency consultation, QA/QC, budgeting, scheduling.

2008 – 2009 – Postdoctoral Research Associate - **University of Washington, and Rota, MP**

Directed the day-to-day field operations of a research project targeting the behavioral and reproductive ecology of Mariana Crows *(Corvus kubaryi*) and Rota Bridled White-eyes (*Zosterops rotensis*), two federally endangered species endemic to the island of Rota in the Northern Mariana Islands (a U.S. Commonwealth).

2007, 2008 – Independent Contract Biologist - **Arkansas Game and Fish Commission**

Conducted all-species point counts for Conservation Program lands in eastern Arkansas.

2001 – 2008 – Ph.D. Research in Galápagos, Ecuador, and Arkansas State University, AR

Dissertation title: “Reproductive Ecology of the cooperatively polyandrous Galápagos Hawk: population demography, reproductive success, survivorship, and prey distribution on Santiago Island, Galápagos, Ecuador.” Study of cooperative breeding in general, and the reproductive ecology of the cooperatively polyandrous Galápagos Hawk (*Buteo galapagoensis*). Camped on large uninhabited island with 2-5 assistants (Ecuadorian and American) for 2.5 - 3 mo each summer 2001-2004. Monitored all hawk groups on two study sites (33 territories). All work done on foot in extremely harsh volcanic terrain. Trapped, measured, collected blood samples from, and marked hawks and hawk nestlings; monitored nests; conducted nest observations (12 hr shifts from a 1x1 meter blind); mapped territories; sampled prey-base on territories (point counts of all bird species, line transect surveys for herps, live-trapping grids for small mammals – results modeled in program DISTANCE); re-sighted marked hawks for modeling survivorship in program MARK; designed schedule for assistants, planned and bought entire summer food and water supply based on one resupply mid-summer, kept everybody motivated.

Contact

Jacobs Engineering Group, Inc.
2600 Michelson Drive Suite 500
Irvine, CA 92612
(714) 429-2000
(661) 271-7937 (mobile)
Ken.Levenstein@jacobs.com

References

David Rasmussen
Biologist/Project Manager
Jacobs Engineering Group
Direct: 510.587.7752 Mobile: 805.904.9774 / Email: David.Rasmussen@jacobs.com

Nikki Carlton
Project Manager
Jacobs Engineering Group
Direct: 208.392.1684 Mobile: 208.484.9951 / Email: Nikki.Carlton@jacobs.com

Lyna Black
Environmental Planner
Jacobs Engineering Group
Direct: 530.229.3295 Mobile: 530.680.5276 / Email: lyna.black@jacobs.com

Stanton Energy Reliability Center (SERC)

Wildlife Observation Form

To be filled out by personnel who find active nest sites, wildlife dens, dead and/or injured wildlife, or other biological resources during daily construction activities. If nesting birds, dead and/or injured wildlife have been identified, please contact Ava Edens/Designated Biologist (DB) at (949) 466-5178 or ava.edens@jacobs.com. In the event the DB cannot be reached, please contact the Biological Monitor. After you have contacted the DB or Biological Monitor, please complete this "Wildlife Observation Form".

Date	Observer	Observer's Employer

Location of Observation

Wildlife Species	Condition of Wildlife (alive/dead)

Cause of Injury or Mortality (Don't speculate, If unknown, enter "unknown")

Current Location of Animal

Is the Biological Resource in Danger of Being Impacted by Project or Other Site Activities?

Yes ☐ **No** ☐ **N/A** ☐

If Yes, Explain

Additional Comments

Appendix E
Wildlife Observation Form

Photo 1	
Description	

Photo 2	
Description	

Photo 3	
Description	

Photo 4	
Description	