DOCKETED	
Docket Number:	25-OPT-02
Project Title:	Prairie Song Reliability Project
TN #:	268042
Document Title:	Data Request Response 3_Part 3
Description:	N/A
Filer:	Erin Phillips
Organization:	Dudek
Submitter Role:	Applicant Consultant
Submission Date:	12/24/2025 1:08:04 PM
Docketed Date:	12/24/2025

SOURCE: Bing Maps 2021, Open Streets Map 2019.

DUDEK

0 212.5 425 Feet 1 inch = 419 feet

NWW-7

Potential Jurisdictional Waters

Prairie Song Reliability Project

SOURCE: Bing Maps 2021, Open Streets Map 2019.

DUDEK

0 87.5 175 Feet 1 inch = 177 feet

NWW-8

Potential Jurisdictional Waters

Prairie Song Reliability Project

SOURCE: Bing Maps 2021, Open Streets Map 2019.

DUDEK

0 5 10 Feet

1 inch = 15 feet

NWW-9

Potential Jurisdictional Waters

Prairie Song Reliability Project

SOURCE: Bing Maps 2021, Open Streets Map 2019.

DUDEK 0 30 60 Feet 1 inch = 65 feet

SWALE-1

Potential Jurisdictional Waters

Prairie Song Reliability Project

SOURCE: Bing Maps 2021, Open Streets Map 2019.

DUDEK

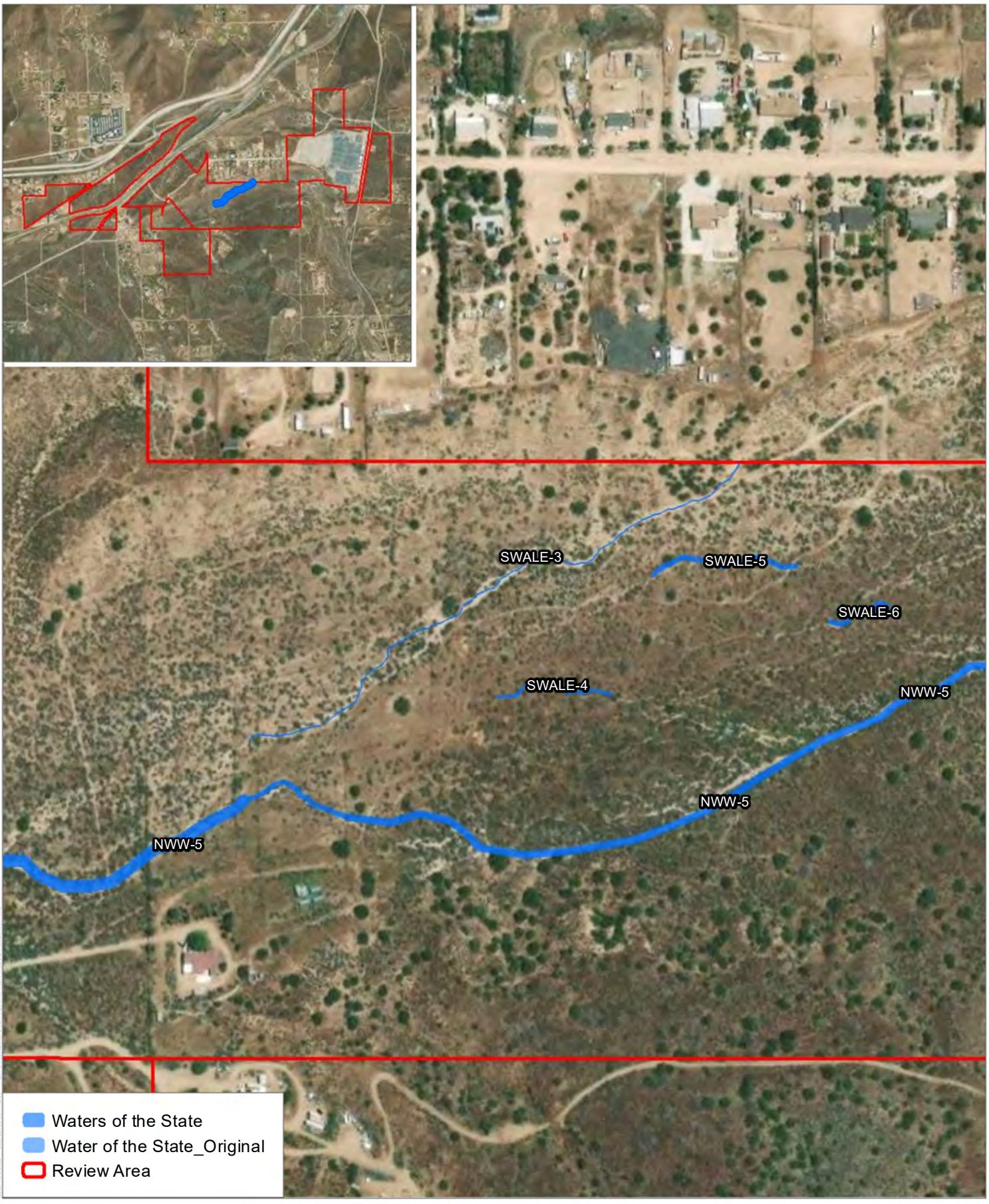
0 25 50 Feet

1 inch = 57 feet

SWALE-2

Potential Jurisdictional Waters

Prairie Song Reliability Project



SOURCE: Bing Maps 2021, Open Streets Map 2019.

DUDEK

0 140 280 Feet 1 inch = 283 feet

SWALE-3

Potential Jurisdictional Waters

Prairie Song Reliability Project

SOURCE: Bing Maps 2021, Open Streets Map 2019.

DUDEK

0 30 60 Feet

1 inch = 66 feet

SWALE-4

Potential Jurisdictional Waters

Prairie Song Reliability Project

SOURCE: Bing Maps 2021, Open Streets Map 2019.

DUDEK

0 40 80 Feet

1 inch = 84 feet

SWALE-5

Potential Jurisdictional Waters

Prairie Song Reliability Project

SOURCE: Bing Maps 2021, Open Streets Map 2019.

DUDEK

0 15 30 Feet

1 inch = 35 feet

SWALE-6

Potential Jurisdictional Waters

Prairie Song Reliability Project

Attachment E

California Department of Fish and Wildlife Notification of Lake or Streambed Alteration Agreement

Attribute	Answer
General Information	
Applicant	Garrett Lehman, Director
Additional Contacts	
Project Name	Prairie Song Reliability Project
Organization	Prairie Song Reliability Project LLC
Designated Representative	Michael Cady - Dudek
Project Location and Category	
Project Location	
Project Name	Prairie Song Reliability Project
Does the project site have a physical address? (select one)	☐ Yes | ☒ No
GPS Coordinates	34.485487°, -118.138757° - BESS portion of the Project
County	Los Angeles
Property APN	3056-017-007, 3056-017-020, 3056-017-021, 3056-019-013, 3056-019-026, 3056-019-037, 3056-019-040, 3056-015-008, 3056-015-023, 3056-017-026, 3056-017-904, 3056-017-905, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, 3056-015-802, 3056-015-008, 3056-015-023, 3056-017-016, 3056-017-022, 3056-017-026, 3056-017-027, 3056-017-028, 3056-027-007, 3056-027-031, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, 3056-015-802 See Attachment B for figures showing the Project location.
Project Category	
Project Category (select one)	☒ New Construction | ☐ Replace/Remove Existing Structure | ☐ Repair/Maintain/Operate Existing Structure
Work Type (select one)	☐ Bank stabilization – bioengineering/recontouring | ☐ Bank stabilization – rip-rap/retaining wall/gabion | ☐ Boat dock/pier | ☐ Boat ramp | ☐ Bridge | ☐ Channel clearing/vegetation management | ☐ Culvert | ☐ Dam | ☐ Debris basin | ☐ Diversion structure: weir or pump intake (obsolete) | ☒ Filling of wetland, river, stream, or lake | ☐ Geotechnical survey | ☒ Grading | ☐ Habitat enhancement – revegetation/mitigation | ☐ Levee | ☐ Low water crossing | ☒ Road/trail | ☐ Sand & gravel operations | ☐ Sediment removal – pond, stream, or marina | ☐ Sediment removal: flood control | ☐ Storm drain outfall structure | ☒ Temporary stream crossing | ☐ Utility crossing: horizontal directional drilling | ☐ Utility crossing: jack/bore | ☐ Utility crossing: open trench | ☐ Water diversion with facility | ☐ Water diversion without facility | ☐ Other (Describe other work type)

Attribute	Answer
Does this project address any of the following: hazardous fuels reduction, fuel breaks, wildfire prevention, vegetation treatment or vegetation management for fire management? (select one)	☐ Yes | ☒ No
Affected Body of Water	
River, Stream, or Lake Affected	Unnamed tributaries and isolated streams
Waterbody tributary	Santa Clara River
Will water be present during the proposed work period in the river, stream, or lake: (select one)	☐ Yes | ☒ No
If "Yes", will the proposed project require work in the wetted portion of the channel?	☐ Yes | ☒ No If “Yes”, attach a plan to divert water around the project site and dewater the work site that specifies the method, volume rate, and timing of the diversion on the Documents and Maps form.
Wild and Scenic Rivers Act (WSRA)	
Is the river or stream segment affected by the project listed in the state or federal Wild and Scenic Rivers Acts?	☐ Yes | ☒ No | ☐ Unknown
Project Description, Term, and Impacts	
Project Description and Details	
Is the 'Property Owner' the same person as the 'Applicant Proposing Project?	☒ Yes | ☐ No
If “No”, outline the following contact information for the ‘Property Owner’: Name Business Agency	N/A

Attribute	Answer
Mailing Address Phone Number Email	
Describe the Project in Detail	The project proposes to construct, operate, and eventually repower or decommission the up to 1,150-megawatt Prairie Song Reliability Project (Project) located on up to approximately 107 acres in unincorporated Los Angeles County. The primary components of the Project include a containerized battery energy storage system facility utilizing lithium-iron phosphate cells, or similar technology, operations and maintenance buildings, an on-site Project substation, a 500-kilovolt overhead generation interconnection transmission line, and interconnection facilities within the existing Southern California Edison-owned and operated Vincent Substation. See Attachment C, Project Description, for full project objectives.
Describe Equipment and Machinery	Tractors, loaders, backhoes, excavator, rubber-tired dozer, rollers, air compressors, cranes, forklift, bore/drill rigs, trenchers, pumps, welders, rough terrain forklifts, skid steer loaders, concrete/industrial saws
Will part or all of this project be funded with one of the following CDFW-managed grants? (select one)	☐ Fish Restoration Grant Program (FRGP) | ☐ Cannabis Restoration Grant Program | ☐ Prop 1 Grant | ☐ Prop 68 Grant | ☐ Greenhouse Gas Grant (GHG) | ☐ Wildlife Conservation Board (WCB) Grant | ☒ N/A
Water Rights(s), Water Diversion(s) & Reservoir(s)	
Does the project have an associated water right(s)? (select one) ▪ If "Yes", how many project water rights are included in the project?	☐ Yes | ☒ No
Does the project include any water diversion(s)? (select one) ▪ If "Yes", how many water diversions will be included in the project?	☐ Yes | ☒ No
Does the project include a reservoir(s)? (select one) ▪ If "Yes", how many reservoir(s) will be included in the project?	☐ Yes | ☒ No

Attribute	Answer
Commercial Cannabis Cultivation	
Does any part of the project include remediation at a cannabis cultivation site? (select one)	☐ Yes | ☒ No
Are you seeking documentation to submit to the Department of Cannabis Control (DCC) for the purpose of commercial cannabis cultivation licensing? (select one)	☐ Yes | ☒ No
Agreement Term	
Agreement Term Requested	☒ Regular Term (5 years or less) | ☐ Long Term (Greater than 5 years)
Project Term	
Specify both the year the project activities will begin and the year the project activities will end. Be advised CDFW may restrict work within a stream or lake to the dry season of the year. Consequently, you may want to include more than one season of possible operation in your project proposal.	Beginning Year: 2027 Ending Year: 2069
Seasonal Work Period	
Specify the time period you intend to work on the project (e.g., August 1 to October 15). If the work period will exceed one year, specify the work period for each year of the project (e.g., Work Period 1, February 10 to March 31; Work Period 2, August 1 to October 15; Work Period 3, February 10 to March 31; etc.). CDFW may restrict project work to certain periods	Construction Start Date: 3/2027 Construction End Date: 4/2029

Attribute	Answer
depending on rainfall, fish migration, wildlife breeding or nesting season, or other resource concerns. Specify the estimated number of days of actual work days for each seasonal work period.	
Impacts to River, Stream, or Lake	
Describe Impacts	0.33-acre of NWW-1a, NWW-1b, NWW-1c, NWW-1d, NWW-5, and NWW-9would be permanently filled in during grading to create a level area for the construction of the battery energy storage system and substation portions of the Project and access roads for the gen-tie portion. 0.33-acre of NWW-2, NWW-5, Swale-1, and Swale-3could be temporarily impacted during the construction of the gen-tie (due to potential pull areas) and the trenching of the underground optical ground wire use for telecommunication by the project. See Attachment B Figure 4 for the Project's impact on jurisdictional waters.
Impacts to Special-Status Species	
Will there be any foreseeable impacts to any special status animal or plant species, or habitat that could support such species, known to be present on or near the project site? (select one)	☐ Yes | ☒ No
If "Yes", list each species and describe the habitat	
Source(s) Identify the source(s) of information (e.g., biological surveys, environmental documents, etc.) that support a "Yes" or "No" answer for the previous question.	The Biological Resources section of the Project's CEC "Opt-In" application contains the results of the biological studies conducted for the Project.

Attribute	Answer
Impacts to Trees and Vegetation	
Will the project affect any trees or vegetation?	☒ Yes | ☐ No
Describe Identify the type(s) of tree(s) or vegetation that will be affected by the project.	*Atriplex canescens* Association and *Juniperus californica / Adenostoma fasciculatum - Eriogonum fasciculatum* Association, *Ephedra viridis* Association, *Juniperus californica / Adenostoma fasciculatum - Eriogonum fasciculatum* Association, *Juniperus californica /* herbaceous Association, Artemisia *tridentata - Ericameria* nauseosa Association, *Artemisia tridentata* Association, *Atriplex canescens* Association
Environmental Review	
California Environmental Quality Act	
Has a CEQA lead agency been determined? (select one)	☒ Yes | ☐ No
CEQA Lead Agency	California Energy Commission (CEC)
Agency Contact Person	Lisa Worrall
Phone Number	916-661-8367
Email	Stepsiting@energy.ca.gov
Has a draft or final document been prepared for the project pursuant to CEQA? (select one)	☒ Yes | ☐ No The project is filing through the CEC "Opt-In" certification process (Assembly Bill 205).
If "Yes", outline the type of environmental document. Include a copy of the CEQA document and all notices in the Documents and Map section.	☐ Notice of Exemption (NOE) | ☐ Negative Declaration (ND) | ☐ Mitigated Negative Declaration (MND) | ☒ Environmental Impact Report (EIR) | ☐ Timber Harvest Plan (THP)/Non-Industrial Timber Management Plan (NTMP)
State Clearinghouse Number (if applicable)	The project is filing through the CEC "Opt-In" certification process (Assembly Bill 205).
Has a CEQA Notice of Determination (NOD) been completed for the project? (select one) If "Yes", attach the NOD in the Documents and Map section.	☐ Yes | ☒ No The project is filing through the CEC "Opt-In" certification process (Assembly Bill 205).

Attribute	Answer
If “No”, explain why the NOD has not been completed.	
Has a CEQA Mitigation, Monitoring, Reporting Plan (MMRP) been completed for the project? (select one) If “Yes”, attach the MMRP in the Documents and Map section. If “No”, explain why the MMRP has not been completed.	☐ Yes | ☒ No The project is filing through the CEC "Opt-In" certification process (Assembly Bill 205).
Has a CEQA filing fee been paid pursuant to Fish and Game Code section 711.4? (select one) If “Yes”, attach a copy of the CEQA filing fee receipt in the Documents and Map section. If “No”, explain why the CEQA filing fee hasn’t been paid.	☐ Yes | ☒ No The project is filing through the CEC "Opt-In" certification process (Assembly Bill 205).
If the project described in this notification is not the “whole project", or action pursuant to CEQA, briefly describe the entire project. If the project described in the notification is the entire project, insert the following statement in this box: “The project described in the notification is the entire project.”	The project described in the notification is the entire project.
National Environmental Policy Act (NEPA)	
Has a draft or final document been prepared for the project pursuant to the National Environmental Policy Act (NEPA)? (select one)	☐ Yes | ☒ No

Attribute	Answer
If "Yes", outline the type of environmental document. Include a copy of the document in the Documents and Map section.	☐ Categorical Exclusion | ☐ Environmental Assessment (EA) | ☐ Finding of No Significant Impact (FONSI) | ☐ Environmental Impact Statement (EIS)
Measures to Protect Fish, Wildlife, and Plant Resources	
Sediment/Erosion Control	The Project's grading plans will include details on the location and type of BMPs necessary to reduce the potential for Project-induced erosion and scour, including temporary BMPs to be implemented during construction (per the statewide Construction General Permit), and permanent BMPs to be installed and maintained (per the County BMP Design Manual). The exact location and type of temporary BMPs to be installed during construction depend on site-specific conditions, construction schedule, and proposed activities, all of which are outlined in the construction SWPPP that will be prepared for the Project. Typical temporary BMPs used for similar projects include energy dissipaters, silt fences, fiber rolls, gravel/sand bags, construction road stabilization, and stabilized construction entrances. As the Project-specific SWPPP is prepared, the location, type, and number of specific BMPs may be refined based on the final designs to most effectively achieve the objective of reducing turbidity and other pollutant loads in stormwater runoff. The provisions of the CGP ensure that site-specific conditions are taken into consideration when developing construction SWPPPs, that personnel developing and implementing construction SWPPPs are qualified, and that BMPs are adequately monitored and maintained.
Avoidance/Minimization Measures	During Construction: Potential temporary indirect impacts to the drainages in the project site and downstream waters could result from construction activities and will include potential impacts from the generation of fugitive dust and the potential introduction of chemical pollutants (including herbicides). Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration and transpiration, increased penetration of phytotoxic gaseous pollutants, and increased incidence of pests and diseases. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect wetlands/ jurisdictional waters. The release of chemical pollutants can reduce the water quality downstream and degrade adjacent habitats. However, during construction, erosion-control measures will be implemented as part of the storm water pollution prevention plan (SWPPP) for the Project. Because the entirety of the Project development footprint will be graded at one time but construction will occur over time in phases, the erosion measures will be maintained until all graded areas are constructed/landscaped. Prior to the start of construction activities, the Contractor is required to file a Permit Registration Document with the State Water Resources Control Board in order to obtain coverage under the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2009-009-DWQ, NPDES No. CAS000002) or the latest approved general permit. This permit is required for earthwork that results in the disturbance of 1 acre or more of total land area. The required SWPPP will mandate the implementation of best management practices to reduce or eliminate construction-related pollutants in the runoff, including sediment, for all exposed soils.

Attribute	Answer
	During Operation: Once constructed, the proposed BESS facility will result in a substantial increase in impervious surfaces at the site, currently entirely pervious, which could potentially result in discharge of polluted stormwater runoff. Potential sources of polluted runoff include incidental spills of petroleum products and hazardous substances from maintenance vehicles and equipment. The proposed substation and BESS will be constructed on a raised pad and runoff from this area will drain southwest into catch basins located across the site. A storm sewer network will route water from the catch basins into underground infiltration chambers and infiltration trenches. Infiltration trenches along the southern end of each drainage area connected to the chamber system will aid in meeting the infiltration volume requirement. The infiltration facilities will be sized to store and infiltrate the difference in runoff between existing and proposed conditions up to the 50-year 24-hour storm event for the two (2) drainage areas on site. Each gen-tie pad will manage stormwater runoff using shallow infiltration basins.
Mitigation/Compensation Measures	**Temporary Impact Restoration:** The temporary impacts to streams would be restored. Prior to ground disturbing activities, a qualified biologist shall be retained to prepare a Habitat Mitigation and Monitoring Plan (HMMP) detailing the specific approach for each type of habitat restoration and establishment area in the Conservation Area, and short-joint beavertail transplant location, and will outline detailed performance standards and monitoring requirements for each; following the monitoring and reporting methods and performance standards listed below. The HMMP shall be submitted to and approved by the CEC prior to the onset of Project-related ground-disturbing activities. The acreages allotted for on-site establishment apply to approximately 32 acres within the Conservation Area that includes 0.19 acres of ephemeral streams. A minimum of 70 California juniper will be planted. The HMMP shall set out measures for habitat restoration/enhancement implementation, including but not limited to: ▪ Identification of proposed plant materials ▪ Signage in the habitat restoration area ▪ Schedule for habitat restoration/enhancement work ▪ Use of pesticides and elimination of non-native vegetation ▪ Habitat monitoring and reporting ▪ Performance standards **Preservation of Streams:** Mitigation for the Project requires the establishment of a conservation area that will preserve up to 0.97 acres of unimpacted streams in the parcels associated with the gen-tie routes.

Attribute	Answer
	No Net Loss: Mitigation for up to approximately 1.77 acres of jurisdictional waters shall be implemented through off-site acquisition, such as mitigation bank credits, and/or turnkey projects with mitigation banks (as approved by the CEC) following the issuance of permits from the U.S. Army Corps of Engineers, and Los Angeles Regional Water Quality Control Board, as applicable, and those agencies approval of the mitigation bank, and prior to the issuance of the grading permit. A turnkey mitigation project (establishment of the riparian habitat) will be used should credits not be available at the time of the jurisdictional waters permitting.
Prior Notifications, Orders, and Permits	
Prior Notifications and/or Agreements	
Identify any notification previously submitted to, or Lake or Streambed Alteration Agreement previously issued by, CDFW for the project described in this notification. Include a copy of the previously submitted notification and/or agreement in the Documents and Maps form. If applicable, list the following: Name of Applicant: Notification Number: Date:	Not Applicable
Prior Orders, Notice, and/or Violations	
If this notification is being submitted in response to a court or administrative order or notice, or a notice of violation issued by CDFW, complete this section for each order, notice, or violation. Include a copy of each order, notice, or violation in the Document and Maps form.	Not Applicable

Attribute	Answer
If applicable, list the following: Person who Directed you to Submit: Agency that Directed you to Submit: Describe Circumstances:	
Local, State, and/or Federal Permits	
List any local, state, and/or federal permits required for the project and mark whether applied or issued. Include a copy of each permit that has been issued in the Documents and Maps form. You are responsible for obtaining all necessary permits and authorizations from CDFW and other agencies before beginning any project described in the notification. If applicable, list the following: Permit Name: Permit Type: If the permit was applied for or issued: Date issued/applied:	Regional Water Quality Control Board Water Quality Certification / Waste Discharge Requirements
Documents and Maps	
Maps/Photos	
Project Site Map	See Attachment B, Figure 1
Project Aerial View Map	See Attachment B, Figure 4
Project Site Photo(s)	See Attachment D, Photo E
Studies and Mapping	
Has a biological study been completed for the project site? (select one)	☒ Yes | ☐ No The Biological Resources section of the Project's CEC "Opt-In" application contains the results of the biological studies conducted for the Project.

Attribute	Answer
If “Yes”, include a copy of the document in the Documents and Map section.	
Has one or more technical studies (e.g., engineering, hydrologic, geologic, or geomorphological) been completed for the project for project site? (select one) If “Yes”, include a copy of the documents in the Documents and Map section.	☒ Yes | ☐ No The appendices of the Project’s CEC "Opt-In" application contains the engineering, hydrologic, geologic, or geomorphological studies for the Project.
Have fish or wildlife resources or waters of the state been mapped or delineated on the project site? (select one) If “Yes”, include a copy of the document in the Documents and Map section.	☒ Yes | ☐ No See Attachment D
Additional Documents and Maps	
Upload Attachments, Documents, Maps, etc.	See Attachments B-D
Fees Schedule	
Notification Fees	
Project Name	Prairie Song Reliability Project
Project Cost Range	Regular Term: ☐ < $5,000 | ☐ $5,000 to less than $10,000 | ☐ $10,000 to less than $25,000 | ☐ $25,000 to less than $100,000 | ☐ $100,000 to less than $200,000 | ☐ $200,000 to less than $350,000 | ☒ $350,000 or more
	Long Term: ☐ Base Fee | ☐ < $5,000 | ☐ $5,000 to less than $10,000 | ☐ $10,000 to less than $25,000 | ☐ $25,000 to less than $100,000 | ☐ $100,000 to less than $200,000 | ☐ $200,000 to less than $350,000 | ☐ $350,000 to less than $500,000 | ☐ $500,000 or more
Actual Project Cost	TBD

Attribute	Answer
Payment Information	
Payment Method	☐ Check/Money Order | ☐ Credit Card If check/money order, outline the following information: Name of the Bank/Institution: Check/Money Order #: If credit card, CDFW's online internet sales system will provide a document number after completing the transaction. Outline the document number:
Acknowledgment and Signature	
Site Inspection	
First Contact this Person to Schedule Site Visit Outline method of contact, contact name and information	Garrett Lehman, Director glehman@covalinfra.com
Electronic Signature	
Application to be electronically signed by the Applicant or Designated Representative.	

Attachment F

Alternatives Analysis

DUDEK
225 SOUTH LAKE AVENUE
SUITE M210
PASADENA, CALIFORNIA 91101
T 626.204.9800

MEMORANDUM

Author:	Michael Cady, Senior Biologist
Subject:	Prairie Song Reliability Project-Alternatives Analysis for the Water Discharge Requirements Application
Date:	June 26, 2025
Attachment:	Project and Alternatives Exhibit

The following describes the off-site and on-site alternatives that were evaluated for the Prairie Song Reliability Project (Project). This alternative analysis was prepared to provide information and background necessary to determine the least environmentally damaging practicable alternative (LEDPA), as required by Section V of the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*, adopted April 2, 2019.

1 Project Description

Prairie Song Reliability Project LLC proposes to construct, operate, and eventually repower or decommission up to 1,150-megawatt (MW) Prairie Song Reliability Project (Project) located on up to approximately 107 acres in unincorporated Los Angeles County. The primary components of the Project include a containerized battery energy storage system (BESS) facility utilizing lithium-iron phosphate cells, or similar technology, operations and maintenance (O&M) buildings, an on-site Project substation, a 500-kilovolt (kV) overhead generation interconnection (gen-tie) transmission line, and interconnection facilities within the existing Southern California Edison-owned and operated Vincent Substation.

Electrical energy will be transferred from the existing power grid to the Project for storage and from the Project to the power grid when additional electricity is needed. The Project will provide additional capacity to the electrical grid to assist with serving load during periods of peak demand by charging when demand is low and discharging when demand is high. This operating principle increases the integration of additional intermittent renewable energy, such as wind and solar, in California's energy mix and reduces the need to operate natural gas power plants. The Project will also serve as an additional local/regional capacity resource that will enhance grid reliability, particularly to the Los Angeles Basin local reliability area and may allow for the deferral or avoidance of regional transmission facilities.

The Project will be remotely operated and monitored year-round as well as supported by onsite O&M staff seven (7) days a week. The Project will be available to receive or deliver energy 24 hours a day and 365 days a year. During the operational life of the Project, qualified technicians will inspect the Project facilities and conduct necessary maintenance to ensure reliable and safe operational readiness.

2 Project Objectives

The Project's principle Basic Objectives include the following:

- Construct and operate an up to 1,150-MW BESS facility in Los Angeles County with an interconnection utilizing available system capacity at the existing SCE Vincent Substation to balance intermittent renewable generation and serve as an additional capacity resource that will enhance grid reliability.
- Provide new energy storage capacity to assist California electric utilities in meeting obligations under California's Renewable Portfolio Standard Program and Senate Bills 100 and 1020, which require renewable energy sources and zero-carbon resources to supply 60% of all retail sales of electricity to California end-use customers by December 31, 2030, 90% of all retail sales of electricity to California end-use customers by December 31, 2035, 95% of all retail sales of electricity to California end-use customers by December 31, 2040, and 100% of all retail sales of electricity to California end-use customers by December 31, 2045.
- Provide new energy storage capacity to assist the State of California in meeting its goal of reducing statewide annual greenhouse gas emissions from the electric sector to 25 million metric tons by 2035.
- Provide storage capacity to help balance electricity generation from renewable sources, such as wind and solar, with electricity demand by storing excess generation predominately from emissions free power sources and deliver it back to the grid when demand exceeds real-time generation supply.
- Offer energy storge to curtail dispatch and displace the need for additional fossil fuel based generating stations needed to serve peak demand periods when intermittent renewable sources may be inadequate or unavailable. The additional storage capacity may allow for the deferral or avoidance of regional transmission facilities.
- Provide energy storage of sufficient size, power, capacity, scale, and location to assist California utilities in meeting obligations under the CPUC's Mid-Term Reliability Procurement and upcoming Reliability and Clean Power Procurement Program Requirements.
- Develop an electricity storage facility in close proximity to a utility grid-connected substation with existing capacity available for interconnection for charging and discharging and the ability to deliver capacity to the load to minimize environmental impacts.
- Secure a location to allow the stored energy to relieve grid congestion, and enhance electricity reliability, without requiring the construction of substantial new regional transmission infrastructure or network upgrades.
- Construct and operate a battery energy storage facility in Los Angeles County, resulting in economic benefits to the County, creating prevailing wage construction jobs, and facilitating local community benefits.
- Locate and gain site control of site large enough and well-suited to support development of the Project's 1,150-MW and up to 9,200MWh battery energy storage.
- Develop an energy storage project that is in close proximity to existing electrical infrastructure and the Vincent Substation, to avoid and minimize potential impacts from long 500 kV gen-tie lines.
- Locate a site to accommodate a gen-tie line of reasonable length to the POI and the ability to deliver power to the Los Angeles Basin local reliability area during peak demand.

- Locate near existing roadways and related infrastructure where available and feasible for construction and O&M access.

3 Regulatory Setting

Section 401 of the Clean Water Act (CWA) authorizes the Regional Water Quality Control Board (RWQCB) to issue Section 401 Water Quality Certifications for the discharge of dredged or fill materials into waters of the United States, including wetlands (33 USC 1344). Waters of the United States, defined at 33 Code of Federal Regulations (CFR). Part 328, includes coastal and inland waters, lakes, rivers, and streams, including adjacent wetlands and tributaries.

As indicated in the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), adopted April 2, 2019, an alternatives analysis must be submitted to the RWQCB, consistent with the requirements of Section 230.10 of the State Supplemental Dredge or Fill Guidelines, unless the project qualifies for an exemption as outlined on page 6 of the Procedures. The alternatives analysis serves two primary purposes. The first purpose is to document that an appropriate sequence of actions has been taken first to avoid, and second to minimize, adverse impacts to waters of the state. The second purpose is to identify the least environmentally damaging practicable alternative (LEDPA). The analysis must establish that the proposed project alternative is the LEDPA in light of all potential direct, secondary (indirect), and cumulative impacts on the physical, chemical, and biological elements of the aquatic ecosystem.

As discussed in the state's Procedures, alternatives analyses shall be completed in accordance with the following tiers. The level of effort required for an alternatives analysis within each of the three tiers shall be commensurate with the significance of the impacts resulting from the project.

1. Tier 3 projects include any discharge of dredged or fill material that directly impacts more than 0.2 acre or 300 linear feet of waters of the state; rare, threatened or endangered species habitat in waters of the state; wetlands or eel grass beds; or Outstanding National Resource Waters or Areas of Special Biological Significance, and is not a project that inherently cannot be located at an alternate location. Tier 3 projects shall provide an analysis of off-site and on-site alternatives.
2. Tier 2 projects include any discharge of dredged or fill material that directly impacts more than 0.1 acre and less than or equal to 0.2 acre or more than 100 linear feet and less than or equal to 300 linear feet of waters of the state unless it meets the criteria for a Tier 3 project, or any project that inherently cannot be located at an alternate location (unless it meets the size requirements set forth in Tier 1). Tier 2 projects shall provide an analysis of only on-site alternatives.
3. Tier 1 projects include any discharge of dredged or fill material that directly impacts less than or equal to 0.1 acre or less than or equal to 100 linear feet of waters of the state unless it meets the criteria for a Tier 3 project. Tier 1 projects shall provide a description of any steps that have been or will be taken to avoid and minimize loss of, or significant adverse impacts to, beneficial uses of waters of the state.

4 Practicability Criteria for Analysis of Alternatives

Section IV.A(1)(h) of the Procedures (SWRCB 2021) state that to determine if an alternative is practicable, an applicant should consider: if the alternative is available and capable of being complete after taking into consideration cost, existing technology, and logistics, in light of the overall Project purpose, while not having other significant adverse environmental consequences.

5 Alternatives

The proposed project impacts more than 0.2 acre or 300 linear feet of waters of the state, so it meets the requirements of a Tier III evaluation as defined in the state's Procedures. A discussion of the alternatives evaluated as part of the proposed project is presented below.

Alternative 1-Proposed Project

As currently designed, the proposed Project will result in approximately 0.23 acres (approximately 0.19 acres temporary and approximately 0.04 acre permanent) of direct impacts to potential jurisdictional waters through the removal of vegetation and grading of land to construct the proposed Project. Temporary impacts will occur within areas proposed for construction laydown areas and within the gen-tie work areas that are outside of the transmission pole pads and access roads.

Alternative 2-Peaceful Valley Alternative Site

As shown in Attachment A, the Peaceful Valley Alternative Site is located at the edge of the 2-mile radius, north of the Project site and north of Highway 14 off Peacefull Valley Road. The Peaceful Valley Alternative Site is an approximately 113-acre block of land consisting of 13 parcels. Ten of the 13 parcels contain residential land uses with the other three (3) parcels being undeveloped. The site is generally flat but does contain some topography around two (2) riverine features that cross the site. The gen-tie would need to cross the Sierra Highway as well as the Antelope Valley Freeway. Depending on the specific route, the gen-tie would need to cross between one (1) and five (5) high voltage (>220kV) transmission lines. The topography of Peaceful Valley Alternative Site is predominantly flat, but contains several steep ridges present in areas required for construction. This condition will necessitate more extensive grading and earthwork compared to the Project. As such, it is expected that impacts to waters of the state would be greater than those of the proposed Project.

Alternative 3-Reduced Project Alternative

Under the Reduced Project Alternative, the Project capacity would be reduced from using an 8-hour battery to a 4-hour battery, thereby reducing the total capacity from 9,200MWh to 4,600MWh. Under this alternative, the BESS facility size would be reduced from 70.9 acres to 44.8 acres. The Project site would be reduced in the area south of Soledad Canyon Road (Attachment A). Under the alternative, the 23.1-acre Project substation would remain the same size as the Project. All other Project components (Project substation, access roads, laydown yard, and the gen-tie) would be the same as the Project. The Reduced Project Alternative would result in halving the daily energy storage capacity (4,600MWh) to help balance electricity generation from renewable sources, such as wind and

solar, with electricity demand by storing excess generation predominately from emissions free power sources and deliver it back to the grid when demand exceeds real-time generation supply. This alternative would reduce permanent impacts to non-wetland waters by half.

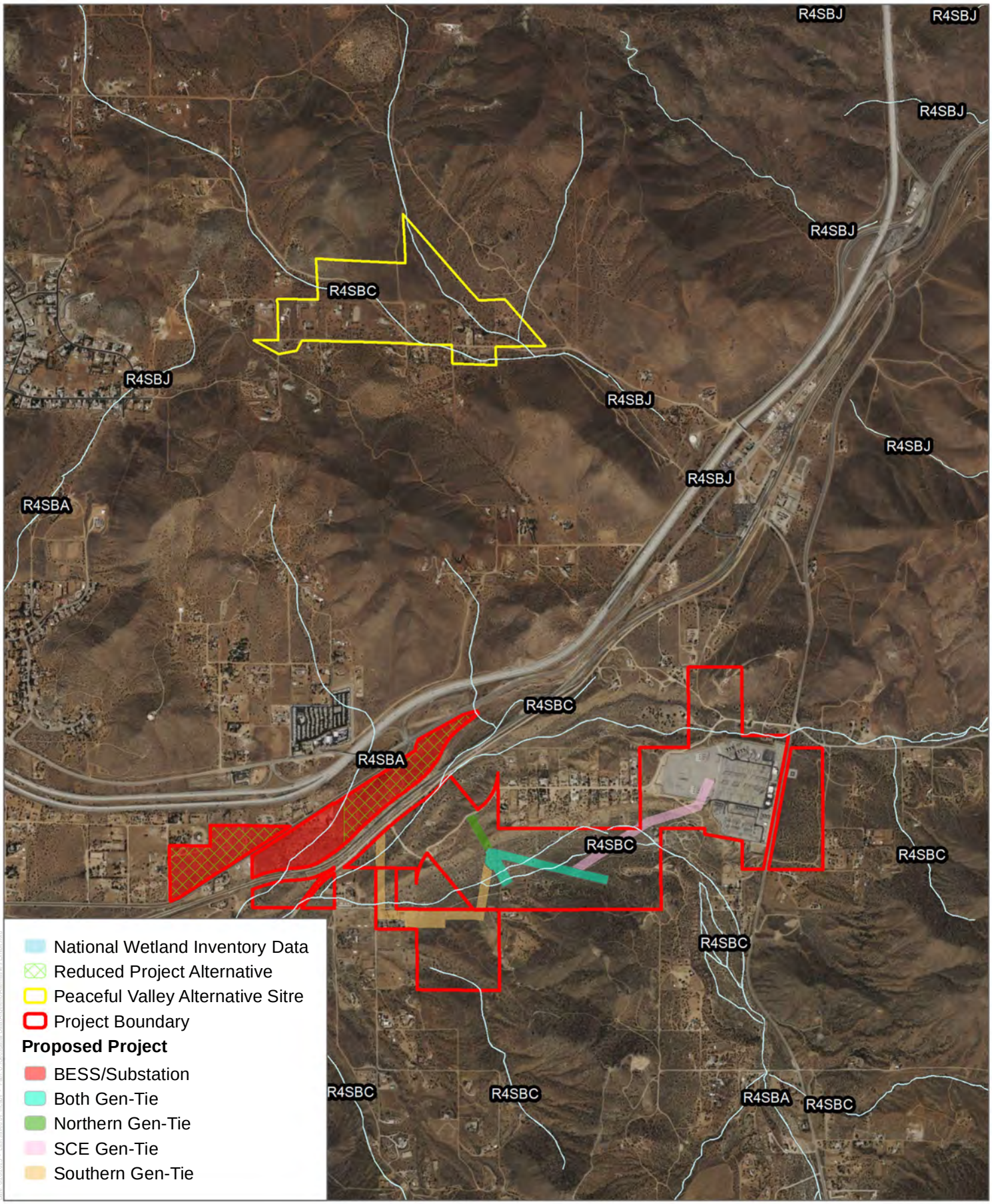
3 Analysis

Table 2 includes a summary of the alternatives proposed and their ability to achieve the standards set for each of the criteria established.

Table 2. Alternatives Analysis Summary

Criterion	Alternative 1-Proposed Project	Alternative 2-Peaceful Valley Alternative Site	Alternative 3-Reduced Project Alternative
Project Purpose	X	X	
Environmental	X		X
Cost	X		X
Logistics	X		X
Technology	X	X	X

The proposed Project is the least environmentally damaging, practicable alternative, as it meets all alternative analysis evaluation criteria and achieves the overall project purpose and goals. It is logistically feasible and can be accomplished with current technology at the costs allocated for the Project. While there are proposed direct impacts to 0.36 acres of jurisdictional resources, including 0.22 acres of non-wetland waters and 0.02 acres of swales and those impacts would be significant; however, mitigation proposed by the Project would offset those impacts.



SOURCE: Bing Maps 2021, Open Streets Map 2019.

DUDEK

0 1,050 2,100 Feet

Project and Alternatives

Prairie Song Reliability Project

Attachment 2

Redline Section 2, Project Description

2 Project Description

Prairie Song Reliability Project LLC, a Delaware limited liability company (Applicant), a subsidiary of Coval Infrastructure DevCo LLC, a Delaware limited liability company, proposes to construct, operate, and eventually repower or decommission the up to 1,150-megawatt (MW) Prairie Song Reliability Project (Project) located on up to approximately 107 acres in unincorporated Los Angeles County. The primary components of the Project include a containerized battery energy storage system (BESS) facility utilizing lithium-iron phosphate cells, or similar technology, operations and maintenance (O&M) buildings, an on-site Project substation, a 500-kilovolt (kV) overhead generation interconnection (gen-tie) transmission line, and interconnection facilities within the existing Southern California Edison (SCE)-owned and operated Vincent Substation.

Electrical energy will be transferred from the existing power grid to the Project for storage and from the Project to the power grid when additional electricity is needed. The Project will provide additional capacity to the electrical grid to assist with serving load during periods of peak demand by charging when demand is low and discharging when demand is high. This operating principle increases the integration of additional intermittent renewable energy, such as wind and solar, in California's energy mix and reduces the need to operate natural gas power plants. The Project will also serve as an additional local/regional capacity resource that will enhance grid reliability, particularly to the Los Angeles Basin local reliability area and may allow for the deferral or avoidance of regional transmission facilities.

The Project will be remotely operated and monitored year-round as well as supported by on-site O&M staff seven (7) days a week. The Project will be available to receive or deliver energy 24 hours a day and 365 days a year. During the operational life of the Project, qualified technicians will inspect the Project facilities and conduct necessary maintenance to ensure reliable and safe operational readiness.

2.1 Project Location

The Project will be located in unincorporated Los Angeles County (County), California south of State Route 14 approximately three (3) miles northeast of the center of the unincorporated community of Acton. The Project site is within the Los Angeles County-designated Community Standard District of Action. The Project is within the USGS 7.5-minute Acton and Pacifico Mountain Quadrangles, Township 5N, Range 12W, Sections 27, 28, 33 and 34. The BESS site is comprised of Assessor's Parcel Numbers (APNs) 3056-017-007, 3056-017-020, 3056-017-021, 3056-019-013, 3056-019-026, 3056-019-037, and 3056-019-040. Development of the BESS facility will occur on an area of land sandwiched between two (2) existing transportation corridors, the Antelope Valley Freeway (State Route 14) to the north and Los Angeles County Metropolitan Transportation Authority (LACMTA)-owned Southern Pacific Railroad lines and Carson Mesa Road to the south, that are approximately 1,200 feet apart.

The Project will utilize one (1) of two (2) potential gen-tie routes. Either route will extend south and east from the Project substation, crossing Southern Pacific Railroad tracks and West Carson Mesa Road, and then proceed northeast to the Point of Interconnection (POI) at the Vincent Substation. The Northern Gen-Tie Route is approximately 1.1 miles long, and will be sited on APNs 3056-015-008, 3056-015-023, 3056-017-026, 3056-017-904, and 3056-017-905, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, and 3056-015-802. The Southern Gen-Tie Route is approximately 1.8 miles long, and will be sited on APNs 3056-015-008, 3056-015-023, 3056-017-016, 3056-017-022, 3056-017-026, 3056-017-027, 3056-017-028, 3056-027-007, 3056-027-031, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, and 3056-015-802. The Project will also include three (3) fiber optic telecommunications lines: one (1) will be installed

aboveground on the gen-tie structures (along whichever gen-tie route is ultimately selected), and the other two (2) will be installed underground within the Southern Gen-Tie Route corridor. The two (2) other fiber optic lines will be installed underground within the Southern Gen-Tie Route corridor regardless of which Gen-Tie Route corridor option is selected. The Project's interconnection facilities will be located within the SCE Vincent Substation. Land uses in the immediate vicinity of the Project include undeveloped and rural lands, multiple high-voltage transmission lines and an electrical substation, paved and rural roads, State Route 14, and railroad lines.

The nearest municipality to the Project site is the City of Palmdale, which is located approximately four (4) miles to the northeast. There are a few single-family residences adjacent to the BESS facility Site's northern and western boundaries as well as a few other single-family residences in the vicinity of the gen-tie line.

2.2 Project Objectives

The Project's principle Basic Objectives include the following:

- Construct and operate an up to 1,150MW BESS facility in Los Angeles County with an interconnection utilizing available system capacity at the existing SCE Vincent Substation to balance intermittent renewable generation and serve as an additional capacity resource that will enhance grid reliability.
- Provide new energy storage capacity to assist California electric utilities in meeting obligations under California's Renewable Portfolio Standard Program and Senate Bills 100 and 1020, which require renewable energy sources and zero-carbon resources to supply 60% of all retail sales of electricity to California end-use customers by December 31, 2030, 90% of all retail sales of electricity to California end-use customers by December 31, 2035, 95% of all retail sales of electricity to California end-use customers by December 31, 2040, and 100% of all retail sales of electricity to California end-use customers by December 31, 2045.
- Provide new energy storage capacity to assist the State of California in meeting its goal of reducing statewide annual greenhouse gas emissions from the electric sector to 25 million metric tons by 2035.
- Provide storage capacity to help balance electricity generation from renewable sources, such as wind and solar, with electricity demand by storing excess generation predominately from emissions free power sources and deliver it back to the grid when demand exceeds real-time generation supply.
- Offer energy storge to curtail dispatch and displace the need for additional fossil fuel based generating stations needed to serve peak demand periods when intermittent renewable sources may be inadequate or unavailable. The additional storage capacity may allow for the deferral or avoidance of regional transmission facilities.
- Provide energy storage of sufficient size, power, capacity, scale, and location to assist California utilities in meeting obligations under the California Public Utilities Commission's (CPUC's) Mid-Term Reliability Procurement and upcoming Reliability and Clean Power Procurement Program Requirements.
- Develop an electricity storage facility in close proximity to a utility grid-connected substation with existing capacity available for interconnection for charging and discharging and the ability to deliver capacity to the load to minimize environmental impacts.
- Secure a location to allow the stored energy to relieve grid congestion, and enhance electricity reliability, without requiring the construction of substantial new regional transmission infrastructure or network upgrades.

- Construct and operate a battery energy storage facility in Los Angeles County, resulting in economic benefits to the County, creating prevailing wage construction jobs, and facilitating local community benefits.
- Locate and gain site control of site large enough and well-suited to support development of the Project's 1,150MW and up to 9,200MWh battery energy storage.
- Develop an energy storage project that is in close proximity to existing electrical infrastructure and the Vincent Substation, to avoid and minimize potential impacts from long 500kV gen-tie lines.
- Locate a site to accommodate a gen-tie line of reasonable length to the POI and the ability to deliver power to the Los Angeles Basin local reliability area during peak demand.
- Locate near existing roadways and related infrastructure where available and feasible for construction and O&M access.

2.3 Project Components

The Project will include construction, O&M, and eventual decommissioning of an up to 1,150MW BESS. A 500kV gen-tie connecting the Project substation to the POI within the existing SCE Vincent Substation, will facilitate charging and discharging to the electrical grid.

2.3.1 General Facility Description, Design, and Operation

The BESS facility will include the following primary components (refer to Section 2.3.2, Transmission and Interconnection Description, Design, and Operation for a detailed description of the gen-tie line and interconnection components of the Project):

- Battery Energy Storage System (BESS) Enclosures
- Power Conversion Systems (PCS)
- Medium voltage (MV) Collection System
- Project Substation, Control Building, and Telecommunications Facilities
- Access Roads
- Laydown Yards
- Stormwater Detention Facilities
- Site Security and Fencing
- Fire Detection and Suppression System
- Operations and Maintenance Building
- Existing Distribution Line Reroute

Project components are described in the following subsections. Figure 2-1, Project Site Plan, shows the Project layout. The Project's site plan package is provided in Appendix 2A, and the Project's conceptual landscape plan is included as Appendix 2B. Table 2-1 summarizes the preliminary dimensions of major BESS facility components, and Table 2-2 summarizes the preliminary footprint/disturbance acreage associated with the BESS facility.

Table 2-1. Preliminary Dimensions of Major BESS Facility Components

Component	Quantity	Approximate Dimensions
BESS Enclosures	2,035*	20 ft × 8 ft × 9.5 ft (L × W × H)
PCS	517*	20 ft × 8 ft × 9.5 ft (L × W × H)
MV Collection system	—	Buried in trenches up to 10 ft × 10 ft (W × D)
Project Substation Area	1	2,545 ft × 440 ft (L × W); seven (7) 150 ft (H) (lightning masts)
Control Building	1	27 ft W × 95 ft L × 10 ft H (to ceiling)
Access Roads	—	26 ft (W) internal radii 55 ft minimum
Fire Water Tanks	2	33 ft in Diameter × 16 ft H
Laydown Yards	3	Variable
Stormwater Detention Facilities	2	Variable
Security Wall	—	Minimum 8 ft H block wall topped with 1 ft of barbed/razor wire
Operations and Maintenance Building	2	20 ft × 60 ft × 15 ft (L × W × H)

Notes: BESS = battery energy storage system; PCS = power conversion system; MV = medium voltage.

* The number of BESS enclosures and PCS units will depend on the manufacturer selected. The total number of BESS enclosures and PCS units may increase or decrease in the final design. It is also possible that the BESS units ultimately procured may incorporate the PCS units within the BESS enclosures.

Table 2-2. Preliminary Footprint of BESS Facility

Component	Permanent Disturbance
BESS Yards	30.0 acres
Project Substation	23.1 acres
Access Roads	7.9 acres
Laydown Yards	1.0 acres
Stormwater Detention Facilities	4.1 acres
*Other**	*4.7 acres*
Total+	**70.8 acres**

Notes: BESS = battery energy storage system.

* Other areas include maximum grading limits. The analyses assume that all areas used for the BESS facility are permanently disturbed.

\+ The total permanent disturbance acreage is a conservative estimate, and final designs may require fewer acres. Underground components within the BESS facility will be located within the footprint of above ground disturbance areas.

2.3.1.1 Battery Energy Storage System

The energy storage facility will utilize a modular and containerized BESS. There are several battery cell technologies commercially available, with one of the most common presently being lithium iron phosphate (LFP) cells, or similar. LFP technology is considered one of the safest, most efficient, and commercially financeable energy storage technologies available on the market. The initial Project concept has been developed assuming an LFP technology. By the time the Project reaches the procurement stage, it is possible for other battery cell technology with proven safety and performance records to be suitable for the Project. Although the number and dimensions of the containers may change (as it does between LFP technology providers), the technology ultimately procured will result in potential environmental impacts substantially similar to, or less than, those analyzed based on this Project Description. The Sungrow Power Titan II has been selected for this project application as a representative BESS

enclosure. Sungrow Power Titan II design and operation information is used in this application to set maximum potential impact envelopes, for site design and modeling analysis, and to set baseline safety standards. A final manufacturer for the BESS enclosures will be selected during the detailed design process post-certification. The Project will provide defensible space by setting back all BESS enclosures at least 100 feet from the property boundary.

The BESS enclosures will be prefabricated off site and arrive at the site ready to be installed and commissioned. Each modular BESS enclosure will include battery packs on racks, a battery management system, fire detection systems, thermal management systems (either liquid or air cooled depending final selected technology), and ancillary power electronics within a specialized steel-framed, non-occupiable container. The BESS enclosures will not exceed 15 feet in height.

Over the life of the project the storage capacity of the battery cells will naturally degrade. The project will implement an augmentation strategy to maintain the contractually required capacity of the system. Augmentation will entail either a capacity maintenance approach of adding/replacing individual battery modules in the existing BESS yard or designing the BESS system to incorporate space for additional BESS enclosures for later augmentation. The Project design and analysis front loads the work for the Project augmentation and assumes that it will install the end-of-life capacity at the start of construction. This assumption is made to capture augmentation impacts during construction instead of trying to assume the augmentation schedule for the Project. Equipment type/specifications, capacity agreements, and tax incentives can all change how and when augmentation is completed. Front loading augmentation to occur during construction creates a conservative case for the analysis of potential impacts that could arise from augmentation and sets a maximum impact envelope for the Project. During Project operations, the Project analysis assumes that one (1) crane and one (1) forklift will operate in support of augmentation once every 3 to 5 years for 8 hours per day.

2.3.1.2 Power Conversion System

A PCS is a packaged and integrated, or assembled, system consisting of a bi-directional inverter, MV transformers, protection equipment, direct current (DC) and alternating current (AC) circuit breakers, harmonic filters, equipment terminals, and a connection cabling system. A PCS functions to both convert between DC/AC and change the voltage level from the MV collection voltage to the working voltage of the BESS enclosures.

The PCS will convert electric energy from AC to DC when the energy is transferred from the grid to the battery, and from DC to AC when the energy is transferred from the battery to the grid. Each PCS will also include transformers that convert the AC side output of the inverter between low and medium AC voltage to increase the overall efficiency of the BESS. Inverters within the PCS units will be unattended systems designed to operate in all conditions. The inverters will be monitored and controlled remotely, and there will be on-site disconnects for use in case of an emergency or a situation requiring unscheduled maintenance.

PCS units will be installed on concrete foundations or steel piles and connected to multiple BESS enclosures with wiring and cables installed underground. All outside electrical equipment will be housed in the appropriate National Electrical Manufacturers Association-rated enclosures.

2.3.1.3 MV Collection System

The MV collection system will include multiple components that connect the PCS units to the Project substation including underground conductor circuits, switchboards, switchgear, and panels at 34.5kV. The conductors for the MV collection system will be installed underground during construction using trenching.

To connect the portion of the BESS yard north of Soledad Canyon Road to the Project substation, which is located south of Soledad Canyon Road, a portion of the MV collection system will need to be located underground within Soledad Canyon Road. A 180-foot-wide underground corridor will house the MV collection system as it traverses the road. The MV collection lines under Soledad Canyon Road will be installed using horizontal directional drilling, will be inside six (6) in conduit, covered by a minimum of 42 inches, and spaced 10 feet apart.

2.3.1.4 Project Substation

The Project substation will include six (6) main power transformers (MPTs). When the BESS facility is charging, power from the regional electric transmission grid will be stepped down from 500kV to 34.5kV and sent from the Project substation through the MV collection system and PCS units into the battery packs within the BESS enclosures. When the BESS facility is discharging, power from the battery packs within the BESS enclosures will be sent to the PCS units, stepped up to 34.5kV, and transported to the Project substation through the MV collection system before being stepped up to 500kV at the MPTs and delivered back to the regional electric transmission grid. A control building will be installed within the Project substation area and contain an energy management system, metering, and telecommunication equipment for communication with SCE/California Independent System Operator (CAISO) facilities and to support remote Project operations monitoring. The Project substation area will also include seven (7) static masts, up to 150 feet tall, for lightning protection.

2.3.1.5 BESS Facility Access Roads

The Project's roadway system will utilize existing roads wherever available and feasible and include new facility access roads and driveways, a perimeter road, and internal access roads. All new access roads, driveways, internal and perimeter roads will be bladed, compacted, and surfaced with asphalt. All internal roadways and private driveways will be constructed to meet access requirements for construction, O&M, and emergency response.

2.3.1.6 Laydown Yards

The Project will include up to three (3) laydown yards for equipment and material staging and storage during construction. These areas will also be used for worker parking during construction. The primary laydown yard will be located in the northernmost portion of the BESS site. The primary laydown yard will be bladed, compacted, and surfaced with aggregate, while an additional laydown yard to facilitate construction of the gen-tie line will be cleared of vegetation and surfaced with aggregate or other soil stabilizing materials. Landscape fabric may also be installed under the surface of all laydown yards to prevent vegetation growth, if required to comply with fire prevention standards. The O&M building and required number of parking spaces for O&M staff will be constructed within the primary laydown following construction of the BESS facility components.

The proposed Project's preliminary layout, earthwork volumes, and Project component dimensions assumed for environmental analyses in subsequent chapters are conservatively large to allow for design flexibility within the project footprint and Project schedule preservation.

2.3.1.7 Stormwater Detention Facilities

Regulatory standards require that volumes and flow rates of stormwater discharge after construction are not to exceed pre-development conditions. Stormwater generated on-site will flow to underground stormwater detention chambers located in the southwestern portions BESS facility site (Figure 2-1, Project Site Plan). Stormwater treatment and storage sizing will be designed to hold the anticipated runoff from a 100-year, 24-hour storm event in compliance with applicable regulations. After a rainfall event, stormwater will infiltrate into the subgrade underneath the stormwater chambers. If the design capacity of the stormwater chambers is exceeded, however, stormwater may be stored in available upstream areas such as catch basins, infiltration trenches, or drain as sheet flow from the surface.

2.3.1.8 Site Security

The BESS facility site will be enclosed with a minimum 8-foot-tall block wall topped with 1 foot of three-strand barbed wire or razor wire. The wall will be installed on the outside of the perimeter roads. The wall will be required to prevent unauthorized access and to comply with human health and safety regulations. Gates will be installed at various access points along the wall and equipped with locks and knox boxes to allow for authorized personnel (e.g., transmission service provider, O&M staff, emergency response) to access appropriate portions of the BESS facility site. The wall will serve a dual purpose for security and off-site noise reduction (see Section 3.7, Noise).

Lighting will only be in areas where it is required for safety, security, or operations. Controlled security lighting no more than 28 feet tall will be installed at the Project substation and around the BESS yards, in accordance with applicable requirements and regulations. Permanent motion-sensitive, directional security lights will be installed to provide adequate illumination around the substation area and points of ingress/egress. All lighting will be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties, compliant with applicable codes and regulations. Security cameras will be placed on site and monitored 24/7.

2.3.1.9 Fire Detection and Suppression System

Fire protection will include multiple fire detection systems on-site and within the individual BESS enclosures. Each BESS enclosure will have a fire rating in conformance with the California Fire Code 2022. In addition, each BESS enclosure will contain an onboard battery management system that monitors the appropriate state of individual battery cells and relays information 24/7 and an internal Fire Alarm Control Panel that will identify which units have incidents and will notify first responders. In the event of an anomaly, the system is designed to shut down and mitigate the hazard.

The Project's fire protection design will comply with California Fire Code 2022, Section 1207 Electrical Energy Storage Systems, which adopts the National Fire Protection Association's Standard for the Installation of Stationary Energy Storage Systems (NFPA 855). BESS enclosures will be Underwriters Laboratories (UL) listed, tested, and certified to the most rigorous international safety standards. UL independently tests equipment for compliance with the latest fire safety code requirements, and the methods were developed to minimize fire risk and safety concerns about battery storage equipment raised by fire departments and building officials in the United States.

Faults, mechanical damage, or manufacturing defects in lithium-ion batteries can cause thermal runaway, which can lead to fires or other hazards. Should a thermal runaway event occur, the BESS enclosures are designed and constructed in such a way that fire will not propagate from one enclosure to a neighboring enclosure. The Project's

BESS enclosures, as part of the testing and listing process, will be subjected to destructive testing including fire testing. The Project's BESS enclosures will include the following UL certifications:

- UL 1642 – Standard for Lithium Batteries (cell level certification).
- UL 1973 – Standard for Batteries for Use in Stationary Applications (module level certification).
- UL 9540 – Standard for Energy Storage Systems and Equipment (system level certification).
- UL 9540A – Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems.
- IEC 62619 – Standard for Battery Safety in Stationary Applications.

The BESS facility ingress/egress and circulation will be designed to comply with LA County's Draft fire regulations. Each portion of the BESS facility (the BESS yards north and south of Soledad Canyon Road.) will have primary and secondary access points. The BESS yard north of Soledad Canyon Road. will have a primary access point in the southwest corner of the site and a secondary access point in the northwest corner of the site, near the O&M buildings and laydown yard. The BESS yard south of Soledad Canyon Road. will have a secondary access point directly across from the secondary access point for the northern BESS yard and a primary access point that is approximately 1,030 feet east of the secondary access point. There will also be an access point for the Project Substation that is approximately 340 feet east of the BESS yard primary access point, in the approximate middle of the Project area that is south of Soledad Canyon Road. All access points will have Knox boxes and will connect to roads that are 26 feet wide (see Appendix 2A Fire Safety and Water Circulation Plan PSR-BE-201).

Water for fire defense will be provided via an on-site well that will serve two (2) 40,000-gallon water tanks. There will be a separate water tank and booster pump in each of the BESS yards. The water tanks will serve hydrants located throughout the BESS yards. Hydrants were specifically located to be no more than 300 feet apart throughout the BESS yards. The project commissioned a fire water supply assessment that concluded that the maximum amount of water necessary to fight a fire on the site would be 15,000 gallons (see Appendix 3.17A). The project will provide 40,000 gallons of water at each BESS yard.

The fire water line system has been highlighted in PSR-BE-201. PSR-BE-201 shows the existing well in the south BESS yard and the water line connection to the water tank in that same yard (approximately 245 feet to the northeast of the existing well). The water tank and associated pumphouse serve as the distribution point for the fire water line. Three (3) lines leave the pumphouse. Two (2) fire water lines support the hydrant system in the south BESS yard. The loops follow the road and surround each of the BESS blocks. The third fire water line runs southwest along the northern road in the south BESS yard until it comes to the first responder secondary entrance. The fire water line then heads north and crosses Soledad Canyon Road along the northeastern side of the two (2) opposing first responder secondary entrances. Once in the north BESS yard, the fire water line heads back southwest along the southern road in the north BESS yard for approximately 1,030 feet. The fire water line then heads north and connects to the pump house and water tank in the north BESS yard. There are two (2) fire water lines that exit the pump house in the north BESS yard that serve the hydrants that are spaced along access roads and surround the BESS blocks.

The Los Angeles County Fire Department will review and comment on the facility fire protection and suppression plans.

2.3.1.10 Operations and Maintenance Building

O&M buildings will be constructed for the Project's anticipated 16 full-time operations staff and is planned to be in the easternmost portion of the BESS yard north of Soledad Canyon Road. The O&M buildings will include parking, outside equipment and laydown areas, basic offices, meeting rooms, washroom facilities and climate-controlled storage for certain equipment and materials. An existing groundwater well will provide water for washroom and a septic system will provide for sanitary facilities. The existing groundwater well is located south of Soledad Canyon Road on APN 3056-019-026. To serve the O&M buildings and fire water needs, which are located north of Soledad Canyon Road, an underground water line will be constructed from the existing groundwater well to the O&M buildings as shown in Figure 2-1, Project Site Plan. A portion of the water line will be located within Soledad Canyon Road as shown in Figure 2-1, Project Site Plan. The water line will run under Soledad Canyon Road along the northeast edge of the opposing first responder secondary access points between the north and south BESS yards. The water line will be covered by a minimum of 24 inches of material. The water line will be installed via horizontal directional drilling.

2.3.1.11 Existing Distribution Line Reroute

There is currently an SCE overhead electrical distribution line that bisects the southern portion of the BESS facility site. The distribution line consists of wooden poles with a cross bar carrying the distribution lines. The Project plans to reroute this line around the BESS facility site using similar distribution poles and wires. The Project will alter the existing distribution line route from where it enters the property on the south side of the BESS facility site. The Project will install approximately nine (9) poles similar to the existing poles, outside of the BESS facility site wall, along the southern and western boundary of the BESS facility site south of Soledad Canyon Road until they connect with Soledad Canyon Road. At Soledad Canyon Road, the new distribution line will tie into the existing distribution line at the western boundary of the southern BESS facility site (See Appendix 2A Distribution Line Reroute PSR-SE-103).

2.3.2 Transmission and Interconnection Description, Design, and Operation

The Project will be interconnected to the regional electrical transmission grid via an approximately 1.1-mile-long or 1.8-mile-long new single-circuit 500kV gen-tie line within an up-to 150-foot-wide corridor between the Project substation and the SCE Vincent Substation. The Applicant will construct and own the portion of the gen-tie line between the Project substation and the Point of Change of Ownership (POCO) transmission structure (see Figure 2-1, Project Site Plan, site layout Pole 10), and SCE will construct and own the remaining portion of the gen-tie from the POCO to the POI within the Vincent Substation. The Project's transmission and interconnection facilities will include the following components:

- 500kV Gen-Tie Line including Transmission Structures and Conductors
- Fiber Optic Telecommunications Utility Poles and Fiber Optic Lines
- Access Paths
- Temporary Work Areas
- Interconnection Facilities within Existing SCE Vincent Substation Footprint (SCE constructed and owned)

The proposed route was selected to minimize the number of existing utility crossings, cross existing utilities at the optimum locations, minimize the total gen-tie line length and number of transmission structures required, minimize

the number of turning structures required, and enter the Vincent Substation as close as possible to the POI. The proposed transmission structures were sited to avoid potential impacts to environmental resources. Project components associated with transmission and interconnection facilities are described in the following subsections. Figure 2-2, Transmission Line Route, shows the gen-tie routes, scattered rural residences, scenic areas (scenic drives and the Los Angeles National Forest), and existing transmission lines within 1 mile of the proposed routes. There are no parks or recreational areas within 1 mile of the proposed routes. Table 2-3 summarizes the preliminary dimensions of major transmission components, and Table 2-4 summarizes the preliminary new ground disturbance area associated with construction of the transmission and interconnection facilities (Southern Gen-Tie scenario). Section 3.13, Visual Resources, includes photographic simulations of a representative above ground section of the gen-tie route prior to construction and after construction.

Table 2-3. Preliminary Dimensions of Major Transmission Components

Component	Quantity	Approximate Dimensions
500kV Gen-Tie Line	1	Applicant Owned: North: 3,500 ft long / South: 7,300 ft long
		SCE Owned: 2,800 ft long
Substation Bay Dead-End Transmission Structure	1	Applicant Owned: 170 ft tall
		SCE Owned: n/a
Angled Dead-End Transmission Structure	up to 7	Applicant Owned: 175 ft tall to 195 ft tall
		SCE Owned: n/a
Tangent Delta Transmission Structure	1	Applicant Owned: 155 ft tall (Northern Gen-Tie Route) to 180 ft tall (Southern Gen-Tie Route)
		SCE Owned: n/a
Lattice Tower Transmission Structure	2	Applicant Owned: n/a
		SCE Owned: 234 ft tall to 243 ft tall
Conductors	1	Applicant Owned: North: 30,800 ft / South: 63,000 ft
		SCE Owned: 16,000 ft
Overhead Shield Wire	1	Applicant Owned: North: 3,600 ft / South: 7,300 ft
		SCE Owned: 2,900 ft
Fiber Optic Cables on Gen-Tie Structures	1	Applicant Owned: North: 3,600 ft / South: 7,300 ft
		SCE Owned: 2,900 ft
Fiber Optic Cables Underground	2	Applicant Owned: 12,000 ft
		SCE Owned: 5,700 ft
Transmission Structure Access Path	Varies	26 ft wide
Transmission Line Corridor	1	150 ft wide

Notes: kV = kilovolt; SCE = Southern California Edison; gen-tie = generation interconnection.

Table 2-4. Approximate New Ground Disturbance Area Associated with Transmission and Interconnection Facilities

Component	Permanent Disturbance	Temporary Disturbance
Applicant Portion		
Transmission Structure Pads	2.48 acres	—
Transmission Structure Access Path	1.14 acres	—
Laydown Area	—	4.23 acres
Tension and Pulling Sites (i.e., Gen-Tie Work Area)	—	19.4 acres
Applicant Total	**3.62 acres**	**~23.63 acres**
SCE Portion		
Transmission Structure Pad	0.3 acres	—
Transmission Structure Access Path	0.5 acres	—
Tension and Pulling Sites (i.e., Gen-Tie Work Area)	—	8.99 acres
SCE Total	**0.8 acres**	**8.99 acres**

Note: gen-tie = generation interconnection; SCE = Southern California Edison.

2.3.2.1 500kV Gen-Tie Line

The 500kV gen-tie line will originate at the Project substation within the BESS facility site and extend south and east, crossing Southern Pacific Railroad tracks and West Carson Mesa Road, as close to perpendicular as possible, and then proceed northeast to the POI at the Vincent Substation. The Project proposes a Northern Gen-Tie Route and Southern Gen-Tie Route. The Applicant understands a crossing agreement with LACMTA will be required prior to construction. LACMTA requires a crossing agreement application to include a 90% design package. This will be provided as the Project design progresses. The Project expects to submit the application in 2026.

The interconnecting 500kV transmission single-circuit configuration will be overhead. The gen-tie line will be constructed with either monopole tubular steel poles or steel lattice towers. Gen-tie structures will be at least 155 feet tall, with a maximum height of 243 feet. There will be a total of approximately 1 monopole or steel lattice tower structures. The total number of gen-tie structures will be determined by the final design of the gen-tie line. The Project transmission facilities will be designed consistent with the *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) where feasible. Transmission facilities will also be evaluated for potential collision reduction devices in accordance with *Reducing Avian Collisions with Power Lines: The State of Art in 2012* (APLIC 2012).

The POCO will be located on APN 3056-015-008 ~~23~~ (see Pole 10 within Figure 2-1, Project Site Plan). The POCO is the point where the conductors of the Generation Tie-Line are attached to the Last Structure, which will be connected on the side of the last project owned structure (Last Structure) facing Vincent Substation. The project shall own and maintain the Last Structure, the conductors, insulators and jumper loops from such Last Structure to the Interconnection Customer's Large Generating Facility. SCE will own and maintain the Vincent Substation, as well as all towers, transmission lines, circuit breakers, disconnects, relay facilities and metering within the Vincent Substation, together with the line drop, in their entirety, from the Last Structure to Vincent Substation. SCE will own the insulators that are used to attach the project-owned conductors to the Last Structure.

The conductor from the site to the POCO is planned to be triple bundle 795 Drake or equivalent. The conductor from the POCO to the Vincent Substation will be double bundle 2156 Bluebird or equivalent.

Table 2-3 includes the approximate number and dimensions of the different types of transmission structures that will be used.

2.3.2.2 Transmission Structure Access Path

Where possible, the transmission structure access path will utilize existing access roads to minimize new ground disturbance. A transmission structure access path up to 26 feet wide will be located within portions of the transmission corridor outside of the BESS facility and Vincent Substation footprints and generally follow the centerline of the gen-tie.

2.3.2.3 Telecommunication Facilities

The facility will be designed with a comprehensive Supervisory Control and Data Acquisition (SCADA) System to allow remote monitoring of facility operation and/or remote control of critical components. The fiber optic or other cabling required for the monitoring system typically will be installed in buried conduit within the access road or planned trenching leading to a SCADA system cabinet at the Project substation. External telecommunications connections to the SCADA system cabinets could be provided through wireless or hard-wired connections to locally available commercial service providers.

The Project's SCADA system will interconnect to an external fiber optic network or fixed wireless service at the Project substation and will require installation of buried fiber optic cables underground or fixed wireless antennas. External telecommunications connections to the SCADA system cabinets could be provided through wireless or hard-wired connections to locally available commercial service providers, so no additional disturbance associated with telecommunications is anticipated. As such, the Project will not require any substantial construction efforts regarding telecommunications facilities and structures. No relocation of existing telecommunication structures will occur.

Telecommunications equipment will be installed between the control building at the Project substation and the Vincent Substation to facilitate communication with SCE/CAISO facilities. To achieve communication requirements with the Vincent Substation, the project will involve the following:

- Install optical ground wire on the Generation Tie-Line to provide one (1) of three (3) telecommunication paths required for the line protection scheme, the remote terminal units. A minimum of eight (8) strands within the optical ground wire shall be provided for SCE's exclusive use into Vincent Substation.
- Install appropriate single-mode fiber optic cable from the Project Site to a point near the POCO to the Vincent Substation to provide the second telecommunication path required for the line protection scheme and the RAS. A minimum of eight (8) strands within the single-mode fiber optic cable shall be provided for SCE's exclusive use. The telecommunication path shall meet the Applicable Reliability Standards criteria for diversity.
- Install appropriate single mode fiber optic cables from the Project Site to a point designated by SCE near the Vincent Substation to provide a third telecommunication path required for the Generation Tie-Line protection scheme. A minimum of eight (8) strands within the single mode fiber optic cable shall be provided

for SCE's exclusive use. The telecommunication path shall meet the Applicable Reliability Standards criteria for diversity.

- Own, operate and maintain all three (3) telecommunication paths (including optical ground wire, any fiber-optic cables, and appurtenant facilities) up to the POCO.

In addition to the telecommunications equipment installed by the Project, SCE will install the following equipment:

- Lightwave, channel, and associated equipment (including terminal equipment), supporting protection and the remote terminal unit requirements at the Project Site and Vincent Substation for the interconnection of the Project. Notwithstanding that certain telecommunication equipment, including the telecommunications terminal equipment, will be located on the Interconnection Customer's side of the POCO, SCE shall own, operate and maintain such telecommunication equipment as part of the SCE's Interconnection Facilities.
- Install appropriate length of fiber optic cable, including conduit and vaults, from the Vincent Substation 500kV switchrack to extend the fiber optic cable and conduit into the communication room at Vincent Substation. The 2021 Reassessment Study assumed the installation of approximately 250 feet of underground fiber optic cable and associated conduit, and one (1) 4' × 4' × 6' vault to extend the fiber optic cable into the communication room at Vincent Substation. The actual location and length of fiber optic cable and conduit, and location and number of vaults, will be determined during final engineering of SCE's Interconnection Facilities.
- Install appropriate length of fiber optic cable, including conduit and vaults, to extend the Project's second diverse telecommunications from the point designated by SCE near the SCE's Vincent Substation into the communication room at Vincent Substation. The 2021 Reassessment Study assumed the installation of approximately 250 feet of underground fiber optic cable and associated conduit, and one (1) vault to extend the Project's diverse telecommunications into the communication room at Vincent Substation. The actual location and length of fiber optic cable and conduit, and location and number of vaults, will be determined during final engineering of the SCE's Interconnection Facilities.
- Install appropriate length of fiber optic cable, including conduit and vaults, from the point designated by the SCE to extend the Project's third diverse fiber optic cable to into the communication room at Vincent Substation. The 2021 Reassessment Study assumed the installation of approximately 950 feet of underground fiber optic cable and associated conduit, and one (1) 4' × 4' × 6' vault to extend the fiber optic cable into the communication room at Vincent Substation. The actual location and length of fiber optic cable and conduit, and location and number of vaults, will be determined during final engineering of the Participating TO's Interconnection Facilities.

To meet these requirements, the Applicant and SCE will install one (1) of the three (3) fiber optic lines aboveground on the gen-tie structures. The two (2) other fiber optic lines will be installed underground within trenches anticipated to be up to 4 feet wide within the Southern Gen-Tie Route corridor and separated by at least 25 feet. The two (2) other fiber optic lines will be installed underground within the Southern Gen-Tie Route corridor regardless of which Gen-Tie Route corridor option is selected. Where the underground fiber optic line leaves the BESS facility site it will be installed via horizontal directional drilling underneath the railroad tracks. Horizontal directional drilling is a trenchless construction technique used to install underground utilities like pipelines and conduits without disturbing the surface. The Applicant understands a crossing agreement with LACMTA will be required prior to construction. LACMTA requires a crossing agreement application to include a 90% design package. This will be provided as the Project design progresses. The Project expects to submit the application in 2026.

2.3.2.4 Interconnection Facilities within Existing SCE Vincent Substation Footprint

To facilitate interconnection of the BESS facility to the electric transmission grid, SCE will need to install one (1) 500kV dead end structure, nine (9) 500kV coupling capacitor voltage transformers, three (3) 500kV line drops, three (3) line current relays, and one (1) 500kv line position which includes the following equipment: seven (7) 500kV circuit breakers, seven (7) 500kV disconnect switches, 84 insulators, and two (2) breaker failure backup relays. No additional network upgrades outside of the Vincent Substation are necessary to interconnect the project to the grid.

2.3.2.5 Transmission System Impact Studies

The Project will interconnect to SCE's transmission system within the CAISO planning area. CAISO identified two (2) potential Affected Systems from the QC12 Phase I Interconnection Study: California Department of Water Resources and Los Angeles Department of Water and Power.

The Applicant has contacted both potential affected systems and both have responded that the Project will not have any negative impact on their systems (see Confidential Appendix 2C).

The Applicant filed an Interconnection Request with CAISO in the Cluster 12 Interconnection Request window. CAISO, in cooperation with SCE, prepared the Phase I Interconnection Study (January 15, 2020), and Phase II Interconnection Study (November 20, 2020). The Applicant entered into a Large Generator Interconnection Agreement with CAISO and SCE on January 28, 2022. The Project's Phase I and II Interconnection Studies are included in Confidential Appendix 2C.

2.3.2.6 California Public Utilities Commission General Orders

Because SCE is an investor-owned electric utility, the SCE Improvements described above, are regulated by CPUC. CPUC General Orders (GO) cover regulatory requirements for investor-owned electrical utilities.

The Project will comply with applicable GOs, including GO 95 (Rules for Overhead Electric Line Construction) and GO 128 (Rules for Construction of Underground Electric Supply and Communications Systems).

2.3.2.7 Transmission System Design

One-line diagrams for the Project substation are included in Appendix 2A Single Line PSR-SE-001. The one-line diagrams include all equipment ratings including the bay arrangement of the circuit breakers, disconnect switches, buses, transformers, and other equipment that will be required for the Project interconnection at the Project site.

A one-line diagram for the Project's interconnection at the SCE Vincent Substation is included in Confidential Appendix 2C, specifically within Appendix A of the Large Generator Interconnection Agreement (Page 106 of 137).

Table 2-5 below, Transmission System Design/Safey and Nuisance Regulations, identifies transmission system design laws, regulations, ordinances, and standards; adopted local, regional, state, and federal land use plans; and leases and permits applicable to the Project.

The applicant plans on installing triple bundle 795 Drake or equivalent from the BESS to the POCO. Depending on the selected route, the length of the applicant's conductor will be either 30,800 feet for the Northern Route or 63,000 feet for the Southern Route. These lengths represent the total conductor length of all phases along the applicant's portion of the 500 kV route (North: 3,500 feet long/South: 7,300 feet long). In determining the line type, the Project assumed a Max Operating Temperature of 212 degrees Fahrenheit as well as the other inputs from the Phase II SCE design. The allowable ampacity of the original conductor was 1,485 amps. The current conductor design has an ampacity of 3,396 amps. Allowable ampacity affects how much energy the line can carry, so an increase in ampacity equates to an increase in carrying capacity. Triple bundle 795 Drake will be located vertically along monopoles in the applicant-owned portion of the gen-tie route (see figures in Appendix 2 PSR-TL-005 through PSR-TL-008).

SCE plans on installing double bundle 2156 Bluebird or equivalent from the POCO to the Vincent Substation. SCE will install approximately 16,000 feet of conductor on their towers. This length represents the total conductor length of all phases along the SCE portion of the 500 kV route (2,800 feet long). SCE has sized the double bundle 2156 Bluebird to meet the carrying capacity requirements for the Project and will locate the conductor vertically along tower in the SCE-owned portion of the gen-tie route (see figures in Appendix 2 PSR-TL-009).

Table 2-5. Transmission System Design/Safety and Nuisance Regulations

Item	Title
CPUC GO-95	Rules for Overhead Electric Line Construction
NESC	National Electrical Safety Code (NESC)
GO-128	Rules for Construction of Underground Electric Supply and Communication Systems
GO-131-D	Rules for Planning and Construction of Electric Generation Line and Substation Facilities in California
Decision 93-11-013	California Public Utilities Commission (CPUC) EMF Decision
CPUC GO-52	Construction and Operation of Power and Communication Lines for the Prevention or Mitigation of Inductive Interference
ASCE 48-19	Design of Steel Transmission Structures
ASCE 74	Guidelines for Electrical Transmission Line Structural Loading
ASCE 113	Substation Structure Design Guide
FAA 70/7460	Proposed Construction and/or Alteration of Objects that May Affect the Navigation Space
IEEE 81	Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Grounding System
IEEE 525	Guide for the Design and Installation of Cable Systems in Substations
IEEE 605	Guide for Bus Design in Air Insulated Substation
IEEE 691	Guide for Transmission Structure Foundation Design and Testing
IEEE 738	Standard for Calculating the Current-Temperature Relationship of Bare Overhead Conductors
IEEE 1127	Guide for the Design, Construction, and Operation of Electric power Substations for Community Acceptance and Environmental
IEEE 1427	Guide for Recommended Electrical Clearances and Insulation Levels in Air Insulated Electrical Power Substations
IEEE 1863	Guide for Overhead AC Transmission Line Design

Table 2-5. Transmission System Design/Safety and Nuisance Regulations

Item	Title
47 CFR 15.25, "Operating Requirements, Incidental Radiation	Prohibits operations of any device emitting incidental radiation that causes interference to communications; the regulation also requires mitigation for any device that causes interference
Title 14 CFR, Part 77, "Objects Affecting Navigable Airspace"	Describes the criteria used to determine whether a "Notice of Proposed Construction or Alteration" (FAA Form 7460-1) is required for potential obstruction hazards.
FAA Advisory Circular No. 70/7460-1M, "Obstruction Marking and Lighting"	Describes the FAA standards for marking and lighting of obstructions as identified by FAA Regulations Part 77

2.3.2.8 Transmission Line Safety and Nuisance

The electrical effects of high-voltage transmission lines fall into two (2) broad categories: corona effects and field effects. Corona is a luminous discharge due to ionization of the air surrounding a conductor around the surface of an energized conductor and associate hardware when the voltage gradient exceeds a certain critical value during certain conditions. Corona may result in radio and television reception interference, audible noise, light, and production of ozone. Corona is a function of the voltage of the line, the diameter of the conductor, and the condition of the conductor and hardware surface. Corona performance is predicted using empirical equations from high-voltage line measurements. The methodology has been validated for predicting corona-induced noise and interference. The electric field gradient is the rate at which the electric field changes and is directly related to the line voltage and the geometric configuration of the line. Field effects are the voltages and currents that may be induced in nearby conducting objects. A transmission line's inherent electric and magnetic fields cause these effects. Operating power lines produce electric and magnetic fields commonly referred to as an electromagnetic field (EMF). The EMF produced by the AC electrical power system in the U.S. has a frequency of 60 hertz, meaning that the intensity and orientation of the field changes 60 times per second. The electric field (EF) is expressed in V/m or kV/m, and magnitudes are often given in root-mean-square (rms) units. Magnetic field is generated by electrical currents. Transmission lines create time-varying magnetic fields measured in Gauss (G) or milligauss (mG). Electric fields are calculated using an imaging method, while magnetic fields are obtained by summing fields from currents in all conductors, assuming balanced three-phase currents

Corona from a transmission line may result in the production of audible noise (AN), radio influence voltage (RIV) and television interference.

The electric field gradient is greatest at the surface of the conductor. Large-diameter conductors have lower electric field gradients at the conductor surface and, hence, lower corona than smaller conductors, everything else being equal. Also, irregularities (such as nicks and scrapes on the conductor surface) or sharp edges on conductors and insulators hardware concentrate the electric field at these locations and, thus, increase corona at these spots. Similarly, contamination on the conductor surface such as dust or insects can cause irregularities that are a source for corona. Raindrops, snow, fog, and condensation are also sources of irregularities.

2.3.2.8.1 Audible Noise, Corona Losses, and EMF Model Results

EMFs, audible noise, and radio and television interference near power lines vary regarding the line design, line loading, distance from the line, and other factors. Electric fields, corona, audible noise, and radio and television

interference depend on line voltage and not on the level of power flow. The calculations were made under maximum operating voltage. The line design includes triple-bundled 795 thousands of circular mils (kcmil) ACSR Drake conductors on monopole structures and double-bundled 2156 kcmil ACSR Bluebird conductors on SCE lattice towers. Table 2-6 shows the audible noise under fair weather, max audible noise under foul weather, and the Environmental Protection Agency's 55 day–night average sound level criteria.

Table 2-6. 500kV Audible Noise

Gen-Tie Design	Max Audible Noise at Edge of Right of Way (dBA)	Normal Audible Noise at Edge of Right of Way (dBA)	EPA 55 day-night sound level criteria (dBA)
SCE Owned Lattice Tower	55.1	30.1	48.5
Delta Monopole	51.0	26.0	
Deadend Monopole	49.6	24.6	

Source: Appendix 2D and 2E.
Notes: gen-tie = generation interconnection; dBA = A-weighted decibels; SCE = Southern California Edison.

Corona losses are estimated to range from .52 Watts/m -.913 Watts/m under fair weather conditions and 74.5 Watts/m – 130.5 Watts/m under foul weather conditions. One (1) study calculated radio interference induced by corona from a 500kV three-phase transmission line at approximately 45 decibels above 1 microvolt per meter (dB[1μV/m]3; henceforth referred to as dB) at approximately 88 feet (27 meters) away from the outermost phase of a transmission line (Tejada-Martinez et al. 2019). Measured radio interference was generally similar to calculated values particularly for conductors strung on towers horizontally but was found to be closer to 50 dBuV/m for conductors strung on towers in a vertical manner. Two (2) other studies of 500kV transmission lines at the same distance from center phase calculated radio interference at approximately 30 dB to generally below 60 dB, except for when subconductors were spaced closely together, depending on the geometric parameters (e.g., conductor size, conductor spacing) (El Dein 2013; Phaiboon et al. 2000). As discussed above, wet weather and other conditions (e.g., debris build up on conductors) can affect corona and therefore radio interference, with higher interference anticipated in wetter weather. The 500kV transmission lines would be engineered and installed so as to avoid harmful interference with radio or other transmissions.

The magnetic field is proportional to line loading (amperes), which varies as demand for electrical power varies and as generation from the generating facility is changed by the system operators to meet changes in demand. The magnetic field at the edge of the gen-tie right-of-way is expected to range from 99.09 mG to 171.29 mG. The electric field at the edge of the right-of-way is expected to range from 0.342 kilovolts/meter (kV/m) – 1.777 kV/m).

Overall, construction and operation of the Project, including the interconnection of the facility with SCE's transmission system, are not expected to result in increases in EMF levels, corona, radio interference, or audible noise and mitigation would not be required.

2.4 Construction

The following sections detail the approximate construction schedule and workforce, construction activities, estimated water use, and materials handling proposed by the Project.

2.4.1 Schedule and Workforce

The Project is anticipated to be built over an approximately 20-month period from the onset of site preparation activities through energization. Following energization, testing and commissioning will take place over 6 months. Initial mobilization and site preparation is anticipated to begin no later than March 2027 and testing and commissioning is anticipated to conclude no later than April 2029. The commercial operation date (COD) is expected shortly following the completion of testing and commissioning in June 2029. It is anticipated that construction crews will work 8 hours to 10 hours per day, with work occurring Monday through Friday. Overtime, night work, and weekend work will be used only as necessary to meet the Project schedule or complete time-sensitive or safety critical work. All work schedules will comply with applicable California labor laws and County regulations. Estimated durations of construction activities are presented in Table 2-7.

Table 2-7. Estimated Construction Activity Duration

Construction Activity	Estimated Duration	Estimated Timeframe
Demolition	2 weeks	3/1/2027–3/12/2027
Site Preparation	1.5 months	3/1/2027–4/15/2027
Substation Site Preparation	2 weeks	4/16/2027–4/30/2027
Civil Work and Grading	4 months	5/1/2027–8/31/2027
Substation Civil Work and Grading	1 month	9/1/2027–9/30/2027
Paving	1.5 months	8/15/2027–9/30/2027
Battery Enclosure/PCS Installation	12 months	10/1/2027–10/1/2028
Project Substation Installation	8 months	2/1/2028–10/1/2028
Gen-Tie Foundations and Structure Erection	4 months	2/1/2028–5/31/2028
Gen-Tie Line Stringing and Pulling	1 month	6/1/2028–7/1/2028
SCE Interconnection Facility Upgrades within Vincent Substation	6 months	4/1/2028–10/1/2028
Testing and Commissioning	6 months	10/2/2028–4/1/2029

Note: PCS = power conversion system.

2.4.2 Sequencing

During construction activities, multiple crews will be working on the site with various equipment and vehicles. The daily number of construction workers (consisting of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel) will range from approximately 50 to 250 workers, depending on the phase of construction. It is estimated that construction will require the vehicle trips and equipment listed in Table 2-8.

Table 2-8. BESS Project – Construction Equipment and Usage Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Truck Trips[1]	Equipment Type	Quantity	Usage Hours
Demolition	10	4	6	Rubber tired dozer	1	10
				Concrete/Industrial Saws	1	10
				Tractors/Loaders/ Backhoes	2	10
Site Preparation	242	12	24	Tractors/Loaders/ Backhoes	2	10
				Excavator	2	10
				Rubber tired dozer	2	10
Substation Site Preparation	242	12	100	Tractors/Loaders/ Backhoes	1	10
				Excavator	1	10
				Rubber tired dozer	1	10
Grading	242	12	524	Graders	2	10
				Tractors/Loaders/ Backhoes	2	10
				Rollers	2	10
Substation Grading	242	12	486	Graders	1	10
				Tractors/Loaders/ Backhoes	1	10
				Rollers	1	10
Paving	16	0	0	Pavers	2	10
				Paving Equipment	2	10
				Rollers	2	10
Battery Enclosure/ PCS Installation	121	12	20	Air Compressors	1	10
				Cranes	1	10
				Forklift	1	10
				Tractors/Loaders/ Backhoes	1	10
Substation Installation	121	12	4	Aerial Lifts	1	10
				Air Compressors	1	10
				Bore/Drill Rigs	1	10
				Forklift	1	10
				Trenchers	1	10
Gen-Tie Foundation and Tower Erection	121	12	0	Air Compressors	1	10
				Cranes	1	10
				Forklifts	1	10
				Pumps	1	10
				Welders	1	10

Table 2-8. BESS Project – Construction Equipment and Usage Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Truck Trips[1]	Equipment Type	Quantity	Usage Hours
Gen-Tie Stringing and Pulling	121	12	0	Aerial Lift	1	10
				Tractors/Loaders/ Backhoes	1	10
SCE Interconnection Facility Upgrades	121	12	0	Air Compressors	4	10
				Cranes	2	10
				Excavators	2	10
				Rough Terrain Forklifts	2	10
				Skid Steer Loaders	2	10
				Tractors/Loaders/ Backhoes	2	10
				Trencher	1	10
Testing and Commissioning	242	12	0	NA	NA	NA
Decommissioning	242	12	20	Concrete/Industrial Saws	2	10
				Cranes	2	10
				Rubber Tired Dozers	2	10
				Tractors/Loaders/ Backhoes	2	10

Notes: PCS = power conversion system; gen-tie = generation interconnection; SCE = Southern California Edison.

[1] The average daily haul truck trips for each phase consider phase durations from Table 2-7.

* The Project layout depicted in Figure 2-1, Project Site Plan, shows the "End of Life" configuration of the BESS, meaning it shows the equipment layout after all augmentation units are implemented. The numbers in this table conservatively assume that foundations and BESS equipment installation related to augmentation occurs during initial construction of the facility. Construction of foundations and BESS equipment installation for augmentation may occur during O&M periodically within the BESS facility footprint.

2.4.3 Site Preparation

Environmental clearance surveys will be performed at the Project site prior to commencement of construction activities. The limits of construction disturbance areas delineated in the final approved engineering design packages will be surveyed and staked. Initial ground disturbing activities in preparation for construction will include installation of erosion and sediment control measures prior to start of major earthwork activities. Rough grading and grubbing/vegetation removal will be performed where required to accommodate site drainage and allow construction equipment to access the site. Detention chambers and stormwater facilities will be created for hydrologic control. The construction contractor will be required to incorporate applicable best management practices (BMPs) including the guidelines provided in the California Stormwater Quality Association's Construction BMP Handbook (CASQA 2024), as well as a soil erosion and sedimentation control plan to reduce potential impacts related to construction of the proposed Project. Stabilized construction entrances and exits will be installed at driveways to reduce tracking of sediment onto adjacent public roadways.

Site preparation will be consistent with applicable BMPs and the Antelope Valley Air Quality Management District's Fugitive Dust Rules. Site preparation will involve the removal and proper disposal of existing debris that will unduly interfere with Project construction or the health and safety of on-site personnel. Dust-minimizing techniques will be employed, such as placement of wind control fencing, application of water, and application of dust suppressants. All applicable governmental requirements and BMPs will be incorporated into the construction activities for the Project site.

Vegetation on the site will be removed where necessary to ensure the BESS facility is free from combustible vegetation to allow for fire protection and defensible space. Where feasible, in compliance with fire protection requirements, vegetation root mass within appropriate portions of the BESS facility lease area on the outside of the perimeter and substation access roads will be left in place for soil stabilization. However, the environmental analyses in subsequent sections conservatively assume that all areas within the maximum anticipated grading limits of the BESS facility will be permanently disturbed.

2.4.4 Site Grading and Civil Work

Following site preparation activities, grading and civil work will commence. Construction activities during this phase will include excavation and grading of the Project site. Preliminary designs conservatively assume that grading will include up to approximately 175,410 cubic yards (cy) of cut and up to approximately 625,095 cy of fill, resulting in a net of 449,685 cy of fill. Blasting is not expected but may be required if large boulders are encountered during excavation and grading. Fill material requirements will be satisfied by offsite borrow pits or quarries.

Conventional grading will be performed throughout the Project site but minimized to the maximum extent feasible to reduce unnecessary soil movement. Land-leveling equipment, such as a smooth steel drum roller, will be used to even the ground surface and compact the upper layer of soil to a value recommended by a geotechnical engineer for structural support. Following major civil work within the BESS facility site, site access roads and driveways, the perimeter and substation access roads, and interior roadways to access the laydown areas and BESS yards will be graded, compacted, and surfaced with gravel or paving. Once the roadways have been constructed, the Project perimeter fence and access gates will be constructed.

2.4.5 Foundations and Underground Equipment Installation

Following completion of major site grading and civil work, equipment foundations and below grade equipment will be installed. A grounding grid and underground conduit will be installed below grade beneath the Project substation area and BESS components. Typical ground grids consist of direct-buried copper conductors with copper-clad ground rods arranged in a grid pattern. After installation of the grounding grid, the area will be backfilled, compacted, and leveled followed by application of an aggregate rock base. A containment area within the MPT foundations will be sized to hold the full volume of oil within the MPTs. The MPT foundations within the substation area are anticipated to be concrete slab foundations poured into excavations up to 7 feet deep. Foundations for the control building, static masts, other aboveground substation equipment, O&M buildings, BESS enclosures, PCS units, DC/DC converters, and BESS auxiliary transformers and panels are anticipated to be slab on grade, or pile foundations embedded up to 24 feet below ground level. Depending on soil conditions, the piles may be drilled or driven and set with a slurry. However, some of these Project components may be installed on concrete slab foundations depending on the geotechnical conditions at the final locations.

Additional underground work will include trenching for the placement of underground electrical and communications lines, including the MV collection system, AC and DC cables, and fire alarm cable. The wires will either be installed in conduit, cable-trays, or direct-buried, depending upon final design and application

2.4.6 BESS and Project Substation Equipment Installation

Where possible, major equipment will be delivered directly to its permanent location and offloaded directly into place with a crane or heavy equipment. Where staging or sequencing does not allow, equipment will be stored at one of the laydown areas near its permanent location and installed at a later date. Major aboveground equipment will be the MPTs and other Project substation components, control building, BESS enclosures, PCS units, DC/DC converters, BESS auxiliary transformers and panels, and material for the O&M buildings.

Electrical work will include installing cables, terminations, and splices. Electrical wiring will be installed underground, at-grade, and above ground, depending on the application and location. The wires will either be installed in conduit, cable-trays, or direct-buried, depending upon final design and application.

2.4.7 Gen-Tie Structure Erection

Environmental clearance surveys will be performed within the gen-tie corridor prior to commencement of construction activities. The gen-tie corridor boundaries, gen-tie centerline, telecommunications route centerlines, and transmission structure access path will be surveyed and flagged. Initial activities will include the installation of erosion and sediment control measures and materials, and preparation of the transmission structure and fiber optic utility pole work areas. The transmission structure access path may be bladed, compacted, and surfaced with gravel where necessary to facilitate transmission structure deliveries and construction equipment access. The surface of the access path will be at-grade to allow water to sheet flow across the gen-tie corridor, as it currently does. Overland travel and temporary construction activities associated with the gen-tie and telecommunications facilities may occur anywhere within the 150-foot-wide transmission corridor. Vegetation at the transmission and fiber optic utility pole work areas will be trimmed, mowed, or removed. At locations where gen-tie line structures and fiber optic utility poles will be installed, minor cuts may be required where the foundation will be installed.

Cast-in-place concrete foundations will be installed by placing reinforcing steel and a structure stub or anchor bolt cage into the foundation hole, positioning the stub, and encasing it in concrete. Each transmission structure foundation will be set on anchor bolts on top of the foundation with cranes. Holes will be excavated using a truck-mounted drill rig or standalone auger rig. Poles will be delivered on a flat-bed trailer and hoisted into place with a crane. The annular space between the poles and holes will be backfilled with concrete or soil. Excavated spoil material not used for backfilling will be spread around the structure work areas.

2.4.8 Gen-Tie Stringing and Pulling

For a conductor pulling location, the distance needed behind the dead-end structures should be equal to or greater than a 3:1 ratio (300 feet needed for a 100-foot-tall structure), or as recommended by the conductor manufacturer, to mitigate potential damage to the conductor during installation. The width of the pulling area is consistent with the 150-foot-wide Gen-Tie corridor. The pulling area will need to be relatively flat since trucks, trailers and various other small vehicles will need room to maneuver for placement of materials and equipment. The area will be cleared of any brush or obstacles, to facilitate unobstructed travels. For the wire end of a pull, there will be a minimum of two (2) 53-foot-long semi-trailers side by side, loaded with three (3) conductor reels each. One (1) trailer will be

feeding the conductor to a tensioner, as the other trailer will be utilized for replacement of empty reels, and then facilitate a continuation of pulling efforts. The tensioner will be approximately the size of a semi-trailer and is responsible for tensioning the conductor during installation. A heavy-duty forklift or a large size all-terrain crane will be needed to support placement/removal of reels to the wire trailers, due to size and weight. After conductor installation, a bulldozer will be used to secure the installed conductors during application of additional tensions for the sagging process. The pulling equipment utilized is comparable in size/quantity to equipment utilized to support the new conductor reels. Pulling equipment utilizes multiple reels of high-tension pulling cables, mounted to semi-trailers, to support the new conductor placement into position on the structures. Pulling sites are depicted as Gen-Tie Work areas in Figure 2-2, Transmission Line Route.

A helicopter may be used to complete gen-tie stringing and pulling where the gen-tie crosses the railroad. For this portion of the stringing and pulling work it is assumed that a MD600 helicopter would be used for up to three (3) 10-hour days consisting of 1 day for mobilization, 1 day for stringing and pulling, and 1 day for demobilization. For the purposes of project analysis, it is anticipated that the helicopter would facilitate pulling of conductors and shield wires from proposed transmission structures No. 1 to No. 9 if the Northern Gen-Tie Route is selected, and transmission structures No. 3 to No. 5 if the Southern Gen-Tie Route is selected (please see Figure 2-2, Transmission Line Route, for transmission structure numbering). Helicopter use would be supported by one (1) approximately 150-foot by 100-foot landing zone. Landing zones would primarily be used for staging materials, picking up and transporting electrical personnel and equipment, and refueling helicopters. The landing zone is anticipated to be located at the main laydown area but may need to shift to one (1) of the other two (2) laydown areas depending on the sequencing of construction.

2.4.9 SCE-Owned Gen-Tie Segment and Interconnection Facilities within Vincent Substation Footprint

SCE will construct the segment of the gen-tie between the POCO and the POI within the SCE Vincent Substation, and the fiber optic routes between the POCO and the SCE control building within the Vincent Substation footprint. The Applicant will bring the fiber optic cables to underground pull boxes at the POCO structure, and SCE will install the segment of the fiber optic cables between the POCO and control building in conduit placed in underground trenches. The trenches are anticipated to be up to 4 feet wide, and the trenches for the redundant routes will need to be at least 25 feet apart to meet SCE's diverse path requirements. It is anticipated that SCE will install the trenches within the access road to the angled dead-end structure outside the Vincent Substation fence line. However, SCE may install the cables within existing roadways or other pre-disturbed areas along the perimeter of the substation fence depending on final design and routing.

SCE will also construct the interconnection upgrades within the Vincent Substation footprint at the POI. These upgrades are described in Section 2.3.2.4 above.

2.4.10 Construction Water Use

Construction water is anticipated to be purchased from a local water purveyor and trucked to the site. During construction, an estimated 18 million gallons (approximately 55 acre-feet) of untreated water will be required for common construction-related purposes, including but not limited to dust suppression, soil compaction, and grading. Dust-control water may be used during ingress and egress of on-site construction vehicle equipment traffic and during the construction of the Project. A sanitary water supply line will not be required during construction because restroom facilities will be portable units, serviced by licensed providers, and water and sewage from the restroom

facilities will be stored in on-site tanks and serviced by trucks. Drinking water will be provided via portable water coolers.

2.4.11 Solid and Non-hazardous Waste

The Project will produce a small amount of solid waste from construction activities. This may include paper, wood, glass, plastics from packing material, waste lumber, insulation, scrap metal and concrete, empty nonhazardous containers, and vegetation waste. This waste will be segregated, where practical, for recycling. Non-recyclable waste will be placed in covered dumpsters, located in project laydown areas, and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III (non-hazardous waste) landfill.

2.4.12 Hazardous Materials

The hazardous materials used for construction will be typical of most construction Projects of this type. Materials may include small quantities of gasoline, diesel fuel, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, dust palliatives, herbicides, and welding materials/supplies. A hazardous materials business plan will be prepared prior to commencement of construction activities. The hazardous materials business plan will include a complete list of all materials used on site and information regarding how the materials will be transported and in what form they will be used. This information will be recorded to maintain safety and prevent possible environmental contamination or worker exposure. During Project construction, material safety data sheets for all applicable materials present at the site will be made readily available to on-site personnel.

2.4.13 Hazardous Waste

Small quantities of hazardous waste will most likely be generated over the course of construction. This waste may include waste paint, spent construction solvents, waste cleaners, waste oil, oily rags, waste batteries, and spent welding materials. Workers will be trained to properly identify and handle all hazardous materials. Hazardous waste will be either recycled or disposed of at a permitted and licensed treatment, recycling, or disposal facility in accordance with law. All hazardous waste shipped off site will be transported by a licensed hazardous waste hauler.

2.4.14 Commissioning

As part of Project construction activities, and after installation, equipment will be tested and commissioned. Commissioning work will be completed by qualified personnel, and in accordance with various codes, standards and specifications including IEEE, Institute of Electrical and Electronic Engineers, NEC National Electrical Code (NFPA 70), NETA International Electrical Testing Association, specific provisions of NFPA National Fire Protection Association, and the relevant OEM / manufacturers installation and commissioning manuals. Documentation necessary for commissioning will include (but is not limited to) complete sets of electrical plans, itemized equipment descriptions, control narratives, and other procedural requirement such as persons or entities to notify when equipment has become available for acceptance tests.

Commissioning will include testing of mechanical, electrical, fire protection, and other systems at substantial completion. Systems to be commissioned and tested include (but are not limited to) BESS enclosures, PCS units, auxiliar service transformers, MV collection system, DC cables, SCADA systems, power backup systems, and fire protection system. Performance testing will also be completed to ensure charge and discharge performance of the systems as designed and in accordance with the utility requirements. Full details of the commissioning activities

will be made available in a commissioning plan, prepared by the BESS supplier and construction contractor and reviewed by the Engineer of Record, as part of the construction documentation package.

2.5 Operations and Maintenance

Once constructed, the Project will be available to operate 7 days per week, 365 days per year. The facility will be remotely monitored and operated by an Owner contracted O&M provider, by means of a NERC-CIP compliant remote operations center. Project operations will be monitored remotely through the SCADA system and by the Project's anticipated full-time operations staff members. It is estimated that there will be four (4) full-time staff members for remote monitoring and 16 full-time operations staff members on site.

On-site maintenance will be required, which will include replacement of inverter power modules, filters, and miscellaneous electrical repairs on an as-needed basis. During operation of the Project substation, O&M staff will visit the substation periodically for switching and other operation activities. Light duty maintenance trucks will be utilized to perform routine maintenance, including but not limited to equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventative maintenance. Typically, one (1) major maintenance inspection will take place annually. Even when considering routine maintenance and augmentation activities, the project expects to provide no less than a 96% annual availability factor to the grid.

Batteries within utility-scale BESS facilities degrade with use over time, leading to a loss of capacity. To maintain the Project's capacity in compliance with interconnection requirements and commercial contracts, periodic augmentation by installing new batteries and related equipment within the Project site will occur to maintain the capacity over an approximate 40-year life. As batteries slowly lose their capacity to store energy, extra batteries will be installed at the beginning of the Project and at several intervals through the Project life, which is referred to as augmentation. Augmentation is expected to occur in order to maintain an annual lifetime capacity of 9,200MWh. If the project were to discharge for 8 hours daily and have an annual availability of 96% then the Project would have an annual capacity factor of approximately 32%. The Project's final augmentation strategy will be determined by market based contracting requirements. Augmentation may include constructing new foundations, installing BESS equipment on the foundations, and completing electrical work within the existing Project footprint. The preliminary site layout depicted on Figure 2-1, Project Site Plan, shows an "end of life" configuration, meaning it shows the equipment layout after all augmentation units are implemented. The construction sequencing and equipment usage assumptions in Tables 2-5 and 2-6 above, and environmental analyses in subsequent chapters, conservatively assume that all initial BESS equipment and augmentation BESS equipment are constructed at the same time.

2.5.1 Solid and Non-hazardous Waste

The Project will produce a small amount of waste associated with maintenance activities, which could include broken and rusted metal, defective or malfunctioning electrical materials, empty containers, and other miscellaneous solid waste, including typical refuse generated by workers. Most of these materials will be collected and delivered back to the manufacturer or to recyclers. Non-recyclable waste will be placed in covered dumpsters, located near the O&M buildings, and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill.

2.5.2 Hazardous Materials

Limited amounts of hazardous materials will be stored or used on the site during operations, including diesel fuel, gasoline, and motor oil for vehicles; refrigerant within the BESS enclosures; mineral oil to be sealed within the transformers; and lead-acid-based batteries for emergency backup. Appropriate spill containment and cleanup kits will be maintained during operation of the Project. A spill prevention control and countermeasures plan will be developed for site operations.

2.5.3 Hazardous Waste

Fuels and lubricants used in operations will be subject to the spill prevention control and countermeasures plan to be prepared for the proposed Project. Solid waste, if generated during operations, will be subject to the material disposal and solid waste management plan to be prepared for the proposed Project.

2.6 Decommissioning

In general, the BESS will be recycled at the expiration of the Project's life (estimated to be 40 years). Most parts of the proposed system are recyclable. Batteries include lithium, which degrades but can be recycled or repurposed. Steel, wood, and concrete from the decommissioned facilities will be recycled. Metal and scrap equipment and parts that do not have free-flowing oil may be sent for salvage. Materials 3 feet or more below the ground surface will be left in place.

Fuel, hydraulic fluids, and oils will be transferred directly to a tanker truck from the respective tanks and vessels. Storage tanks and vessels will be rinsed and transferred to tanker trucks. Other items that are not feasible to remove at the point of generation, such as smaller container lubricants, paints, thinners, solvents, cleaners, batteries, and sealants, will be kept in a locked utility structure with integral secondary containment that meets Certified Unified Program Agencies and Resource Conservation and Recovery Act requirements for hazardous waste storage until removal for proper disposal and recycling. It is anticipated that all oils and batteries will be recycled at an appropriate facility. Site personnel involved in handling these materials will be trained to properly handle them. Containers used to store hazardous materials will be inspected regularly for any signs of failure or leakage. Additional procedures will be specified in a Hazardous Materials Business Plan closure plan submitted to the Certified Unified Program Agencies. Transportation of the removed hazardous materials will comply with regulations for transporting hazardous materials, including those set by the Department of Transportation, the U.S. Environmental Protection Agency, California Department of Toxic Substances Control, California Highway Patrol, and California State Fire Marshal. See Appendix F, Decommissioning Plan, for additional information.

2.7 Project Site Selection

The Project site and related facilities were selected taking into consideration engineering constraints, site geology, environmental impacts, water, waste and fuel constraints, and electric transmission constraints, among other factors. The Project location was selected, in part, due to it being large enough to support development of the Project, its close proximity to existing electrical infrastructure and the Vincent Substation, thereby minimizing the length of the proposed gen-tie line to the POI and ability to deliver power to the Los Angels Basin local reliability area during peak demand, and because it is located immediately adjacent to existing roadways for construction and O&M access.

The Project is uniquely suited to help California achieve its GHG reduction requirements and support LA Basin reliability requirements. The Vincent substation is located at a key point in the electrical grid, Service Path 26, which enables it to deliver energy from renewable resources outside of the LA Basin Resource Area to meet LA Basin Local Capacity Requirements (LCR), with tie lines into the Western and Eastern LA Basin. LCR refers to the minimum amount of local generation capacity needed within specific areas to meet reliability criteria, particularly in areas where transmission constraints limit the ability to import power and is a critical metric for understand energy needs which are necessary to meet future grid demand. The LA Basin LCR is increasing, primarily due to load growth. The 2024-2025 Transmission Plan shows that peak load in the SCE Main area is forecasted to grow from 25,265MW in 2026 to 27,929MW in 2034 (CAISO 2025a), representing a 9.5% increase over 8 years. The 2026 LCR Tech Study also shows that the local capacity needed in the LA Basin is expected to increase from 5,812MW in 2026 to 7,226MW in 2030, which is an approximate 20% increase in required capacity in 4 years. Compared with the 2025 LCR study, demand for the LA Basin is 429MW higher than last year's forecast and the forecasted LCR needs have increased by 1,689MW due to load forecast increase (CAISO 2025b). In addition, CAISO is projecting that there will be a total potential curtailment of 1,300 gigawatt hours of wind and solar from the SCE North area in 2034, absent storage availability (CAISO 2025a). Locating this important energy storage ~~e~~ Project ~~at~~ with efficient and environmentally sound access to the Vincent Substation provides the Project with the ability to help reduce wind and solar curtailment while also supporting the growing LCR needs in the LA Basin, allowing stored resources to be dispatched when needed.

The Project site was selected in furtherance of the Project Objectives detailed in Section 2.2 above. The site selection criteria are discussed in detail in Chapter 4, Alternatives.

2.8 References

APLIC (Avian Power Line Interaction Committee). 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Accessed June 2025. https://www.nrc.gov/docs/ml1224/ml12243a391.pdf

APLIC. 2012. Reducing Avian Collisions with Power Lines: The State of the Art in 2012. October. Accessed June 2025. https://www.aplic.org/uploads/files/11218/Reducing_Avian_Collisions_2012watermarkLR.pdf

CAISO (California Independent System Operator). 2025a. *2024-2025 Transmission Plan*. May 30, 2025. Accessed June 2025. https://www.caiso.com/documents/iso-board-approved-2024-2025-transmission-plan.pdf.

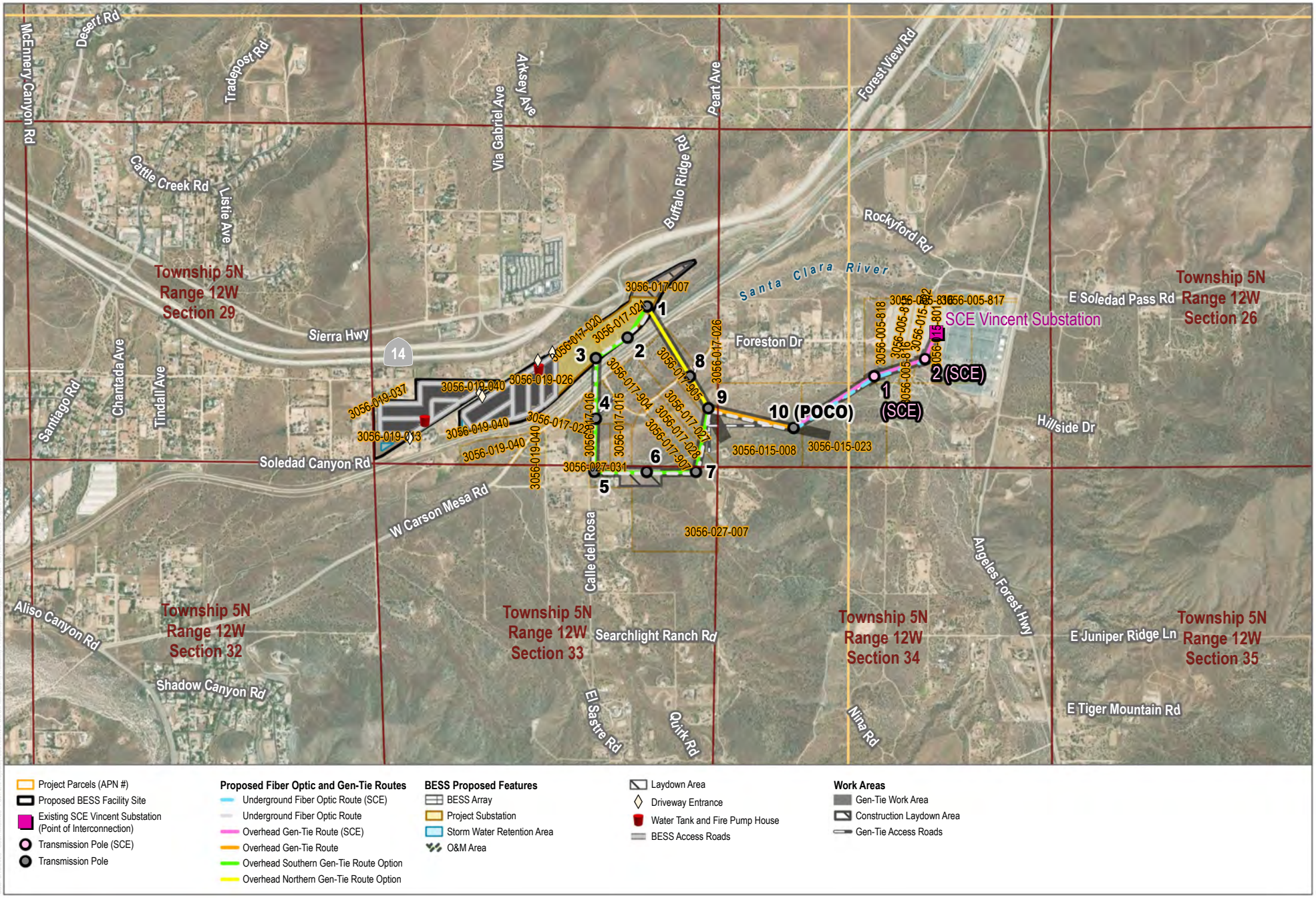
CAISO. 2025b. “2026 Local Capacity Technical Study, Final Report and Study Results.” April 30, 2025. Accessed June 2025. https://stakeholdercenter.caiso.com/InitiativeDocuments/Final-2026-Local-Capacity-Technical-Report.pdf.

CASQA. 2024. Construction BMP Handbook. Accessed June 19, 2025. https://www.casqa.org/resources/bmp-handbooks/construction-bmp.

El Dein, Adel Z. 2013. “Prediction of Egyptian 500-kV Overhead Transmission Line’s Radio Interference by Using the Excitation Function.” *International Journal of Emerging Electric Power Systems* 14(4): 303–8.

Phaiboon, S., V. Vivek, and S. Somkuarnpanit. 2000. “Analysis and Measurement of Radio-Frequency Interference Due to the Corona From 500kV Transmission Lines.” *IEEE*.

Tejada-Martinez, C., F.P. Espino-Cortes, S. Ilhan, and A. Ozdemir. 2019. “Optimization of Radio Interference Levels for 500 and 600 kV Bipolar HVDC Transmission Lines.” Energies 12 (16): 3187. https://doi.org/10.3390/en12163187.



Project Parcels (APN #)
Proposed BESS Facility Site
Existing SCE Vincent Substation (Point of Interconnection)
Transmission Pole (SCE)
Transmission Pole

Proposed Fiber Optic and Gen-Tie Routes
Underground Fiber Optic Route (SCE)
Underground Fiber Optic Route
Overhead Gen-Tie Route (SCE)
Overhead Gen-Tie Route
Overhead Southern Gen-Tie Route Option
Overhead Northern Gen-Tie Route Option

BESS Proposed Features
BESS Array
Project Substation
Storm Water Retention Area
O&M Area

Laydown Area
Driveway Entrance
Water Tank and Fire Pump House
BESS Access Roads

Work Areas
Gen-Tie Work Area
Construction Laydown Area
Gen-Tie Access Roads

SOURCE: World Imagery; Los Angeles County
Acton & Pacifico Mountain Quadrangle

DUDEK

0 500 1,000 Feet

FIGURE 2-1
Project Site Plan
Prairie Song Reliability Project

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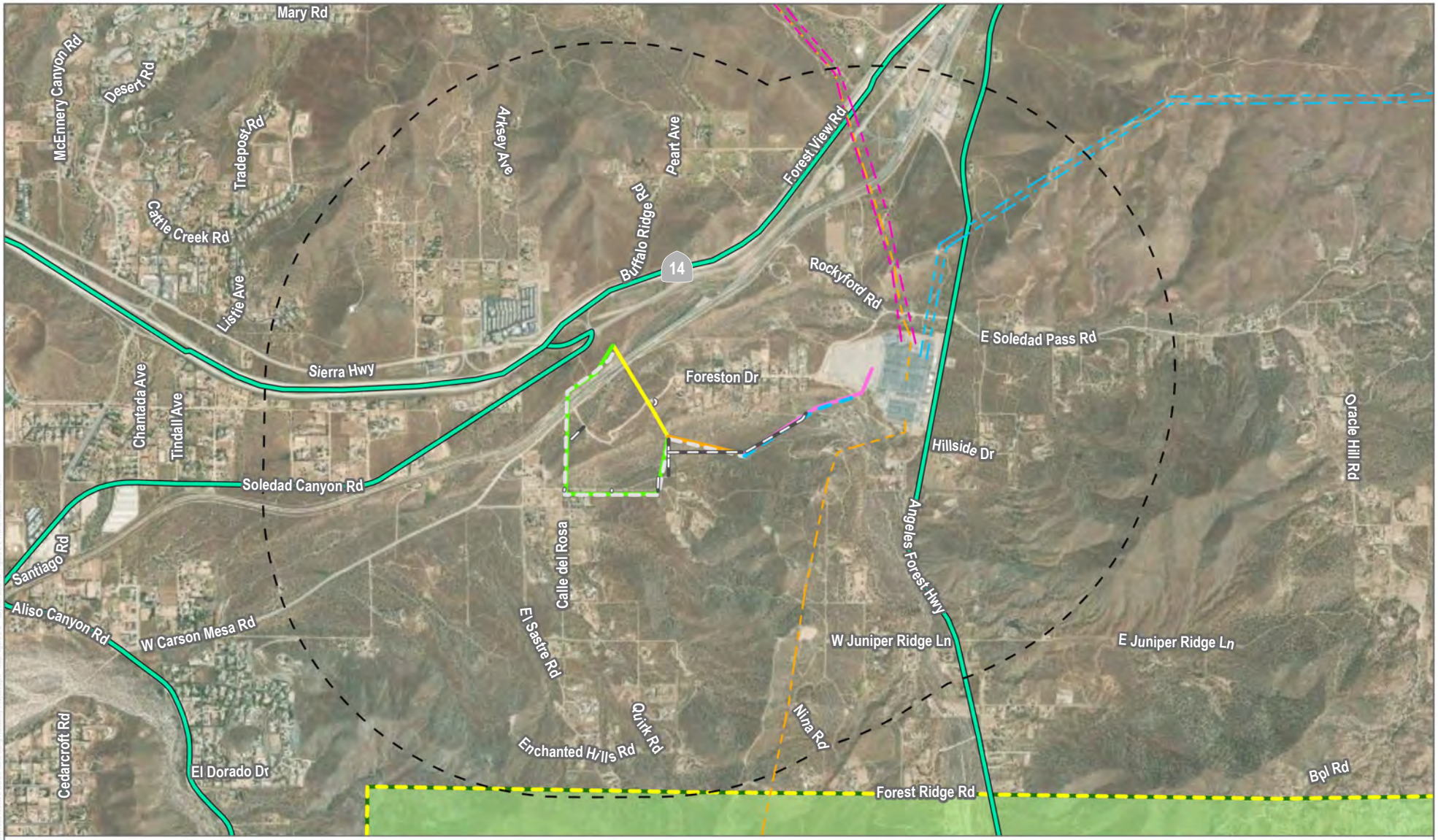

SOURCE: Los Angeles County; USFWS; CEC

DUDEK

0 1,000 2,000 Feet

FIGURE 2-2

Transmission Line Route

Prairie Song Reliability Project

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Attachment 3

State Water Resources Control Board, Division of Drinking Water Correspondence and Form

Outlook

RE: Prairie Song Reliability Project

From [redacted]
Date Tue 12/16/2025 12:35 PM
To [redacted]
Cc [redacted]

Hi [redacted]

Thank you for submitting the form to us with information about the new drinking water system. Based on the information, the proposed drinking water system does not meet the definition of a public water system due to having a population of less than 25 people. Therefore, the State Division of Drinking Water will not have regulatory authority over the proposed drinking water system and we will not be involved with this project.

I have included [redacted], chief of the Los Angeles County, Department of Public Health, Drinking Water Program in my response as well. She may provide you with additional information on whether the County Drinking Water Program will have regulatory authority over your proposed drinking water system.

Sincerely,
[redacted]

From: [redacted]
Sent: Monday, December 15, 2025 3:51 PM
To: [redacted]
Cc: [redacted]
Subject: RE: Prairie Song Reliability Project

Hi [redacted]

Hope you had a nice weekend. I wanted to reach out and see if you had determined the drinking water system classification and regulating entity. Thank you

[redacted]
Project Manager

[redacted]
dudek.com

From: [redacted]
Sent: Monday, December 8, 2025 8:31 AM
To: [redacted]
Cc: [redacted]

[redacted]

[redacted]

Subject: Re: Prairie Song Reliability Project

[redacted]

Sorry for not following on Friday. Please see the attached document with Question #7 completed. Please let us know if there is anything else that you need.

[redacted]
Director of Development
[redacted]

Coval Infrastructure | covalinfra.com

From: [redacted]
Sent: Friday, December 5, 2025 9:37 PM
To: [redacted]
Cc: [redacted]
Subject: RE: Prairie Song Reliability Project

You don't often get email from [redacted] Learn why this is important

Hi [redacted]

Please input the information you provided below into the response field for Question #7 in the form.

Sincerely,
[redacted]

From: [redacted]
Sent: Friday, December 5, 2025 5:32 PM
To: [redacted]
Cc: [redacted]
Subject: Re: Prairie Song Reliability Project

Hi [redacted]
The project will only have 20 total employees. The project will have 16 employees at the site per day, with limited meetings where all 20 employees will be at the site at the same time. The project will not serve the public. If the project has visitors or needs inspection, the visits will be limited site walks throughout the yard, and visitors and inspectors will not be served by the private water system.

Please let us know if you need more information .

Thank you.

[redacted]

[redacted]

E [redacted]

Coval Infrastructure | covalinfra.com

From: [redacted]
Sent: Friday, December 5, 2025 5:20 PM
To: [redacted]
Cc: [redacted]
Subject: RE: Prairie Song Reliability Project

You don't often get email from [redacted] Learn why this is important

Hi [redacted],

Please include a brief description in your reply to Question #7 about why your drinking water system does not meet the definition of a public water system (at least 25 people for at least 60 days per year). You may include information such as, but not limited to, that the number of staff present will not exceed 20, that this does not serve anyone from the public or any visitors, etc.

Sincerely,
[redacted]

From: [redacted]
Sent: Tuesday, November 18, 2025 3:00 PM
To: [redacted]
Cc: [redacted]
Subject: RE: Prairie Song Reliability Project

That works great. Please see attached form and do not hesitate to reach out with any questions or if additional information is needed.

Thank you,

[redacted]
Project Manager

[redacted]
dudek.com

From: [redacted]
Sent: Tuesday, November 18, 2025 1:49 PM
To: [redacted]

Cc:
Subject: RE: Prairie Song Reliability Project

Hi

You are correct that the form is targeted towards decommissioning a water system and that this project does not involve decommissioning a water system but, rather, creating a new water system. My intention was to have you fill out the fields in the form pertaining to the population served to assist us in determining whether your proposed drinking water system meets the definition of a public water system and which regulating entity will oversee your water system.

Sincerely,

From:
Sent: Tuesday, November 18, 2025 8:41 AM
To:
Cc:
Subject: RE: Prairie Song Reliability Project

Thank you. Could you please confirm whether the form provided is applicable to this project? The project does not involve decommissioning a public water system. The well currently provides potable water to the residential structure located onsite. The residence would be demolished as part of the project and the intent would be to use the well to service the project's operations and maintenance building. If the form is simply intended to capture classification information, that works perfectly—we just wanted to be certain.

Project Manager

dudek.com

From:
Sent: Tuesday, November 18, 2025 6:57 AM
To:
Cc:
Subject: RE: Prairie Song Reliability Project

Hi ,

It was a pleasure to meet with you last Friday. Attached is a form to provide your anticipated population and number of service connections. We can then determine the classification of your drinking water system and the regulating entity. Please advise if you have any questions.

Sincerely,

From:
Sent: Monday, November 17, 2025 11:48 AM
To:
Cc:
Subject: Prairie Song Reliability Project

Caution: External Email. Use caution when clicking links or opening attachments. When in doubt, contact DIT or use the Phish Alert Button.

Hi [redacted],

Thank you for meeting with the Prairie Song Reliability Project team last Friday afternoon. We understand one of the first steps is for your group to review the proposed project specifics to determine the classification of the water system and whether the State or Los Angeles County will be the permitting authority. Could you let us know what information you need from us to make the initial determination?

Thank you,

[redacted]
Project Manager
DUDEK 45
45 Years of Impactful Projects

[redacted]
dudek.com

STATE OF CALIFORNIA

Water Resources Control Board, Division of Drinking Water
Southern California Drinking Water Field Operations Branch, Central District (District 16)
500 North Central Avenue, Suite 500, Glendale, CA 91203
Phone (818) 551-2004 Fax (818) 551-2054

Request to Inactivate a Public Water System

Inactivation or decertification of a water system means deleting the system from the Division's inventory of active public water systems and declaring the existing water supply permit null and void.

Person completing Items 1 through 7 on this form:
Name: [redacted] Organization: **Dudek** Phone No.: [redacted]

1. Name of Public Water System: **N/A**
2. Division of Drinking Water System No.: **N/A**
3. Legal Owner of the Water System: **Prairie Song Reliability Project LLC**
4. Mailing Address: **11801 Domain Blvd., Suite 450, Austin, TX 78758**
5. Population Served by the Water System: **16 to 20 staff** Number of Service Connections: **4 (2 O&M buildings and 2 Fire Water Tanks)**
6. If the sources (e.g., wells) will NOT be destroyed after inactivation, water supplied by the sources will be used for (please check all that will apply): **(The following are what the water may be used for during O&M)**

X	drinking of water	X	toilet flushing
X	cooking and/or food preparation	X	irrigation
X	Handwashing	____	manufacturing
X	showering or bathing	X	other purposes (specify) **Fire Water Support**

7. Explain why the water system should be inactivated as a public water system? *If the water system has been interconnected to another active public water system, provide the name of that water system and the date the connection was completed, and confirm that the system meets all three of the following conditions of HSC §116280 exemption: 1) it does not have any collection and treatment facilities, 2) it obtains all of its water from, but is not owned or operated by, a public water system, and 3) it does not sell water to any person or user.*

The project will only have 20 total employees. The project will have 16 employees at the site per day, with limited meetings where all 20 employees will be at the site at the same time. The project will not serve the public. If the project has visitors or needs inspection, the visits will be limited site walks throughout the yard, and visitors and inspectors will not be served by the private water system.

THE FOLLOWING STATEMENT IS TO BE COMPLETED BY A REPRESENTATIVE OF THE WATER SYSTEM

I request the water system be inactivated effective _____ (date). I understand that if the water system does not meet the definition of a public water system, the Division of Drinking Water will inactivate the system and stop regulating the water system. I also understand that if the information given above has changed, the Division of Drinking Water should be informed immediately.

I certify under penalty of perjury that the information provided on this form is true and complete to the best of my knowledge. I further understand that providing fraudulent information may subject myself to civil and criminal penalties.

Name: [redacted] Title: **Director of Development** Phone No.: [redacted]

Signature: _____ Date: _____

FOR OFFICE USE ONLY:

Inactivation approved? ____Yes ____No on _____ (date)

SYSTEM IS INACTIVE EFFECTIVE _____ (date)

SDWIS updated on _____ by _____

Notes:

STATE OF CALIFORNIA
Water Resources Control Board, Division of Drinking Water
Southern California Drinking Water Field Operations Branch, Central District (District 16)
500 North Central Avenue, Suite 500, Glendale, CA 91203
Phone (818) 551-2004 Fax (818) 551-2054

Updated 11/18/2025

Attachment 4

Redline Section 3.15, Water Resources

3.15 Water Resources

This section describes the potential effects the construction and operation of the Prairie Song Reliability Project (Project) may have on water resources at and in the vicinity of the Project site. The Project will consist of an up to 1,150-megawatt (MW) containerized battery energy storage system (BESS) facility utilizing lithium-iron phosphate cells, or similar technology, operations and maintenance (O&M) buildings, a Project substation, a 500-kilovolt (kV) overhead generation interconnection (gen-tie) transmission line, and interconnection facilities within the existing Southern California Edison (SCE) owned and operated Vincent Substation.

The information presented is based on a site-specific drainage analysis, water supply assessment (WSA), and readily available resources provided online. This evaluation of water resources includes the following elements:

- Section 3.15.1 describes the existing environment that could be affected, including drainage features, groundwater, water quality, and flooding.
- Section 3.15.2 identifies potential environmental impacts that may result from Project construction, operation, maintenance, and decommissioning.
- Section 3.15.3 discusses potential cumulative effects.
- Section 3.15.4 identifies avoidance and mitigation measures that should be considered during Project construction, operation, maintenance, and decommissioning.
- Section 3.15.5 presents laws, ordinances, regulations, and standards (LORS) applicable to water resources.
- Section 3.15.6 identifies regulatory agency contacts and describes permits required for the Project related to water resources.
- Section 3.15.7 provides references used to develop this section.

The following environmental setting and impact evaluation is based in part on the following Project-specific technical documents, included as appendices to this application:

- Appendix 2A – Site Plan Package
- Appendix 3.15A – Water Quality Management Plan (Sargent & Lundy 2025), includes Hydrology Report (Westwood 2025a) and Preliminary Stormwater Management Report (Westwood 2025b)
- Appendix 3.15B – Water Supply Assessment (WSA) (Dudek 2025a)
- Appendix 3.15C – Title 22 Water Quality Sampling Memorandum (Dudek 2025b)

A summary of the water resources evaluation is provided in the table below.

		Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the Project:					
1	Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality?	☐	☐	☒	☐
2	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
3	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: a. Result in substantial erosion or siltation on- or off-site; b. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; c. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; and/or d. Impede or redirect flood flows?	☐	☐	☒	☐
4	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
5	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

3.15.1 Affected Environment

This subsection describes existing climate, drainage features, groundwater, water quality, water supply, and flooding potential at the Project site and surrounding region.

3.15.1.1 Climate

The Project site is located in an area characterized by a warm-summer Mediterranean climate, with temperatures typically varying between 35°F to 93°F (WRCC 2025). The average maximum temperature in the Project vicinity, based on temperature data recorded at the Acton, CA Remote Automatic Weather Station (National Weather Service Station No. 045438), for the period from 1995 to 2025 ranges from 54°F to 88°F, and the average minimum temperature ranges from 44°F to 75°F (WRCC 2025). Maximum temperatures in the summer typically reach the low-100s (°F) and minimum temperatures in the winter reach the mid-20s (°F). The average annual precipitation at the Acton, CA weather station for the period from 1995 to 2025 is approximately 9.36 inches (WRCC 2025).

Projected future climate conditions in California indicate gradual warming, with an increase in extremely hot days relative to historical norms, and greater year-to-year precipitation variability. Warming of approximately 3.6°F to 12.6°F is expected by the end of the century (Pierce et al. 2018). Additionally, there will be fewer wet days, but increased precipitation on the wettest days (i.e., wetter winters and drier springs and autumns), resulting in modest annual precipitation changes but an increase in the frequency of dry years (Pierce et al. 2018).

3.15.1.2 Drainage Features

The Project site lies within the greater Los Angeles Region, which encompasses all coastal watersheds and drainages flowing to the Pacific Ocean between Rincon Point (on the coast of western Ventura County) and the eastern Los Angeles County line, as well as the drainages of five (5) coastal islands (Anacapa, San Nicolas, Santa Barbara, Santa Catalina, and San Clemente). Surface waters within the region are overseen by the Los Angeles Region 4 Regional Water Quality Control Board (RWQCB) and its water quality control plan known as the Basin Plan (Los Angeles RWQCB ~~2014~~2022). Regionally, the Project site is located within the Santa Clara River Watershed, named after the largest river system in Southern California that still remains largely in its natural state. The Santa Clara River Watershed (HUC-08) drains approximately 1,200 square miles traversing Los Angeles and Ventura counties (SWRCB 2025a) (Figure 3.15-1, RWQCB Hydrologic Setting, and Figure 3.15-2, USGS Hydrologic Setting). The river originates in the northern slope of the San Gabriel Mountains and flows in a nearly east to west direction before emptying into the Pacific Ocean halfway between the cities of San Buenaventura and Oxnard. Tributaries to Santa Clara River include Bouquet, Placerita, San Francisquito, Castaic, Piru, and Sespe creeks. In addition, there are numerous unnamed tributaries that flow north into Santa Clara River just south of the vicinity of the Project site (Westwood 2025). The Project site is located within the Kentucky Springs Canyon – Santa Clara River Watershed (HUC-12 No. 180701020102), with the westernmost area of the Project overlapping into the Arrastre Canyon – Santa Clara River subwatershed (No. 180701020105) (Figure 3.15-1) (EPA 2025a).

In the vicinity of the Project site, the Santa Clara River flows just outside of the southwestern boundary in a northeast to southwest direction. The Project is located on moderate terrain that generally slopes to the southwest toward the Santa Clara River (Figure 3.15-3, Local Drainage Features). The Project site contains varying slopes from 2% to greater than 10%, with steeper slopes existing in the southwest portion of the site (Westwood 2025). An unnamed tributary to the Santa Clara River runs through the site from northeast to southwest.

3.15.1.3 Groundwater

3.15.1.3.1 Groundwater Basin Description

The Project overlies the Antelope Valley Groundwater Basin (DWR Basin No. 6-044), which covers an area of 1,580 square miles (Figure 3.15-4, Groundwater Basins and Water Agency Boundaries) (Dudek 2025a). The California Department of Water Resources (DWR) has designated the Basin as very low priority with regard to enacting the Sustainable Groundwater Management Act of 2014 (DWR 2025). Approximately 90% of the Basin was adjudicated in 2015 and the adjudicated portion is not subject to the requirements of the Sustainable Groundwater Management Act (SGMA), but is instead subject to groundwater pumping allocations under the court adjudication set up to sustainably manage the Basin to reverse groundwater level declines and reduce subsidence (Dudek 2025a). The Project site is located within the remaining 10% of the Basin, which is the non-adjudicated area.

The two (2) primary water-bearing units of the Basin include Holocene[1] and Pleistocene[2] unconsolidated alluvial and lacustrine deposits. These two (2) primary aquifers (upper and lower) are separated by thick, low permeability clay deposits that can reach as thick as 400 feet. The generally unconfined upper aquifer is the primary source of groundwater for the valley. Specific yield for this aquifer ranges from 1% to 30%, and well production is typically moderate to highly productive, with well yields reported to average just under 300 gallons per minute (Dudek 2025a). The lower aquifer is generally confined. A small portion of the Basin that extends southwest into the San Gabriel mountains is composed of older alluvial and lacustrine deposits, as well as Mesozoic[3] and Precambrian[4] igneous and metamorphic rock complexes. The Project is located in this area.

The Basin is generally bound on the north by Fremont Valley Groundwater Basin; on the east by ridges, buttes and low hills forming a drainage divide; on the southwest by the San Andreas fault zone at the base of the San Gabriel mountains; and on the northwest by the Garlock fault zone at the base of the Tehachapi Mountains (DWR 2004).

The total groundwater storage capacity of the Basin is estimated to be around 68,000,000 to 70,000,000 AF (Dudek 2025a). Subsidence from over-extraction has occurred in parts of the Basin, in some areas as much as 6 feet (Dudek 2025a). Groundwater extraction was at its highest in the 1950s, but as land use converted from agricultural to urban and with introduction of SWP water in 1972, groundwater pumping decreased until the mid-1980s, when the area started to experience rapid population growth (Dudek 2025a).

Subsurface flow between the adjudicated and unadjudicated portions of the Basin are considered nominal (Dudek 2025a). There is limited groundwater production data for the Project area, which is located outside of the adjudicated portion of the Basin.

The Basin primarily receives recharge from perennial runoff from the surrounding mountains. Most recharge occurs at the foot of the higher elevation areas by percolation through the head of alluvial fan systems. The Big Rock and Little Rock Creeks in the southern part of the Basin contribute about 80% of runoff into the Basin (DWR 2004). Groundwater levels in the Basin have ranged from an increase of 84 feet to a decrease of 66 feet from the mid-1970s to late 1990s. The largest declines have been observed in the urban areas such as Lancaster and Edwards Air Force Base. These areas have also experienced subsidence because of groundwater pumping (DWR 2004). Depth to groundwater in the vicinity of the Project site has historically ranged from approximately 40 feet belowground surface to upwards of 200 feet below ground surface between 1960 and 2005 (DWR 2025).

While the Project site is located within the jurisdiction of the Los Angeles RWQCB, the Antelope Valley Groundwater Basin is included within the Lahontan Region 6 RWQCB Basin Plan. The Lahontan Basin Plan includes objectives for the Antelope Valley Groundwater Basin, which state that groundwaters shall not contain concentrations of bacteria, chemical constituents, radioactivity, or substances producing taste and odor in excess of the groundwater objectives described in Chapter 3 of the Basin Plan (Lahontan Region RWQCB 2021). These objectives define the upper concentration or other limit that RWQCB considers protective of beneficial uses. These objectives apply to all groundwaters, rather than only at a wellhead, at a point of consumption, or at point of application of discharge.

1 The Holocene Epoch began about 11,600 years ago and continues to present day.
2 The Pleistocene Epoch began about 2.6 million years ago and lasted until about 12,000 years ago.
3 The Mesozoic Epoch began about 245 million years ago and lasted until about 65 million years ago.
4 The Precambrian Epoch began about 4,600 million years ago and lasted until about 544 million years ago.

3.15.1.3.2 Groundwater Wells

A review of the following databases for information about wells on the Project site was completed as part of the WSA prepared for the proposed Project: SGMA Data Viewer, National Water Information System Mapper, and Groundwater Ambient Monitoring and Assessment Program Groundwater Information System (Dudek 2025a). The location of groundwater wells on and in the vicinity of the Project site is shown in Figure 3.15-5, Groundwater Wells within 0.5 Miles, and a summary of well completion information and historical groundwater level data is provided below in Table 3.15-1.

Table 3.15-1. Groundwater Well Inventory

Site Name	Well Depth (ft)	Land Surface Elevation (ft MSL)	Start Date	End Date	Range of water levels (ft MSL)	Distance from Project Site (Miles)	USGS Site Status
05N012W29R002S	Unknown	2,962	11/1/1965	3/29/1978	2,747.9– 2,964.9	0.11	Inactive
05N012W28F001S	Unknown	3,120	11/30/1965	11/30/1965	2,953.7	0.25	Inactive
05N012W32M001S	131.3	2,835	9/15/1978	3/30/2005	2,710.5–2,797.6	0.89	Inactive
05N012W22K001S	Unknown	3,247	11/30/1965	11/30/1965	2,903.3	1.21	Inactive
04N013W12C003S	115	2,635	12/4/1950	3/15/2022	2,587.8–2,634.8	3.33	Active

Source: USGS 2025b, as cited in Dudek 2025a.
Notes: ft = feet; MSL = mean sea level.

Dudek performed a site reconnaissance on November 18, 2024 and located two (2) existing groundwater wells on the Project site. One (1) well, no longer connected to power, was observed on APN 3056-017-021, one well was observed on APN 3056-019-026, which likely supplies potable water to the adjacent residence (observed well located toward the south-west of the Project site). According to well completion reports for wells drilled in the Project vicinity, wells in the area typically yield between 10 to 20 GPM, with a select few wells that yield up to 50 GPM (Dudek 2025a).

3.15.1.4 Water Quality

3.15.1.4.1 Surface Water Quality

As noted above, the Project site is primarily located in the Kentucky Springs Canyon – Santa Clara River subwatershed, with the western most area of the Project overlapping into the Arrastre Canyon – Santa Clara River subwatershed. The Santa Clara River is the primary natural surface water feature closest to the Project site along with an unnamed drainage that cuts across the site (Figure 3.15-3). According to the U.S. Environmental Protection Agency watershed database, water quality is not monitored in either the Kentucky Springs Canyon or Arrastre Canyon subwatersheds (EPA 2025a). The closest impaired water bodies to the Project site include Palmdale Lake, located approximately 4 miles north of the Project site and Little Rock Reservoir, located approximately 6.5 miles east of the Project site (Figure 3.15-6, Impaired Waterbodies). Palmdale Lake is impaired by pesticides, and Little Rock Reservoir is impaired by mercury, metals, and PCBs (EPA 2025c). Both of these water bodies are located in other watersheds, whereas, downstream of the Project site, water quality of reaches 6 and 7 of the Santa Clara River in the Sand Canyon-Santa Clara River subwatershed (No. 180701020107) are monitored for physical, chemical and biological factors (EPA 2025a). According to the monitoring data, Mint Canyon Creek Reach 1, Santa Clara River Reach 6, and Santa Clara River Reach 7 are found to be impaired (EPA 2025b). Mint Canyon Creek Reach 1 is used for drinking water and found to be impaired by nitrogen and/or phosphorous. Santa Clara River Reach 6 has beneficial uses of aquatic life, recreation, and other and has identified issues with pesticides, salts, and total toxic chemicals (EPA 2025b). Reach 7 of the Santa Clara River has beneficial uses of recreation and identified issues of bacteria and other microbes (EPA 2025b).

3.15.1.4.2 Groundwater Quality

Water quality in the Basin varies but is generally of good quality and found to be suitable for domestic, agricultural, and industrial uses (Dudek 2025a). Water quality impairments in groundwater from wells in the vicinity of the Project site include elevated total dissolved solids and nitrate-nitrogen (Dudek 2025a). High fluoride, boron, nitrates, and arsenic have been reported in some areas of the Basin (Dudek 2025a). Los Angeles County Water District 37 (District 37) annual water quality reports from 2020 to 2023 show maximum nitrate concentrations in groundwater were as high as 8.7 milligrams per liter (mg/L) but have not exceeded the maximum contaminant level of 10 mg/L (LACWD 2025b, as cited in Dudek 2025a). In the adjacent LACWD District No. 40 – Antelope Valley (District 40), the maximum reported nitrate concentrations were lower at 4.2 mg/L. The maximum reported concentration of arsenic in District 37 water in 2023 (the most recent water quality report) was 2.2 parts per billion, much lower than the maximum contaminant level of 10 parts per billion.

Table 3.15-2. Groundwater Quality Data

Site Name	Start Date	End Date	Water Quality Concerns	Max Concentration Measured	Distance from Project Site (Miles)
05N12W28F001S	12/29/1950	3/16/1972	Nitrate	11.5 mg/L	0.25
05N12W28L001S	4/24/1975	3/24/1981	Nitrate, TDS	23.7 mg/L, 1800 mg/L	0.25
05N12W32F003S	3/16/1972	3/14/1989	None	—	0.77
05N12W31H002S	4/21/1971	4/21/1971	None	—	1.25
04N12W05G002S	4/25/1975	3/14/1989	None	—	1.35
04N12W02E002S	9/17/1967	3/14/1989	None	—	1.35
05N12W30K001S	3/30/1953	4/20/1967	Nitrate	12.5 mg/L	1.5
Well 37-01	4/23/1987	11/29/2022	Nitrate	13 mg/L	2.85

Source: SWRCB 2025a, as cited in Dudek 2025a.
Notes: mg/L = milligrams per liter; TDS = total dissolved solids; — = not available.

District 37 blends the pumped groundwater with purchased imported surface water from Antelope Valley–East Kern Water Agency (AVEK). The imported surface water generally has lower nitrate and total dissolved solids concentrations, resulting in higher quality water for consumption.

Little data from the on-site wells are known; however, from a previous site reconnaissance conducted on December 20, 2022, the property owner of the two (2) on-site wells reported no known contaminants (Dudek 2025a). In addition, Title 22 water quality sampling of the domestic groundwater well located at 1222 Soledad Canyon Road was completed. This well is anticipated to be used for Project operations. On August 22, 2025, Dudek collected a groundwater sample from the well and delivered it to Clinical Laboratory of San Bernardino for analysis of the full California Title 22 list of drinking water constituents. The groundwater sample was analyzed for the full Title 22 analytical suite, including general chemical and physical, microbiological, metals, radiochemistry, volatile and semi-volatile organic compounds, synthetic organic compounds, and asbestos analyses by Clinical Laboratory. Constituents that were detected above laboratory reporting limits were compared against California Title 22 primary maximum contaminant levels for regulated constituents in drinking water and against secondary maximum contaminant levels related to aesthetic aspects of drinking water (i.e., taste, odor, and appearance). None of the constituents detected in the groundwater sample collected from the domestic well at 1222 Soledad Canyon Road exceeded respective primary or secondary maximum contaminant levels. Additional details regarding the water sampling effort and results are included in Appendix 3.15C (Dudek 2025b).

3.15.1.5 Flooding Potential

Flood zones are identified on Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) as Special Flood Hazard Areas (SFHAs) and “other areas of flood hazard.” An SFHA is defined as the area that would be inundated by a flood event having a 1% chance of being equaled or exceeded in any given year. The 1% annual chance flood is also referred to as the base flood or 100-year flood, and is the national standard used by all federal agencies for the purposes of requiring the purchase of flood insurance and regulating new development. Similarly, the 0.2% annual chance flood is referred to as the 500-year flood. According to FEMA FIRM mapping (Panel 06037C0885G), the Project site does not contain any FEMA Flood Hazard zones (Westwood 2025a) (Figure 3.15-7, FEMA Flood Zones).

The California Department of Water Resources (DWR) has also conducted their own study to identify flood-prone areas within the state. This study, which mapped flood zones and floodplains for the 100-year, 200-year, and 500-year floods, has been created to supplement the studies that have been conducted by FEMA. The 100-year flood zones, referred to as "Flood Awareness Zones," were reviewed as part of the Preliminary Hydrology Study for the Project site and found not to contain any 100-year Flood Awareness Zones (Westwood 2025a).

In addition, the Project site will not be subject to seiche or tsunami (due to the great distance to the ocean or any enclosed or semi-enclosed large body of water).

3.15.2 Impact Analysis

The following sections present the potential effects on water resources from construction, operation, maintenance, and decommissioning of the proposed Project.

3.15.2.1 Methodology

The impact analysis is based on a site-specific hydrology/water quality report, WSA, engineering drawings, and readily available resources provided online. Potential direct and indirect Project impacts related to water resources were evaluated against the California Environmental Quality Act (CEQA) significance criteria and are discussed below. The impact analysis evaluates potential Project impacts during Project construction, operation, and decommissioning.

3.15.2.2 Impact Evaluation Criteria

CEQA Guidelines Appendix G is a screening tool, not a method for setting thresholds of significance. CEQA Guidelines Appendix G is typically used in the Initial Study phase of the CEQA process, asking a series of questions. The purpose of these questions is to make a determination as to whether a project requires an EIR, a Mitigated Negative Declaration or a Negative Declaration. As the Governor's Office of Planning and Research stated, "Appendix G of the Guidelines lists a variety of potentially significant effects, but does not provide a means of judging whether they are indeed significant in a given set of circumstances."

The answers to the CEQA Guidelines Appendix G questions are not determinative of whether an impact is significant or less than significant. Nevertheless, the questions presented in CEQA Guidelines Appendix G are instructive. With respect to hydrology and water quality, CEQA Guidelines Appendix G asks, in part, would the Project:

- Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality?
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
  a. Result in substantial erosion or siltation on- or off-site;
  b. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

c. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; and/or

d. Impede or redirect flood flows;

- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

3.15.2.3 CEQA Appendix G Assessment Criteria

3.15.2.3.1 Would the Project violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality?

Construction

Less than Significant. Construction of the Project will have the potential to result in substantial additional sources of polluted runoff that will potentially have short-term impacts on surface water quality through activities such as clearing and grading, stockpiling of soils and materials, concrete pouring, painting, and asphalt surfacing. Typically, BESS and gen-tie line construction includes equipment such as bulldozers, graders, water trucks, rollers, backhoe/trenching machines, excavators, concrete trucks/concrete pumps, cranes, dump trucks, flatbed and low-bed trucks, pickup trucks, small hydraulic cranes, and rough-terrain cranes/forklifts. Pollutants associated with these construction activities that could substantially degrade water quality include soils, debris and other materials generated during clearing, fuels and other fluids associated with the equipment used for construction, paints, concrete slurries, asphalt, and other hazardous materials.

Non-stormwater discharges during construction will include periodic application of water for dust control. Since the practice of dust control is necessary during windy and dry periods to prevent wind erosion and dust plumes, water will be applied in sufficient quantities to wet the soil, but not so excessively as to produce runoff from the construction site. Water applied for dust control will either quickly evaporate or locally infiltrate into shallow surface soils. This means that water applied for dust control is unlikely to appreciably affect groundwater or surface water features and thus will not cause or contribute to exceedances of water quality objectives contained in the Basin Plan.

Pollutants associated with construction could degrade water quality if they are mobilized by stormwater or non-stormwater flows into surface waters. Sediment is often the most common pollutant associated with construction sites because of the associated earth-moving activities and areas of exposed soil. Sediment that is washed off site can result in turbidity in surface waters, which can impact aquatic species. In addition, when sediment is deposited into receiving waters it can smother species, alter the substrate and habitat, and alter the drainage course. Hydrocarbons such as fuels, asphalt materials, oils, and hazardous materials such as paints and concrete slurries discharged from construction sites could also impact aquatic plants and animals downstream. Debris and trash could be washed into existing storm drainage channels to downstream surface waters and could impact wildlife and aesthetic value.

Stormwater runoff from the Project site ultimately flows to the Santa Clara River, which is currently listed on the 303(d) list of impaired water bodies for bacteria and other microbes (Reach 7) and pesticides, salts (i.e., chloride), and total toxic chemicals (Reach 6) (EPA 2025b). The closest portion of the Project site to the impaired reach of the

Santa Clara River is approximately 13 miles southwest. No TMDLs have been established for these pollutants for these nearby reaches of Santa Clara River; however, Reach 3 further downstream has a TMDL for Chloride with intentions of establishing TMDLs in Reaches 5 and 6 in the future. Other nearby impaired water bodies are shown in Figure 3.15-6.

However, under the NPDES CGP permit program, SWPPPs are required to be prepared and the best management practices (BMPs) identified in the SWPPPs implemented for all construction sites greater than 1 acre to reduce the potential for off-site discharges of pollutants in surface water. In compliance with the CGP, the Project will implement construction BMPs that minimize disturbance, protect slopes, reduce erosion, and limit or prevent various pollutants from entering surface water runoff.

The Project's grading plans will include details on the location and type of BMPs necessary to reduce the potential for Project-induced erosion and scour, including temporary BMPs to be implemented during construction (per the statewide CGP), and permanent BMPs to be installed and maintained (per the County BMP Design Manual). The exact location and type of temporary BMPs to be installed during construction depend on site-specific conditions, construction schedule, and proposed activities, all of which are outlined in the construction SWPPP that will be prepared for the Project. Typical temporary BMPs used for similar projects include energy dissipaters, silt fences, fiber rolls, gravel/sand bags, construction road stabilization, and stabilized construction entrances. As the Project-specific SWPPP is prepared, the location, type, and number of specific BMPs may be refined based on the final designs to most effectively achieve the objective of reducing turbidity and other pollutant loads in stormwater runoff. The provisions of the CGP ensure that site-specific conditions are taken into consideration when developing construction SWPPPs, that personnel developing and implementing construction SWPPPs are qualified, and that BMPs are adequately monitored and maintained.

As discussed in the environmental setting, the Project is unlikely to encounter shallow groundwater, and dewatering is not expected to be required. The Geotechnical Engineering Report conducted for the Project, dated May 14, 2025 states that "According to data collected from the Water Data Library for the State of California from a nearby well, located approximately 0.5 miles north of the site in State Well Number 05N12W28F001S, historic groundwater levels around November 30, 1965, were recorded at greater than 100 feet bgs.1 Recent publicly available data (within the last 20 years) is not available within a 1-mile radius from the site boundary. As such, groundwater is not anticipated to occur within the depth of excavations or foundation installations at the site" (see Appendix 3.4A, page 7).

Because the actual presence or absence of shallow groundwater is dependent on local geologic and climatic conditions it is possible that locally perched groundwater could be encountered. Therefore, it is possible that construction-related dewatering discharges could be required. Nonetheless, any dewatering activity that would discharge to the land surface would need to comply with the provisions of General WDRs and ensure compliance with the Basin Plan. If required, a Notice of Intent to comply with General WDRs would be submitted to the Los Angeles RWQCB, in addition to a discharge monitoring plan, and any additional information requested by the Los Angeles RWQCB. RWQCB staff would then determine whether coverage under the General WDRs is appropriate and, if so, would notify the applicant by letter of coverage. This permit process is the mechanism by which the Los Angeles RWQCB would ensure that discharges of groundwater would not violate Basin Plan standards. If contaminated groundwater is unexpectedly discovered during discharge monitoring, the Los Angeles RWQCB will be notified. Groundwater would be passed through a treatment unit prior to being discharged to land or surface water.

Operations

Less than Significant. Once constructed, the proposed BESS facility will result in a substantial increase in impervious surfaces at the site, currently entirely pervious, which could potentially result in discharge of polluted stormwater runoff. Potential sources of polluted runoff include incidental spills of petroleum products and hazardous substances from maintenance vehicles and equipment.

In compliance with the Los Angeles County BMP Design Manual, private development projects are required to implement permanent water quality BMP measures to ensure that pollutant discharges and runoff flows from development are reduced to the maximum extent practicable, and receiving water quality objectives are not violated throughout the life of the Project. In compliance with the County BMP Design Manual, a Preliminary Stormwater Management Report has been developed for the proposed Project (Westwood 2025b), to provide the calculations on how the proposed stormwater facilities will comply with the County stormwater management requirements. The proposed substation and BESS will be constructed on a raised pad and runoff from this area will drain southwest into catch basins located across the site. A storm sewer network will route water from the catch basins into underground infiltration chambers and infiltration trenches. Infiltration trenches along the southern end of each drainage area connected to the chamber system will aid in meeting the infiltration volume requirement.

Infiltration facilities are proposed to provide rate control and treatment of stormwater runoff to meet the requirements of the State of California and Los Angeles County. An infiltration rate of 0.57 inches per hour was used in the analysis of the site based on the percolation testing provided by Terracon. The storage volume provided within the infiltration facilities will infiltrate into the soil for treatment and provide a reduction in runoff rate and volume.

In accordance with County requirements, because the Project discharges to a natural drainage system and is tributary to the Santa Clara River, stormwater controls are required to be implemented to prevent adverse effects from the changes in drainage patterns (Westwood 2025b). The Project is required to fully mitigate off-site drainage impacts caused by the Project for the LID, 2-, 5-, 10-, 25-, and 50-year storm events per the Los Angeles County Low Impact Development Standards Manual. The infiltration facilities will be sized to store and infiltrate the difference in runoff between existing and proposed conditions up to the 50-year 24-hour storm event for the two (2) drainage areas on site. According to the Preliminary Stormwater Management Report, the total volume that will be required to achieve runoff difference will be 13.16 acre-feet (Westwood 2025b).

The County also requires the Project to retain 100% of the Stormwater Quality Design Volume (SWQDv) on site. According to calculations in the Preliminary Stormwater Management Report, the total volume required to provide on-site retainment will also be 13.16 acre-feet (Westwood 2025b). Other water quality BMPs that will be implemented on site as part of the WQMP would include: maximizing natural infiltration capacity; preserving existing drainage patterns and time of concentration; protection of existing vegetation and use of a vegetative buffer surrounding the impervious improvements; revegetation of disturbed areas; avoidance of soil stockpiling; ongoing maintenance of detention basins chambers; water efficient landscaping; use of culverts to manage upstream off-site stormwater runoff throughout the Project site; and slope and channel buffers that are maintained to decrease potential for erosion (Sargent & Lundy 2025).

By implementing the pollution control measures described in the Preliminary Stormwater Management Report, as well as the appropriate monitoring program included there within, the proposed Project will limit the possibility of contributing contaminants that might exceed local water quality objectives or contribute to the degradation of beneficial uses of Santa Clara River, in compliance with the County requirements and the Regional MS4 Permit.

As a result, the proposed Project will not violate applicable water quality objectives or waste discharge requirements, and will comply with all federal, state, and local laws addressing water quality in stormwater and non-stormwater discharges.

Potential construction and operations impacts will be **less than significant.**

3.15.2.3.2 Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

Less than Significant. Water supply for construction will be sourced from off-site water delivered by truck and water for O&M will be sourced from an on-site well(s). The project is anticipated to require approximately 55 AF for construction over an approximate 20-month period (assumed that BESS facility and gen-tie will be constructed simultaneously), and approximately 1.5 AFY for operation (Dudek 2025a). Based on this, the total Project water demand is estimated to be approximately 82 AF over the 20-year, SB 610 planning horizon and 170 AF over the life of the Project (43 years) (Appendix 3.15B; Dudek 2025a).

The Project site is located within AVEK's service area, which is a wholesale water supplier of SWP water to the greater Antelope Valley region that provides potable water sourced from either State Water Project (SWP) water treated at AVEK water treatment plants, or groundwater that is either recovered from recharge in previous years or part of AVEK's adjudicated groundwater production rights. As a water wholesaler, AVEK does not typically sell to individuals and will not be available as a direct source of water for the Project, rather, water provided by AVEK will likely need to be purchased through one of the retail water agencies that AVEK serves.

PWD sources raw water from Littlerock Dam and the SWP, with the remaining water (approximately 33%) pumped from local groundwater wells (Dudek 2025a). According to the WSA prepared for the proposed Project, the groundwater level trends in wells near the Project site have been stable indicating that there is sufficient groundwater available to satisfy Project water demands and the demands of all other groundwater users during normal, single dry, and multiple dry years over a 20-year projection and the life of the Project (43 years) (Dudek 2025a). Similarly, based on review of AVEK's projected water supplies and demands, AVEK/retail water agencies in the region, including PWD, have sufficient supplies to serve the Project during normal, single dry, and multiple dry years over a 20-year projection and the life of the Project. The majority of Project water use will be of short duration for construction and decommissioning and water use for Project O&M will be *de minimis*. The amortized demand of the Project will be a nominal 4 AFY so the additional demand on groundwater resources or AVEK's/retail water agencies' water supplies will be negligible (Dudek 2025a).

Furthermore, as noted above, the proposed Project improvements will be required to implement drainage control features that will be sized to store and infiltrate the difference in runoff between existing and proposed conditions up to the 50-year 24-hour storm event for the two (2) drainage areas on site (Appendix 3.15A). Therefore, even though the Project will introduce new impervious surfaces, the adherence to County drainage requirements will provide onsite infiltration of stormwater runoff such that the potential to substantially decrease groundwater recharge will be minimized.

Therefore, the water supply needs for the Project will be sourced in part from AVEK through a water retail provider such as PWD in a mostly adjudicated basin that is managed by court order to ensure that sustainability goals are maintained as well as through use of the on-site well(s). Local groundwater level trends are stable and determined

to have sufficient ability to supply the Project (Dudek 2025a). In addition, groundwater recharge will continue at the site with the construction and operation of infiltration facilities on site. As a result, the potential impacts to groundwater supplies for construction and operations will be **less than significant**.

3.15.2.3.3 Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

A. Result in substantial erosion or siltation on- or off-site;
B. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
C. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; and/or
D. Impede or redirect flood flows?

Less than Significant. Construction of the Project will alter drainage patterns at the site by introducing new impervious surfaces to the site. As mentioned above in Section 3.15.2.3.1, part of adherence to County requirements requires analysis of existing and proposed stormwater conditions that will occur due to implementation of the Project. To analyze the potential impacts of the proposed Project in relation to the hydrology and drainage patterns threshold, watershed hydrologic runoff calculations were performed in accordance with County requirements. Existing and proposed runoff were completed for the Project using modeling software consistent with the County's Low Impact Development Standards Manual. As noted above, the Project is required to capture and infiltrate the difference in runoff between existing and proposed conditions up to the 50-year 24-hour storm event for the two (2) drainage areas on site.

The proposed grading and hydraulic structures will be designed to route off-site runoff through and around the site, maintain overall existing drainage patterns, and route on-site runoff to the proposed infiltration facilities. Water quality treatment and hydromodification requirements will be met through the use of infiltration chambers and trenches. Upstream off-site runoff will be diverted both around and through the Project site using culverts. The culverts would be required to be sized for the 100-year, 24-hour rain event. Large outfall velocities for the culverts routed through and around the BESS and substation site will be minimized using energy dissipators and riprap (Sargent & Lundy 2025).

As a result, the proposed Project will not substantially alter the existing drainage pattern of the site or increase impervious surfaces in a manner that will result in substantial erosion or siltation on or off site; substantially increase the rate or amount of runoff that will result in flooding on or off site; or contribute runoff that will exceed the capacity of existing or planned stormwater drainage systems. (See Section 3.15.2.3.1 regarding potentially polluted runoff.). As a result, potential stormwater drainage impacts from construction and operations will be less than significant.

The BESS site is not located within a 100-year floodplain as mapped by FEMA and not within a Flood Awareness Zone as determined by the Department of Water Resources (Westwood 2025a). As shown in Figure 3.15-7, some portions of the proposed gen-tie line will be located within a 100-year flood zone; however, these tower structures have a relatively minimal aboveground profile and will have negligible effects related to impeding or redirecting flood flows. Stormwater runoff from the gen-tie pad areas will drain to infiltration ponds located at each pad. The

new roads leading to the gen-tie pads would be gravel-surfaced and drain through perforated underdrains to the infiltration basin located at each of the gen-tie pads. Therefore, the Project will not substantially impede or redirect 100-year flood flows. In an analysis of flood conditions, the 100-year analysis of the proposed conditions shows similar flooding depth patterns to those of the existing conditions, but with slight variations in flood depths around the unnamed flow path in the central portion of the site (Westwood 2025a). However, the proposed drainage system will be constructed such that stormwater runoff will be controlled and contained, resulting in minimal stormwater runoff flowing off site. The majority of stormwater runoff will flow toward the infiltration facilities. As a result, construction and operations of proposed improvements will not substantively impede or redirect flood flow, resulting in **less than significant** impacts.

3.15.2.3.4 In flood hazard, tsunami, or seiche zones, would the Project risk release of pollutants due to Project inundation?

Less than Significant. As noted above, the Project site is not located within a 100-year flood hazard area and is located well inland such that it is not susceptible to tsunami hazards. Seiche hazard zones are limited to areas immediately adjacent to enclosed or semi-enclosed bodies of water, and there are no such features in the vicinity of the site. Furthermore, O&M activities associated with a BESS facility will require limited storage of hazardous materials and those that will be on site will be stored in designated, secured areas with secondary containment. A Hazardous Materials Business Plan for site operations will ensure that all handling, storage, and disposal of hazardous materials associated with Project operation will be appropriately secured and conducted in accordance with all regulatory requirements. As such, the potential construction and operations impacts related to risk of release of pollutants due to Project inundation will be **less than significant**.

3.15.2.3.5 Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant. As noted above, the proposed Project will adhere to all applicable drainage control requirements and will not include any other water discharge that is not already discussed in Section 3.15.2.3.1. Adherence to these stormwater quality control requirements are consistent with RWQCB Basin Plan policies and the construction and operation of the Project will not conflict or obstruct implementation of the Basin Plan and the potential construction and operations impacts will be less than significant.

Water supply for the Project will be provided by an on-site well(s), and/or delivery of off-site water via truck deliveries provided by AVEK/retail water agencies, such as PWD, which sources surface water from the SWP and from groundwater supply wells that are located in the Antelope Valley Groundwater Basin. The majority of the Basin is adjudicated and not required to develop a Groundwater Sustainability Plan pursuant to SGMA. The non-adjudicated portion of the Basin is also not required to develop a Groundwater Sustainability Plan pursuant to SGMA because DWR has designated the Basin as very low priority. AVEK, a public water supplier within whose service area the Project lies, concluded in its more recent Urban Water Management Plan that sufficient supplies exist to serve future water demands of development intensities consistent with the proposed Project, if necessary. As a result, there is no applicable Groundwater Sustainability Plan. Therefore, the Project will not conflict or obstruct implementation of a sustainable groundwater management plan and the potential from construction and operations impacts will be **less than significant**.

3.15.3 Cumulative Effects

As defined by Public Resources Code Section 21083; Title 14 CCR, Sections 15064(h), 15605(c), 15130, and 15355, a cumulative effect refers to a proposed project's incremental effect paired with closely related past, present, and reasonably foreseeable future projects whose impacts compound or increase the incremental effect of the proposed Project.

The geographic scope of cumulative effects on hydrology and water quality differs somewhat depending on the issue being addressed. The geographic scope for surface water quality and hydrology is typically watershed-based, whereby projects contributing flow to the same water bodies as the proposed Project will be considered. For groundwater impacts, the geographic scope of cumulative effects will be the groundwater aquifer affected by the proposed Project. As discussed above, the potential Project impacts to surface water and groundwater were determined to be less than significant.

Surface Water

Not cumulatively considerable. In the absence of regulatory controls, the primary impact of the proposed Project in the cumulative scenario will be increases in the area covered by impervious surfaces, development of access driveways and utility corridors, and the release of non-point-source pollutants (e.g., motor fuels, trash, sediment). The proposed Project, along with other cumulative projects occurring within the Santa Clara River Watershed will be required to comply with applicable federal, state, and local water quality regulations. The proposed Project, along with other projects of greater than 1 acre (which includes most of the projects in the cumulative scenario), will be required to obtain coverage under the NPDES CGP, which requires project proponents to identify and implement stormwater BMPs that effectively control erosion and sedimentation and other construction-related pollutants. Further, nearly all projects identified in the cumulative scenario will meet the definition of "new development and redevelopment projects" under the Los Angeles County MS4 Permit. Such projects are required to implement site design; source control; and, in some cases, treatment control BMPs to control the volume, rate, and water quality of stormwater runoff from the project during long-term operations. This is implemented locally by the County by requiring new development projects to submit and implement a Stormwater Quality Management Plan. These drainage control regulatory requirements are watershed-based, and therefore, water quality impacts will not be cumulatively considerable.

Groundwater Resources

Not cumulatively considerable. The proposed BESS site is located in the Antelope Valley Groundwater Basin, which is considered by the California Department of Water Resources to be a low priority basin due to the adjudication of the Basin. The adjudication provides a framework to sustainably manage the basin to reverse groundwater level declines and reduce subsidence. The Basin has a safe yield of 82,000 acre-feet per year, which is the amount considered to provide a sustainable amount of extraction without causing adverse effects. Total production for 2023 was 64,517.97 acre-feet, well below the safe yield. Therefore, because a Groundwater Sustainability Plan is not required for the Basin and the court order is already providing a mandated sustainability framework for the Basin, there is no cumulative impact to groundwater resources and the Project cannot incrementally contribute to a cumulative impact. As a result, groundwater impacts will not be cumulatively considerable.

Hydrology and Drainage Pattern

Not cumulatively considerable. In the absence of regulatory controls, the primary impact of the proposed Project in the cumulative scenario will be alteration of the natural hydrology of the region through increases in the area covered by impervious surfaces. The typical impact of substantial increases in impervious surfaces is that peak flows within the watershed's drainages are greater in magnitude, shorter in duration, and more responsive to storm events, since a greater portion of precipitation is carried by surface runoff rather than percolated into the soil. New roads and/or transmission line corridors can often block or redirect stormwater flows if improperly designed. These impacts are undesirable with respect to management of stormwater flow capacities and flood hazards.

However, based on the Preliminary Stormwater Management Report (Westwood 2025b), increased Project stormwater runoff rates resulting from increased impervious surfaces will be reduced to less than or equal to existing conditions through construction of infiltration facilities. Cumulative project development within the Santa Clara River Watershed will similarly be required to reduce stormwater runoff rates in accordance with regulatory requirements. As a result, the additional impervious surfaces associated with cumulative development will have minimal to no hydrologic impact on receiving waters in the watershed. Therefore, hydrologic impacts will not be cumulatively considerable.

Flood Hazards

Not cumulatively considerable. The proposed BESS site is not located within an identified flood hazard area (i.e., 100-year FEMA flood zone); however, portions of the proposed gen-tie line are located within a flood hazard area. For the proposed Project, the 100-year analysis of the proposed conditions shows similar flooding patterns to those of the existing conditions, but with slight variations in flood depths around the unnamed flow path in the central portion of the BESS site (Westwood 2025b). In accordance with local stormwater drainage control requirements, cumulative projects, like what is discussed above for the proposed Project, are required to provide on-site detainment of any increases in stormwater runoff associated with any increases in impervious surfaces. Further, cumulative project development will also be subject to CEQA, which mandates that development within a floodplain does not substantially impede or redirect flood flows and cause off-site flood-related impacts. As a result, the proposed Project will not combine to contribute to cumulatively considerable flood-related impacts.

Water Planning

Not cumulatively considerable. The Project site overlies the Antelope Valley Groundwater Basin, an adjudicated basin and not subject to a Groundwater Sustainability Plan per SGMA. As noted above, the proposed Project is not expected to violate any water quality standards and measures will be taken both during construction and throughout operation to prevent potential contaminants from leaving the site by runoff. All cumulative projects will equally be required to comply with these regulations and standards, which are consistent with Basin Plan policies and thus, through compliance with RWQCB requirements and a NPDES permit, implementation of a SWPPP, the Project will not cumulatively conflict with or obstruct implementation of the Los Angeles RWQCB Basin Plan.

3.15.4 Mitigation Measures

No mitigation measures beyond the Project design's avoidance and minimization measures are required as no significant impacts will occur.

3.15.5 Laws, Ordinances, Regulations, and Standards

Federal, state, and local LORS applicable to water resources are discussed in this subsection and are summarized in Table 3.15-3.

Table 3.15-3. LORS Applicable to Water Resources

Jurisdiction	LORS	Applicability	Project Conformity	Opt-In Application Reference
Federal	Clean Water Act	Requires adherence to NPDES stormwater and water discharge requirements.	**Yes.** Project will include preparation and implementation of a SWPPP and construction BMPs during construction activities to prevent off-site transport of pollutants. For operation, project will design and construct stormwater treatment controls to protect water quality of receiving waters.	Section 3.15.2.3.1 Section 3.15.2.3.3 Section 3.15.2.3.5 Section 3.15.5.1
Federal	Antidegradation Policy	Requires states to develop statewide antidegradation policies and identify methods for implementing them.	**Yes.** Project will implement construction and post-construction BMPs to prevent off-site transport of pollutants.	Section 3.15.2.3.1 Section 3.15.2.3.3 Section 3.15.5.1
Federal	Safe Drinking Water Act	The act authorizes EPA to set national health-based standards for drinking water.	**Yes.** Treatment controls of stormwater (e.g., on-site infiltration) will aid in the protection of receiving waters and groundwater to ensure that water resources used for drinking water are protected.	Section 3.15.2.3.1 Section 3.15.2.3.3 Section 3.15.5.1
Federal	National Flood Insurance Act	Established the National Flood Insurance Program to provide flood insurance within communities willing to adopt floodplain management programs to mitigate future flood losses.	**Yes.** Stormwater drainage controls (i.e., infiltration facilities) will ensure that project peak storm runoff does not exceed stormwater volumes under existing conditions.	Section 3.15.2.3.4 Section 3.15.5.1
Federal	Executive Order 11988	FEMA requires local governments covered by federal flood insurance pass and enforce a floodplain management ordinance that	**Yes.** Stormwater drainage controls (i.e., infiltration facilities) will ensure that project peak storm runoff does not exceed stormwater volumes under existing conditions.	Section 3.15.2.3.4 Section 3.15.5.1

Table 3.15-3. LORS Applicable to Water Resources

Jurisdiction	LORS	Applicability	Project Conformity	Opt-In Application Reference
		specifies minimum requirements for any construction within the 100-year floodplain.		
State	Porter-Cologne Water Quality Control Act	The basic water quality control law establishes the legal and regulatory framework for California's water quality control to implement the provisions of the CWA.	**Yes.** Stormwater drainage controls (i.e., infiltration facilities) will provide post-construction treatment of stormwater runoff and prevent off-site transport of pollutants. In addition, the Project is expected to require a waste discharge requirements (WDR) from RWQCB.	Section 3.15.2.3.1 Section 3.15.2.3.3 Section 3.15.5.2
State	California Water Code	Establishes districts and local agencies with specific statutory provisions to manage surface water and authority to exercise some forms of groundwater management.	**Yes.** Stormwater drainage controls (i.e., infiltration facilities) will provide post-construction treatment of stormwater runoff and prevent off-site transport of pollutants.	Section 3.15.2.3.1 Section 3.15.2.3.2 Section 3.15.2.3.3 Section 3.15.5.2
State	California Toxics Rule	Establishes water quality criteria for certain toxic substances to be applied to waters in the state.	**Yes.** Stormwater drainage controls (i.e., post-construction treatment controls) will ensure that water quality of receiving waters is protected.	Section 3.15.2.3.1 Section 3.15.2.3.3 Section 3.15.5.2
State	Sustainable Groundwater Management Act	SGMA requires governments and water agencies of high- and medium-priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge.	**Yes.** Project is located in Antelope Valley Groundwater Basin, which is not subject to SGMA due to its adjudication.	Section 3.15.2.3.2 Section 3.15.2.3.5 Section 3.15.5.2
Local	Municipal NPDES Permit	This permit also serves as an NPDES permit under the federal CWA, as well as waste discharge requirements under California law.	**Yes.** Project design will include post-construction treatment controls to protect water quality.	Section 3.15.2.3.1 Section 3.15.2.3.3 Section 3.15.2.3.5 Section 3.15.5.3

Table 3.15-3. LORS Applicable to Water Resources

Jurisdiction	LORS	Applicability	Project Conformity	Opt-In Application Reference
Local	LA County LID Manual	Also known as the Los Angeles Water Quality Ordinance, the manual provides standards to comply with the requirements of the NPDES MS4 Permit for stormwater and non-stormwater discharges.	**Yes.** The Project's stormwater management features will be designed consistent with the County's manual to ensure consistency with the MS4 Permit.	Section 3.15.2.3.1 Section 3.15.2.3.3 Section 3.15.2.3.5 Section 3.15.5.3

3.15.5.1 Federal LORS

Clean Water Act

The CWA was first introduced in 1948 as the Water Pollution Control Act. The CWA authorizes federal, state, and local entities to cooperatively create comprehensive programs for eliminating or reducing the pollution of state waters and tributaries. The primary goals of the CWA are to restore and maintain the chemical, physical, and biological integrity of the nation's waters and to make all surface waters fishable and swimmable. As such, the CWA forms the basic national framework for the management of water quality and the control of pollutant discharges. The CWA also sets forth a number of objectives in order to achieve the abovementioned goals. These objectives include regulating pollutant and toxic pollutant discharges; providing for water quality that protects and fosters the propagation of fish, shellfish, and wildlife; developing waste treatment management plans; and developing and implementing programs for the control of non-point sources of pollution.

Since its introduction, major amendments to the CWA have been enacted (e.g., 1961, 1966, 1970, 1972, 1977, and 1987). Amendments enacted in 1970 created the U.S. EPA, while amendments enacted in 1972 deemed the discharge of pollutants into waters of the United States from any point source unlawful unless authorized by an EPA National Pollutant Discharge Elimination System (NPDES) permit. Amendments enacted in 1977 mandated development of a Best Management Practices Program at the state level and provided the Water Pollution Control Act with the common name of "Clean Water Act," which is universally used today. Amendments enacted in 1987 required EPA to create specific requirements for discharges.

In response to the 1987 amendments to the CWA and as part of Phase I of its NPDES permit program, EPA began requiring NPDES permits for (1) municipal separate storm sewer systems (MS4s) generally serving, or located in, incorporated cities with 100,000 or more people (referred to as municipal permits); (2) 11 specific categories of industrial activity (including landfills); and (3) construction activity that disturbs 5 acres or more of land. Phase II of EPA's NPDES permit program, which went into effect in early 2003, extended the requirements for NPDES permits to (1) numerous small MS4s, (2) construction sites of 1 to 5 acres, and (3) industrial facilities owned or operated by small MS4s. The NPDES permit program is typically administered by individual authorized states.

In 2008, EPA published draft effluent limitation guidelines for the construction and development industry. On June 27, 2016, EPA finalized its 2016 Effluent Guidelines Program Plan.

In California, the NPDES stormwater permitting program is administered by the State Water Resources Control Board (SWRCB), which was created by the legislature in 1967. The joint authority of water distribution and water quality protection allows SWRCB to provide protection for the state's waters through its nine (9) RWQCBs. The RWQCBs develop and enforce water quality objectives and implement plans that will best protect California's waters, acknowledging areas of different climate, topography, geology, and hydrology. The RWQCBs develop basin plans for their hydrologic areas, issue waste discharge requirements, enforce action against stormwater discharge violators, and monitor water quality.

Section 303 of the Clean Water Act (Beneficial Use and Water Quality Objectives)

The Los Angeles RWQCB is responsible for the protection of the beneficial uses of waters within the Project area in the County. The Los Angeles RWQCB uses its planning, permitting, and enforcement authority to meet its responsibilities adopted in its Basin Plan (Los Angeles RWQCB ~~2014~~2022) to implement plans, policies, and provisions for water quality management.

In accordance with state policy for water quality control, the Los Angeles RWQCB employs a range of beneficial use definitions for surface waters, groundwater basins, marshes, and mudflats that serve as the basis for establishing water quality objectives and discharge conditions and prohibitions. The Basin Plan has identified existing and potential beneficial uses supported by the key surface water drainages throughout its jurisdiction. Under CWA Section 303(d), the State of California is required to develop a list of impaired water bodies that do not meet water quality standards and objectives. A TMDL defines how much of a specific pollutant/stressor a given water body can tolerate and still meet relevant water quality standards. The Los Angeles RWQCB has developed TMDLs for select reaches of water bodies.

Section 401 of the Clean Water Act (Water Quality Certification)

Section 401 of the CWA requires that an applicant for any federal permit (e.g., a U.S. Army Corps of Engineers [USACE] Section 404 permit) obtain certification from the state, ensuring that discharge to waters of the United States would comply with provisions of the CWA and with state water quality standards. For example, an applicant for a permit under Section 404 of the CWA must also obtain water quality certification per Section 401 of the CWA. Section 404 of the CWA requires a permit from USACE prior to discharging dredged or fill material into waters of the United States, with exceptions. For the Project area, the Los Angeles RWQCB must provide the water quality certification required under Section 401 of the CWA in order to minimize or eliminate the potential water quality impacts associated with the action(s) requiring a federal permit.

Section 402 of the Clean Water Act (National Pollutant Discharge Elimination System)

The NPDES permit program, as authorized by Section 402 of the CWA, was established to control water pollution by regulating point sources that discharge pollutants into waters of the United States (33 USC 1342). In the State of California, EPA has authorized SWRCB permitting authority to implement the NPDES program.

Regulations (Phase II Rule) that became final on December 8, 1999, expanded the existing NPDES program to address stormwater discharges from construction sites that disturb land equal to or greater than 1 acre and less than 5 acres (small construction activity). The regulations also require that stormwater discharges from small MS4s

be regulated by an NPDES General Permit for Storm Water Discharges Associated with Construction Activity (Construction General Permit), Order No. 99-08-DWQ. The Construction General Permit requires the development and implementation of a stormwater pollution prevention plan (SWPPP), which describes BMPs the discharger would use to protect stormwater runoff. The SWPPP must contain a visual monitoring program, a chemical monitoring program for non-visible pollutants to be implemented if there is a failure of BMPs, and a sediment-monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. On September 8, 2022, SWRCB issued a new Construction General Permit (Order No. 2022-0057-DWQ, NPDES No. CAS000002), which became effective September 1, 2023.

Section 404 of the Clean Water Act

Section 404 of the CWA established a permitting program to regulate the discharge of dredged or filled material into waters of the United States, which include wetlands adjacent to national waters (33 USC 1344). This permitting program is administered by USACE and enforced by EPA.

The Project will include preparation and implementation of a SWPPP and construction BMPs during construction activities to prevent offsite transport of pollutants. For operation, Project will design and construct stormwater treatment controls to protect water quality of receiving waters.

Federal Antidegradation Policy

The Federal Antidegradation Policy (40 CFR 131.12) requires states to develop statewide antidegradation policies and identify methods for implementing them. Pursuant to the federal regulation, state antidegradation policies and implementation methods shall, at a minimum, protect and maintain: (1) existing in-stream water uses; (2) existing water quality where the quality of the waters exceeds levels necessary to support existing beneficial uses, unless the state finds that allowing lower water quality is necessary to accommodate economic and social development in the area; and (3) water quality in waters considered an outstanding national resource.

The Project will implement construction and post-construction BMPs to prevent offsite transport of pollutants.

Safe Drinking Water Act

Congress passed the Safe Drinking Water Act in 1974 to protect public health by regulating the nation's public drinking water supply. The act authorizes EPA to set national health-based standards for drinking water to protect against both naturally occurring and human-made contaminants that may be found in drinking water.

Per Section 1424(e) of the Safe Drinking Water Act, EPA established the Sole Source Aquifer Program in 1977 to help prevent contamination of groundwater from federally funded projects. The Sole Source Aquifer Program allows for EPA environmental review of any project that is financially assisted by federal grants or federal loan guarantees to determine whether such projects would have the potential to contaminate a sole source aquifer. The Wellhead Protection Program was developed as a part of the Ground Water Protection Strategy for States and Tribes under the 1986 Amendments to the Safe Drinking Water Act. The Wellhead Protection Program includes delineation of Wellhead Protection Program areas, detection of possible contamination, remediation and monitoring of contamination, contamination prevention, and public education and participation. In March 2021, EPA made a determination to issue drinking water regulations for perfluorooctanoic acid (PFOA) and per- and polyfluoroalkyl

substances (PFAS) and as part of that process issued a PFAS Strategic Roadmap in October 2021. This roadmap states that EPA will issue drinking water regulations for PFAS under an accelerated time frame.

The Project's treatment controls of stormwater (e.g., on-site infiltration) will aid in the protection of receiving waters and groundwater to ensure that water resources used for drinking water are protected.

National Flood Insurance Act

The National Flood Insurance Act of 1968 established the National Flood Insurance Program to provide flood insurance within communities that were willing to adopt floodplain management programs to mitigate future flood losses. The act also required the identification of all floodplain areas within the United States and the establishment of flood-risk zones within those areas. FEMA is the primary agency responsible for administering programs and coordinating with communities to establish effective floodplain management standards. FEMA is responsible for preparing FIRMs that delineate the areas of known special flood hazards and their risk applicable to the community. The program encourages the adoption and enforcement by local communities of floodplain management ordinances that reduce flood risks. In support of the program, FEMA identifies flood hazard areas throughout the United States on FEMA flood hazard boundary maps.

The Project's stormwater drainage controls (i.e., infiltration facilities) will ensure that Project peak storm runoff does not exceed stormwater volumes under existing conditions.

Executive Order 11988

Under Executive Order 11988 – Floodplain Management, the FEMA is responsible for management of floodplain areas defined as the lowland and relatively flat areas adjoining inland and coastal waters subject to a 1% or greater chance of flooding in any given year (the 100-year floodplain). FEMA requires that local governments covered by federal flood insurance pass and enforce a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year floodplain. Executive Order 11988 addresses floodplain issues related to public safety, conservation, and economics. It generally requires federal agencies constructing, permitting, or funding a project in a floodplain to avoid incompatible floodplain development, be consistent with the standards and criteria of the National Flood Insurance Program, and restore and preserve natural and beneficial floodplain values.

The Project's stormwater drainage controls (i.e., infiltration facilities) will ensure that Project peak storm runoff does not exceed stormwater volumes under existing conditions.

3.15.5.2 State LORS

Porter–Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act of 1967 (California Water Code Section 13000 et seq.) is the basic water quality control law for California. The act established the legal and regulatory framework for California's water quality control. The California Water Code authorizes SWRCB to implement the provisions of the CWA, including the authority to regulate waste disposal and require cleanup of discharges of hazardous materials and other pollutants.

As discussed previously, the State of California is divided into nine (9) RWQCBs, governing the implementation and enforcement of the California Water Code and the CWA. The Project site is located within Region 4, also known as

the Los Angeles Region. Each RWQCB is required to formulate and adopt a Basin Plan for its region. The Los Angeles RWQCB Basin Plan is a comprehensive document that reports beneficial uses for surface and groundwaters, defines narrative and numeric parameters to protect water quality, and describes implementation programs to protect waters throughout the region. This Basin Plan must adhere to the policies set forth in the California Water Code and established by SWRCB. Each RWQCB is also given authority to include within its Basin Plan water discharge prohibitions applicable to particular conditions, areas, or types of waste. The original 1975 Basin Plan for the Los Angeles Region has been amended over time (last amended by Resolution R22-001 in March 2022) and is reviewed and updated as necessary with a triennial review that occurs on an ongoing basis (Los Angeles RWQCB ~~2014~~2022). While within the jurisdiction of the Los Angeles Region 4 RWQCB, the Project site is underlain by the Antelope Valley Groundwater Basin, which is under the jurisdiction of the Lahontan Region 6 RWQCB.

The Project's stormwater drainage controls (i.e., infiltration facilities) will provide post-construction treatment of stormwater runoff and prevent off-site transport of pollutants.

In addition, pursuant to provisions of the Porter–Cologne Water Quality Control Act (Porter–Cologne Act), the RWQCBs regulate discharging waste, or proposing to discharge waste, within any region that could affect a water of the state (California Water Code Section 13260[a]). The State Water Resources Control Board defines a water of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code Section 13050[e]). All waters of the United States are waters of the state. Wetlands, such as isolated seasonal wetlands, that are not generally considered waters of the United States are considered waters of the state if, "under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation" (SWRCB 2021). If a CWA Section 404 permit is not required for a project, the RWQCB may still require a permit (waste discharge requirements) for impacts to waters of the state under the Porter–Cologne Act.

The Project is expected to require a WDR from RWQCB.

National Pollutant Discharge Elimination System Industrial General Permit The Industrial General Permit (State Board Order WQ 2014-0057-DWQ, as amended by Order WQ 2015-0122-DWQ and Order WQ 2018-0028-DWQ) regulates industrial stormwater discharges and authorized non-stormwater discharges from industrial facilities in California. The Industrial General Permit is called a general permit because many industrial facilities are covered by the same permit, but comply with its requirements at their individual industrial facilities. The State Water Resources Control Board and RWQCBs (collectively, the Water Boards) implement and enforce the Industrial General Permit. The stormwater regulations require a broad range of industrial facilities to comply with the Industrial General Permit. They include manufacturing facilities, mining operations, disposal sites, recycling yards, transportation facilities, and other (SWRCB 2025b). Based on a review of Attachment A of the Industrial Storm Water General Permit (IGP), which contains a complete list of required facilities, the Project is not subject to an IGP.

California Water Code

The California Water Code includes 22 kinds of districts or local agencies with specific statutory provisions to manage surface water. Many of these agencies have statutory authority to exercise some forms of groundwater management. For example, a water replenishment district (California Water Code Section 60000 et seq.) is authorized to establish groundwater replenishment programs and collect fees for that service, while a water conservation district (California Water Code Section 75500 et seq.) can levy groundwater extraction fees. Through

special acts of the legislature, 13 local agencies have been granted greater authority to manage groundwater. Most of these agencies, formed since 1980, have the authority to limit export and even control some in-basin extraction upon evidence of overdraft or the threat of an overdraft condition. These agencies can also generally levy fees for groundwater management activities and for water supply replenishment.

The Project's stormwater drainage controls (i.e., infiltration facilities) will provide post-construction treatment of stormwater runoff and prevent off-site transport of pollutants.

California Toxics Rule

In 2000, EPA promulgated the California Toxics Rule, which establishes water quality criteria for certain toxic substances to be applied to waters in the state. In 1994, a California state court revoked the state's water quality control plans, which contained numeric criteria for water quality. This was in direct violation of the CWA and required EPA action. EPA then implemented the California Toxics Rule. EPA promulgated this rule based on Section 303(c)(2)(B) of the CWA, which dictates that states must adopt numeric criteria in order to protect human health and the environment. The California Toxics Rule establishes acute (i.e., short-term) and chronic (i.e., long-term) standards for bodies of water such as inland surface waters and enclosed bays and estuaries that are designated by the RWQCBs as having beneficial uses protective of aquatic life or human health.

The Project's stormwater drainage controls (i.e., post-construction treatment controls) will ensure that water quality of receiving waters is protected.

Sustainable Groundwater Management Act

On September 16, 2014, Governor Brown signed into law a three-bill legislative package—Assembly Bill 1739, Senate Bill 1168, and Senate Bill 1319—collectively known as SGMA. SGMA requires governments and water agencies of high- and medium-priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, sustainability should be achieved by 2040. For the remaining high- and medium-priority basins, 2042 is the deadline. Through SGMA, the California Department of Water Resources provides ongoing support to local agencies through guidance, financial assistance, and technical assistance. SGMA empowers local agencies to form Groundwater Sustainability Agencies to manage basins sustainably and requires those Groundwater Sustainability Agencies to adopt groundwater sustainability plans for critical (i.e., medium- to high-priority) groundwater basins in California. The vast majority (approximately 90%) of the Antelope Valley Groundwater Basin (No. 6-044) was adjudicated in 2015 and is not subject to the requirements of SGMA.

The Project is located in Antelope Valley Groundwater Basin, which is not subject to SGMA due to its adjudication.

3.15.5.3 Local LORS

Municipal National Pollutant Discharge Elimination System Permit

The County is a co-permittee under the "Waste Discharge Requirements for Municipal Stormwater and Urban Runoff Discharges within the County of Los Angeles," issued by the Los Angeles RWQCB (Order No. R4-2021-0105), adopted July 23, 2021. This order applies to the following:

1. Los Angeles County Flood Control District (LACFCD)

2. Unincorporated areas of Los Angeles County under County jurisdiction, with the exception of a portion of Antelope Valley and the City of Avalon
3. 84 cities within the LACFCD, with the exception of the City of Long Beach

This permit also serves as an NPDES permit under the federal CWA (NPDES No. CAS614001), as well as waste discharge requirements under California law (the Municipal NPDES Permit), and as a co-permittee under the Municipal NPDES Permit the County is required to adopt ordinances and implement procedures with respect to the entry of non-stormwater discharges into the MS4s.

The Los Angeles MS4 Order incorporates most of the pre-existing requirements of the previous 2001 Los Angeles MS4 Order, including the water quality-based requirement to not cause or contribute to exceedances of water quality standards in the receiving water. The Los Angeles MS4 Order also requires permittees to comply with new water quality-based requirements to implement 33 watershed-based total maximum daily loads (TMDLs) for the region. The Order links both of these water quality-based requirements to the programmatic elements of the Order by allowing permittees to comply with the water quality-based requirements, in part, by developing and implementing a watershed management program (WMP) or enhanced watershed management program (EWMP).

The Project design will include post-construction treatment controls to protect water quality.

Los Angeles County Low Impact Development Manual

The County of Los Angeles prepared the 2014 Low Impact Development Standards Manual (LID Standards Manual) to comply with the requirements of the NPDES MS4 Permit for stormwater and non-stormwater discharges from the MS4, within the coastal watersheds of Los Angeles County (CAS004001, Order No. R4-2012-0175), also known as the Los Angeles Water Quality Ordinance. This permit covers 84 cities, including Gardena, and the unincorporated areas of Los Angeles County. Under the permit, the LACFCD is designated as the principal permittee, and the County, along with 84 incorporated cities, is designated as a permittee. In compliance with the permit, the permittees have implemented a stormwater quality management program, with the ultimate goal of accomplishing the requirements of the permit and reducing the amount of pollutants in stormwater and urban runoff, wherein new development/redevelopment projects are required to prepare a LID report.

The Los Angeles County LID Standards Manual provides guidance for the implementation of stormwater quality control measures in new development and redevelopment projects in unincorporated areas of the County, with the intention of improving water quality and mitigating potential water quality impacts from stormwater and non-stormwater discharges. The LID Standards Manual addresses the following objectives and goals (LACPW 2014):

- Lessen the adverse impacts of stormwater runoff from development and urban runoff on natural drainage systems, receiving waters, and other water bodies
- Minimize pollutant loadings from impervious surfaces by requiring development projects to incorporate properly designed, technically appropriate BMPs and other LID strategies

Minimize erosion and other hydrologic impacts on natural drainage systems by requiring development projects to incorporate properly designed, technically appropriate hydromodification control development and technologies.

The Project's stormwater management features will be designed consistent with the County's manual to ensure consistency with the MS4 Permit.

3.15.6 Agency Contacts, Permits, and Permit Schedule

Applicable agency contacts for hydrology and water quality are shown in Table 3.15-4. Approval of an HMBP from the Los Angeles County Fire Department, Health Hazardous Materials Division will be superseded by CEC approval of the Project under the opt-in program. The Project will prepare a SPCC, and approval of the SPCC will also be superseded by CEC approval under the opt-in program. In addition, the Project will be designed per Los Angeles County Fire Department requirements and standards for BESS; however, approval from the Los Angeles County Fire Department will also be superseded by CEC approval of the Project under the opt-in program.

Table 3.15-4. Permits and Agency Contacts

Issue/Approval	Agency Contact	Applicability
NPDES GCP	Los Angeles County Regional Water Quality Control, Industrial and Construction Stormwater Programs, Compliance & Enforcement Nerissa Schrader, Supervisor Documents submitted via SMARTS* 213.620.2243 stormwater@waterboards.ca.gov Nerissa.Schrader@Waterboards.ca.gov	SWPPP for construction activities
Waste Discharge Requirements	Same contact as above.	Discharge of fill to waters of the state under the Porter–Cologne Act
HMBP	Los Angeles County Fire Department, Health Hazardous Materials Division Mario Tresierras, Division Chief 5825 Rickenbacker Road Commerce, California 90040 323.890.4045 Fire-HHMDCERS@fire.lacounty.gov	Hazardous materials compliance
SPCC	Same contact as above.	Hazardous materials compliance

Note: NPDES = National Pollutant Discharge Elimination System; GCP = General Construction Permit; SMARTS = Stormwater Multiple Application and Report Tracking System; SWPPP = stormwater pollution prevention plan; HMBP = Hazardous Materials Business Plan; SPCC = Spill Prevention Control and Countermeasures.

3.15.7 References

Dudek. 2025a. *Water Supply Assessment.* February 2025.

Dudek. 2025b. *Title 22 Water Quality Sampling for Prairie Song Reliability Project*. September 2025.

DWR (California Department of Water Resources). 2004. California's Groundwater Bulletin 118 Antelope Valley Groundwater Basin. Updated February 27, 2004. https://data.cnra.ca.gov/dataset/bulletin-118-update-2003-basin-reports.

DWR. 2025. SGMA Data Viewer. Accessed February 2025. https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#currentconditions.

EPA (Environmental Protection Agency). 2025a. *How's My Waterway? Kentucky Springs – Santa Clara River Watershed*. Accessed February 26, 2025. https://mywaterway.epa.gov/community/1237%20soledad%20canyon%20rd,%20acton%20ca/overview.

EPA. 2025b. *How's My Waterway? Kentucky Springs – Santa Clara River Watershed*. Accessed February 26, 2025. https://mywaterway.epa.gov/community/180701020107/overview.

EPA. 2025c. *How's My Waterway? Palmdale Lake and Little Rock Reservoir*. Accessed April 1, 2025. https://mywaterway.epa.gov/community/Little%20Rock%20Reservoir,%20CA,%20USA/overview.

LACPW (County of Los Angeles Department of Public Works). 2014. *Low Impact Development Standards Manual*. February 2014. Accessed April 2, 2025. https://pw.lacounty.gov/ldd/lddservices/docs/Los%20Angeles%20County%20Low%20Impact%20Development%20(LID)%20Manual.pdf.

Lahontan RWQCB (Regional Water Quality Control Board, Lahontan Region). 2021. *Water Quality Control Plan for the Lahontan Region.* Effective March 31, 1995, including amendments through September 22, 2021. Accessed September 1, 2025. https://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.html.

Los Angeles RWQCB (Regional Water Quality Control Board, Los Angeles Region). ~~2014~~2022. *Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties.* ~~Accessed September 11,~~Adopted in 2014 and last amended March 2022. Also available at https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/basin_plan_documentation.html.

Pierce, D.W., J.F. Kalansky, and D.R. Cayan. 2018. Climate, Drought, and Sea Level Rise Scenarios for California's Fourth Climate Change Assessment. Technical Report CCCA4-CEC-2018-006. California Energy Commission. https://www.energy.ca.gov/sites/default/files/2019-11/Projections_CCCA4-CEC-2018-006_ADA.pdf.

Sargent & Lundy. 2025. *Water Quality Management Plan (WQMP).* May 16, 2025.

SWRCB (State Water Resources Control Board). 2021. *State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. Adopted April 2, 2019; revised April 6, 2021. Accessed April 2025. https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/2021/procedures.pdf.

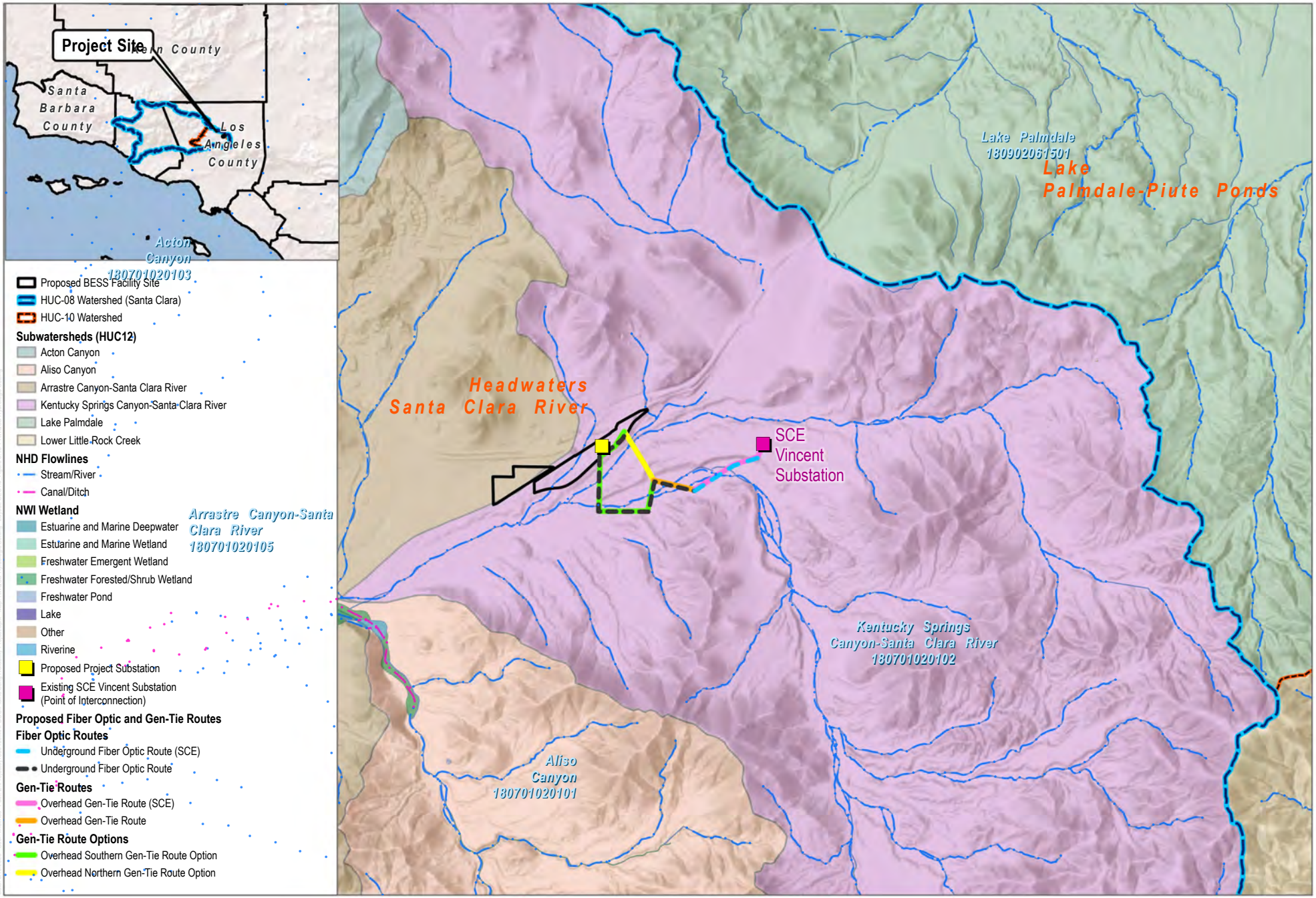
SWRCB. 2025a. *Santa Clara River Watershed, Summary Page.* Accessed February 26, 2025. https://www.waterboards.ca.gov/rwqcb4/water_issues/programs/regional_program/Water_Quality_and_Watersheds/santa_clara_river_watershed/summary.shtml

SWRCB. 2025b. Industrial Stormwater Program webpage. Accessed June 1, 2025. https://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.html.

Westwood. 2025a. Hydrology Study, Prairie Song Reliability Project, March 7, 2025.

Westwood. 2025b. Preliminary Stormwater Management Report, Prairie Song Reliability Project, March 2025.

WRCC (Western Regional Climate Center). 2025. RAWS USA Climate Archive. Acton, CA. Accessed January 2025. https://raws.dri.edu/cgi-bin/rawMAIN.pl?caCACT.



SOURCE: World HIllshade; SWRQCB

DUDEK

0 2,000 4,000 Feet

FIGURE 3.15-1

RWQCB Hydrologic Setting

Prairie Song Reliability Project

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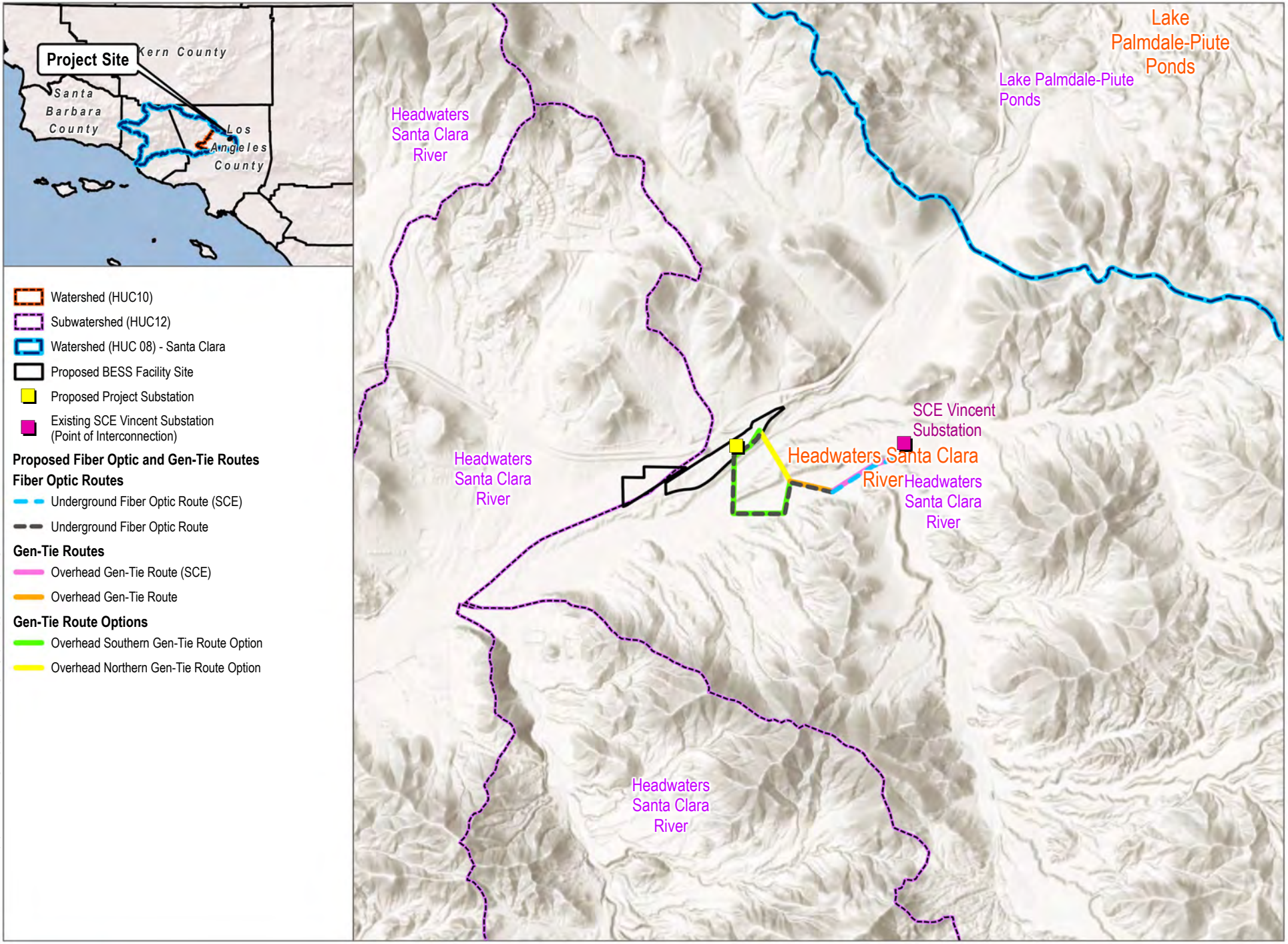

SOURCE: USGS

DUDEK

0 2,500 5,000 Feet

FIGURE 3.15-2

USGS Hydrologic Setting

Prairie Song Reliability Project

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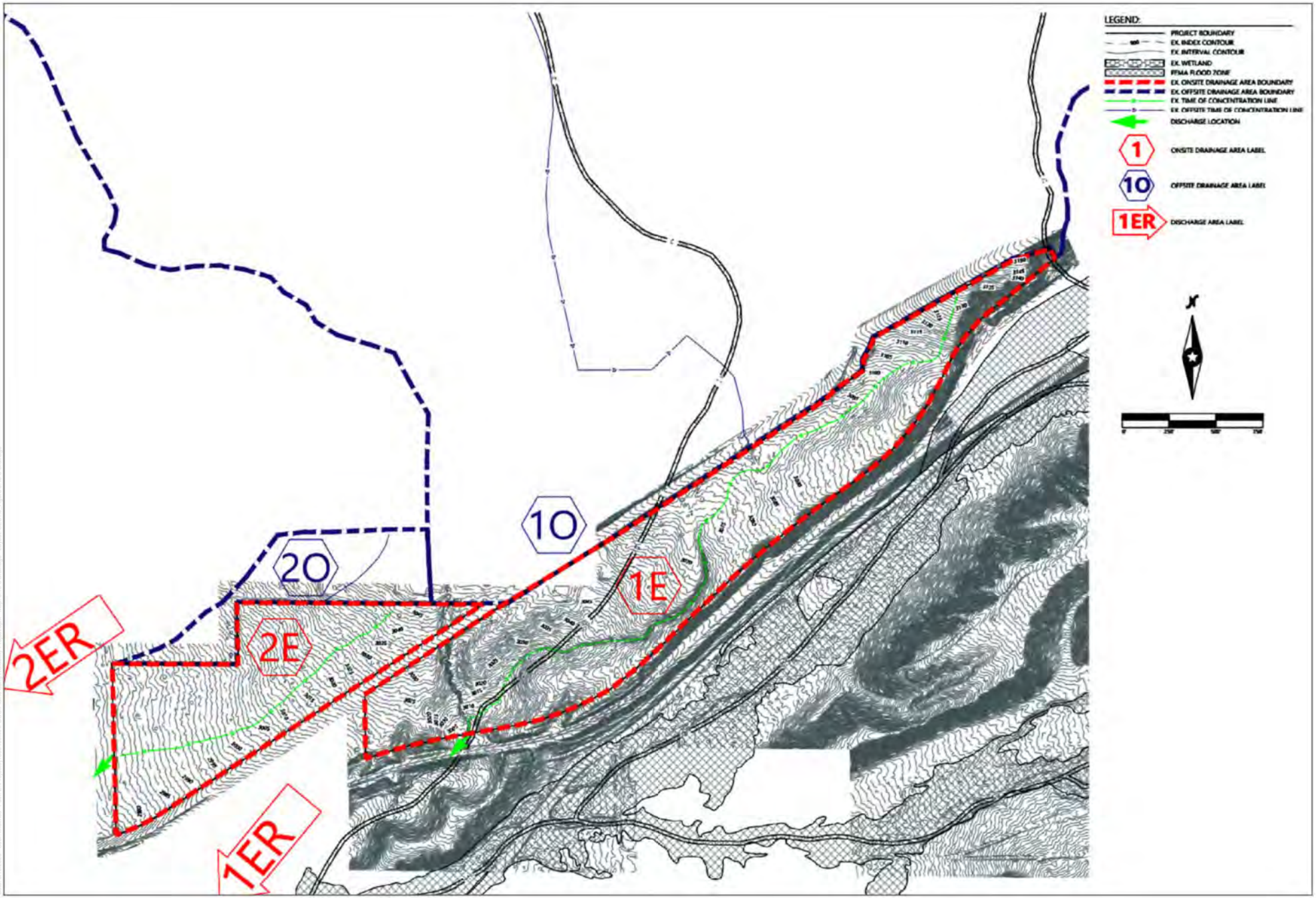

SOURCE: Westwood

FIGURE 3.15-3

Local Drainage Features

Prairie Song Reliability Project

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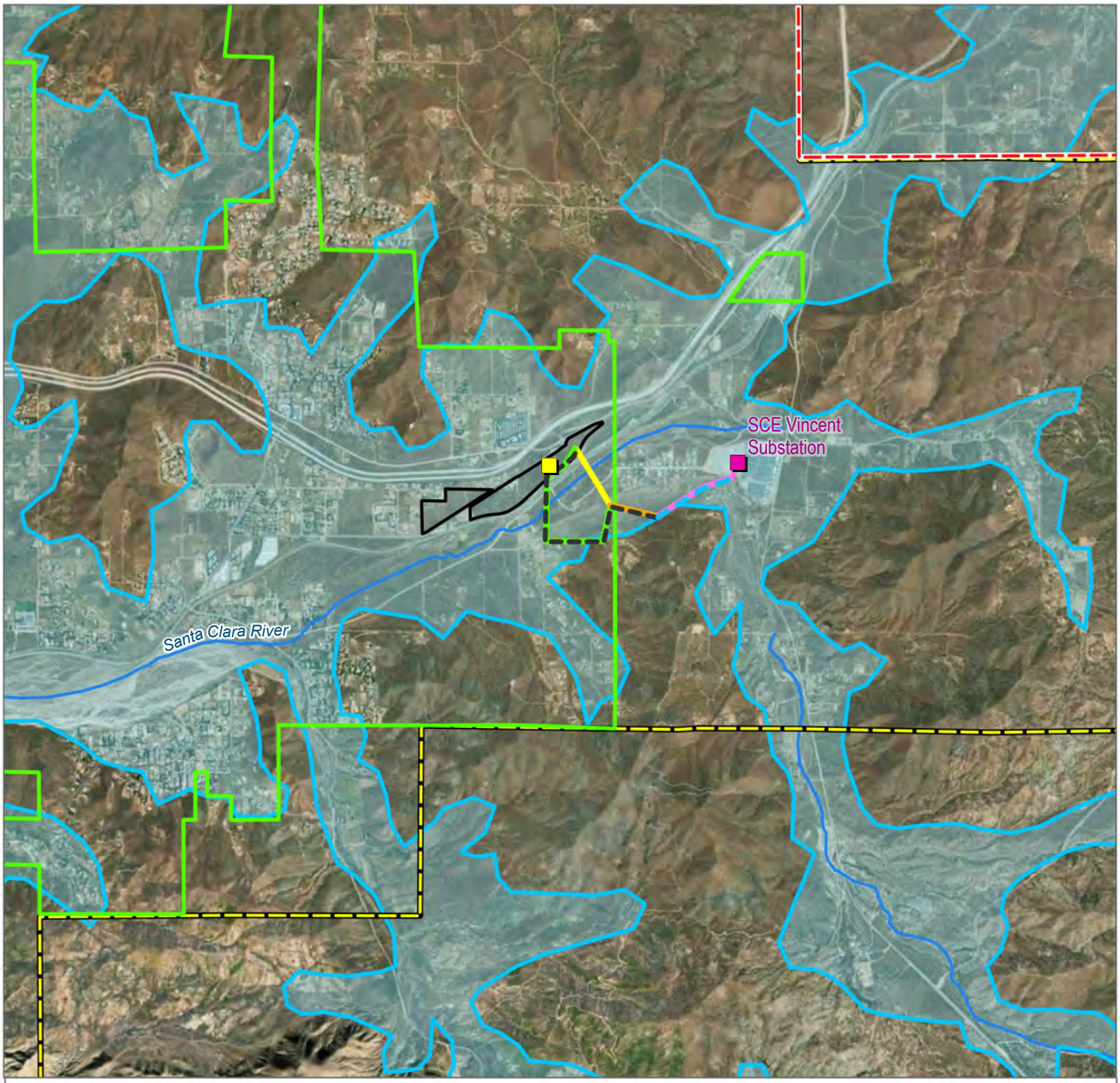

Antelope Valley Groundwater Basin No. 6-044

Water Agency

Antelope Valley - East Kern Water Agency

Los Angeles County Waterworks District 37 - Acton

Palmdale Water District

Santa Clara River

Proposed BESS Facility Site

Proposed Project Substation

Existing SCE Vincent Substation (Point of Interconnection)

Proposed Fiber Optic and Gen-Tie Routes

Fiber Optic Routes

Underground Fiber Optic Route (SCE)

Underground Fiber Optic Route

Gen-Tie Routes

Overhead Gen-Tie Route (SCE)

Overhead Gen-Tie Route

Gen-Tie Route Options

Overhead Southern Gen-Tie Route Option

Overhead Northern Gen-Tie Route Option

SOURCE: DWR, RWQCB

DUDEK

0 1,500 3,000 Feet

FIGURE 3.15-4

Groundwater Basins and Water Agency Boundaries

Prairie Song Reliability Project

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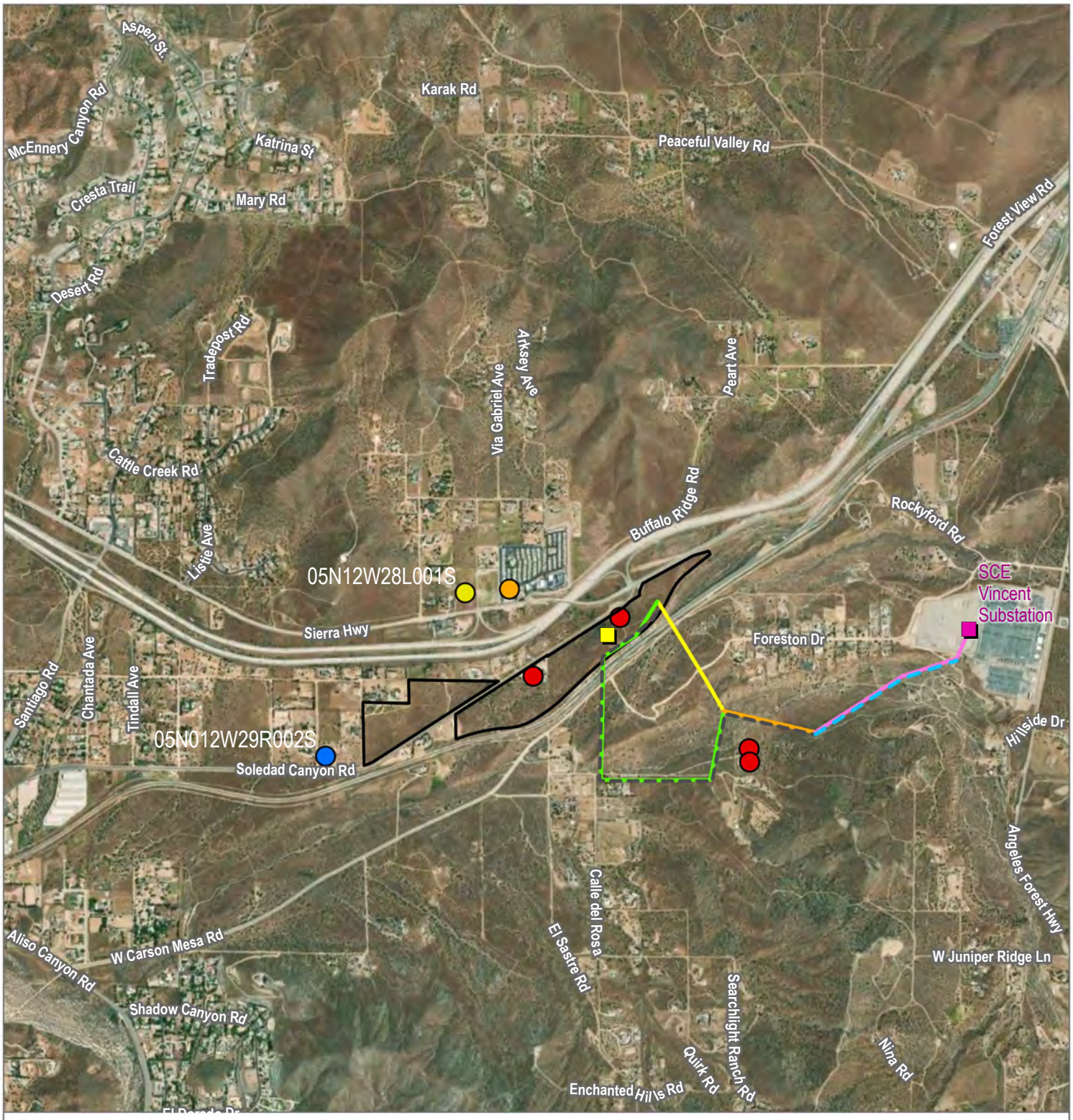

SOURCE: SWRCB, DWR, USGS

DUDEK

0 500 1,000 Feet

FIGURE 3.15-5

Groundwater Wells within 0.5 miles

Prairie Song Reliability Project

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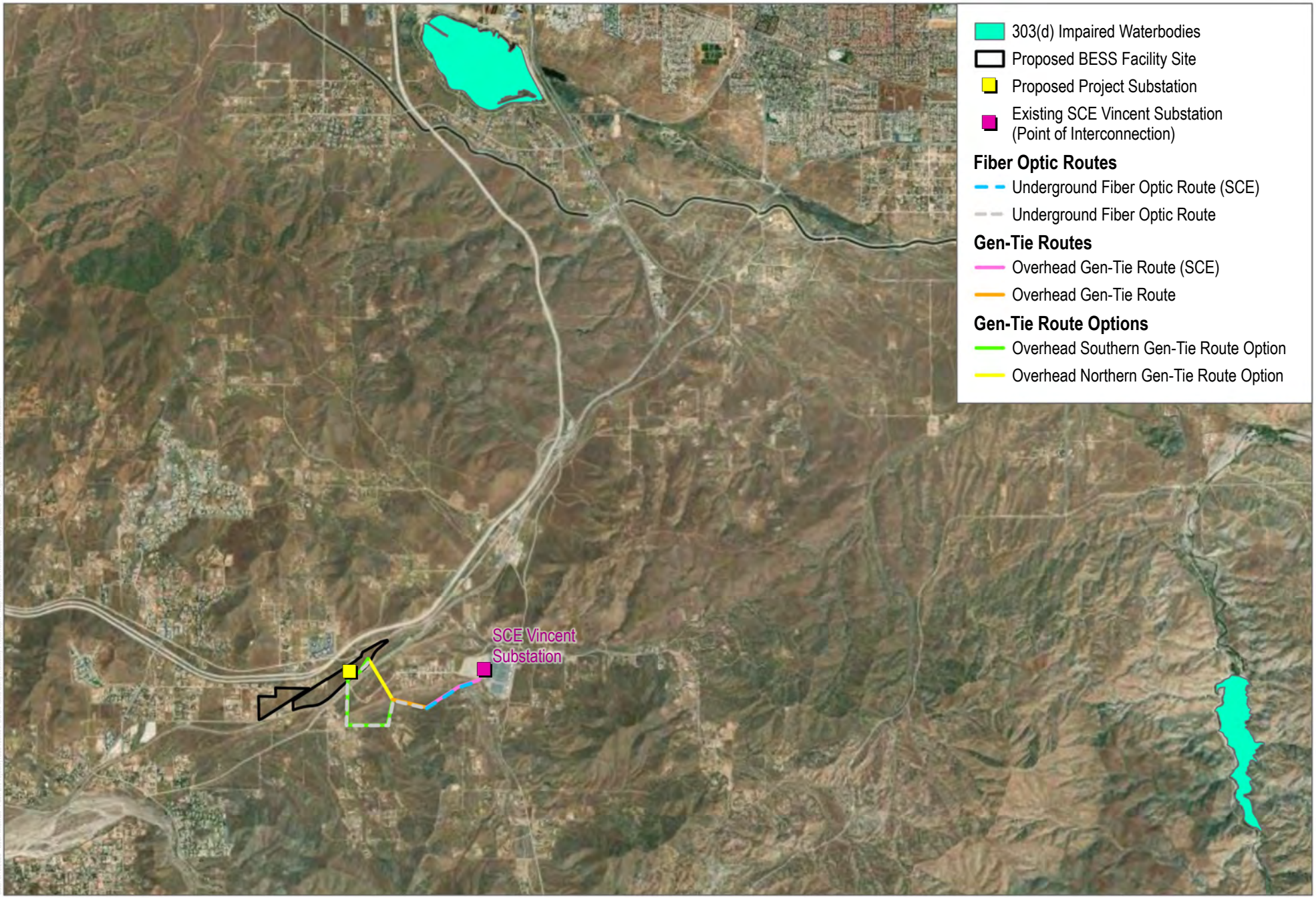

SOURCE: EPA; World Imagery

DUDEK

0 2,000 4,000 Feet

FIGURE 3.15-6

Impaired Waterbodies

Prairie Song Reliability Project

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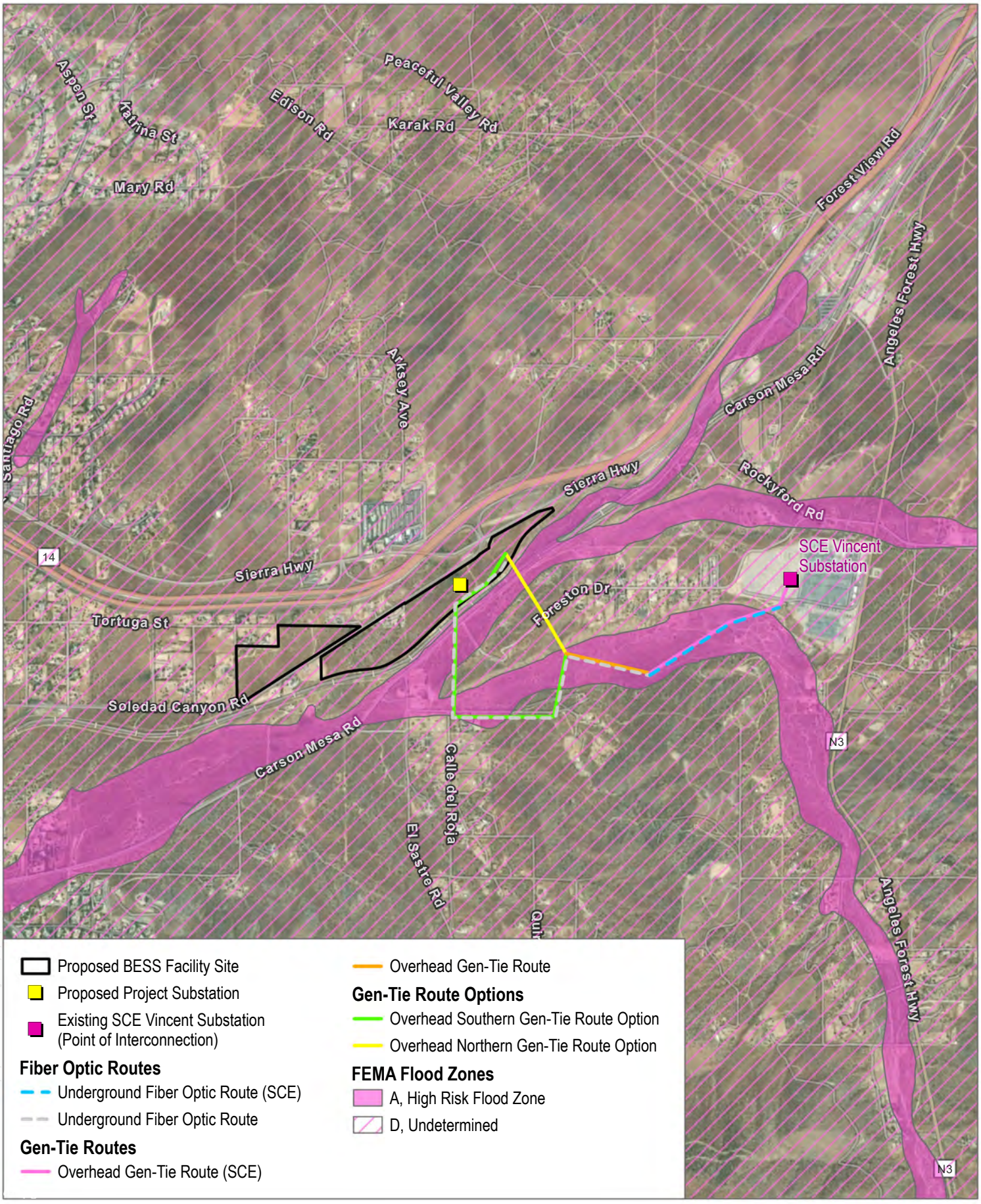

SOURCE: FEMA

DUDEK

0 500 1,000 Feet

FIGURE 3.15-7

FEMA Flood Zones

Prairie Song Reliability Project

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Attachment 5

Incidental Take Permit Application Package

DUDEK
225 SOUTH LAKE AVENUE
SUITE M210
PASADENA, CALIFORNIA 91101
T 626.204.9800

December 23, 2025

California Department of Fish and Wildlife
South Coast Region 5
ATTN: Erinn Wilson-Olgin
3883 Ruffin Road, San Diego, CA 92123

Subject: **California Department of Fish and Wildlife Incidental Take Permit Application Package, Prairie Song Reliability Project, Los Angeles County, California**

Pursuant to Sections 2081(b) and 783.2–783.8 of the California Fish and Game Code, Prairie Song Reliability LLC (applicant) is providing the information for an application for an Incidental Take Permit (ITP) for potential impacts to the state-listed candidate endangered Crotch's bumble bee (*Bombus crotchii*), which may be associated with the Prairie Song Reliability Project (Project) in Los Angeles County, California. Each item provided in this application is required per the California Code of Regulations Title 14, Division 1, Subdivision 3, Chapter 6, Article 1, Section 783.2.

Sincerely,

Garrett Lehman
Applicant
Prairie Song Reliability LLC

Michael Cady
Authorized Agent
Dudek

Attachments: *1 - CDFW Incidental Take Permit Application Package, Prairie Song Reliability Project*
2 - Figures 1–7

cc: *Erin Phillips (Dudek)*

Attachment 1

California Department of Fish and Wildlife Incidental Take Permit Application Package, Prairie Song Reliability Project

1 Applicant Information

Applicant

Garrett Lehman, Director

Authorized Agent

Michael Cady, Senior Biologist, Dudek

2 Species Proposed for Coverage by Take Permit

The species proposed for coverage in this ITP application are presented below in Table 1.

Table 1. Project Proposed Species for Coverage by Take Permit

Common Name	Scientific Name	CESA Status
Crotch's bumble bee	*Bombus crotchii*	SCE

Notes: SCE= state candidate endangered

Crotch's bumble bee is one of several bumble bee species proposed (Xerces Society for Invertebrate Conservation 2018) for listing as endangered under California's Endangered Species Act. Crotch's bumble bee is generally distributed through wildlands and rural areas in low to middle elevations (sea level to at least 6,000 feet) of California and exploits a wide range of habitats including native and exotic grasslands, coastal marshes, scrub lands, chaparral, oak-juniper woodlands, pinon woodlands, and desert transition vegetation (on western margins of the Mojave and Colorado deserts). The range and overall abundance of the Crotch's bumble bee is believed to have declined substantially over the last two decades (Hatfield et al. 2021, The Xerces Society for Invertebrate Conservation et al. 2018) due to habitat loss from urban and agricultural expansion, as well as the effects of herbicides (Motta et al. 2018) and insecticides (Whitehorn et al. 2012, Muth, F. and A. S. Leonard. 2019) in agricultural settings, especially in California's central valley.

Over recent centuries, competition for floral resources (as well as associated exotic diseases) from the introduced European honeybee (*Apis mellifera*) has likely led to a decline of many bumble bee species (and many other bees) across the western hemisphere. Like most bumble bees, Crotch's bumble bee nest in cavities in the soil, often abandoned rodent burrows, and the adults (queens, workers, and males), active in the daytime, all visit nectar and pollen resources. Crotch's bumble bee utilize a diverse range of floral resources including those among Asclepiadaceae, Asteraceae, Boraginaceae, Brassicaceae, Ericaceae, Fabaceae, Hydrophyllaceae, Lamiaceae, Orobanchaceae, Plumbaginaceae, Polygonaceae, Scrophulariaceae, and Solanaceae families; and exhibit clear contextual preferences associated with flower species availability on any given time and location. Typically, *Asclepias* spp., *Salvia* spp., *Astragalus* spp., *Acmispon* spp., and *Vicia* spp. are among the preferred flowers by the species. Bumble bees commonly utilize floral resources 0.2 to 0.3 km from their nests but may forage more than two kilometers from their nests (Osborne et al. 1999, Keyer et al., 2004). This vagility allows the bumble bees to utilize disconnected patches of suitable forage resources on such a landscape scale that populations may exist on habitat patches within a matrix of urban developed areas.

As the spring season progresses, workers (small female non-reproductive bees) are produced with increasing numbers and escalate the provisioning of the colony, which continues to grow until in early to mid-summer when new males (from unfertilized eggs) are produced along with the new generation of future queens. Workers and

males live for only a few weeks. Thus, overall Crotch's bumble bee numbers are highest (include workers and males) in late spring through mid-summer seasons, very low in fall and early spring (gynes only), and virtually undetectable during the overwintering season (when dormant underground).

3 Project Description

Prairie Song Reliability Project LLC, a Delaware limited liability company (Applicant), a subsidiary of Coval Infrastructure DevCo LLC, a Delaware limited liability company, proposes to construct, operate, and eventually repower or decommission the up to 1,150-megawatt (MW) Prairie Song Reliability Project (Project) located on up to approximately 107 acres in unincorporated Los Angeles County (Figure 1, Project Location, [all figures can be found in Attachment 3]). The primary components of the Project include a containerized battery energy storage system (BESS) facility utilizing lithium-iron phosphate cells, or similar technology, operations and maintenance (O&M) buildings, an on-site Project substation, a 500-kilovolt (kV) overhead generation interconnection (gen-tie) transmission line, and interconnection facilities within the existing Southern California Edison (SCE)-owned and operated Vincent Substation.

Electrical energy will be transferred from the existing power grid to the Project for storage and from the Project to the power grid when additional electricity is needed. The Project will provide additional capacity to the electrical grid to assist with serving load during periods of peak demand by charging when demand is low and discharging when demand is high. This operating principle increases the integration of additional intermittent renewable energy, such as wind and solar, in California's energy mix and reduces the need to operate natural gas power plants. The Project will also serve as an additional local/regional capacity resource that will enhance grid reliability, particularly to the Los Angeles Basin local reliability area and may allow for the deferral or avoidance of regional transmission facilities.

The Project will be remotely operated and monitored year-round as well as supported by on-site O&M staff seven (7) days a week. The Project will be available to receive or deliver energy 24 hours a day and 365 days a year. During the operational life of the Project, qualified technicians will inspect the Project facilities and conduct necessary maintenance to ensure reliable and safe operational readiness.

3.1 Project Components

The Project will include construction, O&M, and eventual decommissioning of an up to 1,150MW BESS. A 500kV gen-tie connecting the Project substation to the POI within the existing SCE Vincent Substation, will facilitate charging and discharging to the electrical grid.

3.1.1 General Facility Description, Design, and Operation

The BESS facility will include the following primary components:

- Battery Energy Storage System (BESS) Enclosures
- Power Conversion Systems (PCS)
- Medium voltage (MV) Collection System
- Project Substation, Control Building, and Telecommunications Facilities
- Access Roads

- Laydown Yards
- Stormwater Detention Facilities
- Site Security and Fencing
- Fire Detection and Suppression System
- Operations and Maintenance Building
- Existing Distribution Line Reroute

Project components are described in the following subsections. Figure 2, Project Site Plan, shows the Project layout. Table 2 summarizes the preliminary dimensions of major BESS facility components, and Table 3 summarizes the preliminary footprint/disturbance acreage associated with the BESS facility.

Table 2. Preliminary Dimensions of Major BESS Facility Components

Component	Quantity	Approximate Dimensions
BESS Enclosures	2,035*	20 ft × 8 ft × 9.5 ft (L × W × H)
PCS	517*	20 ft × 8 ft × 9.5 ft (L × W × H)
MV Collection system	—	Buried in trenches up to 10 ft × 10 ft (W × D)
Project Substation Area	1	2,545 ft × 440 ft (L × W); seven (7) 150 ft (H) (lightning masts)
Control Building	1	27 ft W × 95 ft L × 10 ft H (to ceiling)
Access Roads	—	26 ft (W) internal radii 55 ft minimum
Fire Water Tanks	2	33 ft in Diameter × 16 ft H
Laydown Yards	3	Variable
Stormwater Detention Facilities	2	Variable
Security Wall	—	Minimum 8 ft H block wall topped with 1 ft of barbed/razor wire
Operations and Maintenance Building	2	20 ft × 60 ft × 15 ft (L × W × H)

Notes: BESS = battery energy storage system; PCS = power conversion system; MV = medium voltage.

* The number of BESS enclosures and PCS units will depend on the manufacturer selected. The total number of BESS enclosures and PCS units may increase or decrease in the final design. It is also possible that the BESS units ultimately procured may incorporate the PCS units within the BESS enclosures.

Table 3. Preliminary Footprint of BESS Facility

Component	Permanent Disturbance
BESS Yards	30.0 acres
Project Substation	23.1 acres
Access Roads	7.9 acres
Laydown Yards	1.0 acres
Stormwater Detention Facilities	4.1 acres
*Other**	*4.7 acres*
Total+	**70.8 acres**

Notes: BESS = battery energy storage system.

* Other areas include maximum grading limits. The analyses assume that all areas used for the BESS facility are permanently disturbed.

\+ The total permanent disturbance acreage is a conservative estimate, and final designs may require fewer acres. Underground components within the BESS facility will be located within the footprint of above ground disturbance areas.

3.1.1.1 Battery Energy Storage System

The energy storage facility will utilize a modular and containerized BESS. There are several battery cell technologies commercially available, with one of the most common presently being lithium iron phosphate (LFP) cells, or similar. LFP technology is considered one of the safest, most efficient, and commercially financeable energy storage technologies available on the market. The Project has been developed and designed assuming an LFP technology. By the time the Project reaches the procurement stage, it is possible for other battery cell technology with proven safety and performance records to be suitable for the Project. Although the number and dimensions of the containers may change (as it does between LFP technology providers), the technology ultimately procured will result in potential environmental impacts substantially similar to, or less than, those analyzed based on this Project Description. The Sungrow Power Titan II has been selected for this project application as a representative BESS enclosure. Sungrow Power Titan II design and operation information is used in this application to set maximum potential impact envelopes, for site design and modeling analysis, and to set baseline safety standards. A final manufacturer for the BESS enclosures will be selected during the detailed design process post-certification. The Project will provide defensible space by setting back all BESS enclosures at least 100 feet from the property boundary.

The BESS enclosures will be prefabricated off site and arrive at the site ready to be installed and commissioned. Each modular BESS enclosure will include battery packs on racks, a battery management system, fire detection systems, thermal management systems (either liquid or air cooled depending on final selected technology), and ancillary power electronics within a specialized steel-framed, non-occupiable container. The BESS enclosures will not exceed 15 feet in height.

Over the life of the project the storage capacity of the battery cells will naturally degrade. The project will implement an augmentation strategy to maintain the contractually required capacity of the system. Augmentation will entail either a capacity maintenance approach of adding/replacing individual battery modules in the existing BESS yard or designing the BESS system to incorporate space for additional BESS enclosures for later augmentation. The Project design and analysis front loads the work for the Project augmentation and assumes that it will install the end-of-life capacity at the start of construction. This assumption is made to capture potential augmentation impacts during construction instead of trying to assume the augmentation schedule for the Project. Equipment type/specifications, commercial factors, and tax incentives can all change how and when augmentation is completed. Front loading augmentation to occur during construction creates a conservative case for the analysis of potential impacts that could arise from augmentation and sets a maximum impact envelope for the Project. During Project operations, the Project analysis assumes that one (1) crane and one (1) forklift will operate in support of augmentation once every three (3) to five (5) years for eight (8) hours per day.

3.1.1.2 Power Conversion System

A PCS is a packaged and integrated, or assembled, system consisting of a bi-directional inverter, MV transformers, protection equipment, direct current (DC) and alternating current (AC) circuit breakers, harmonic filters, equipment terminals, and a connection cabling system. A PCS functions to both convert between DC/AC and change the voltage level from the MV collection voltage to the working voltage of the BESS enclosures.

The PCS will convert electric energy from AC to DC when the energy is transferred from the grid to the battery, and from DC to AC when the energy is transferred from the battery to the grid. Each PCS will also include transformers that convert the AC side output of the inverter between low and medium AC voltage to increase the overall efficiency

of the BESS. Inverters within the PCS units will be unattended systems designed to operate in all conditions. The inverters will be monitored and controlled remotely, and there will be on-site disconnects for use in case of an emergency or a situation requiring unscheduled maintenance.

PCS units will be installed on concrete foundations or steel piles and connected to multiple BESS enclosures with wiring and cables installed underground. All outside electrical equipment will be housed in the appropriate National Electrical Manufacturers Association-rated enclosures.

3.1.1.3 MV Collection System

The MV collection system will include multiple components that connect the PCS units to the Project substation including underground conductor circuits, switchboards, switchgear, and panels at 34.5kV. The conductors for the MV collection system will be installed underground during construction using trenching.

To connect the portion of the BESS yard north of Soledad Canyon Road to the Project substation, which is located south of Soledad Canyon Road, a portion of the MV collection system will need to be located underground within Soledad Canyon Road. An 180-foot-wide underground corridor will house the MV collection system as it traverses the road. The MV collection lines under Soledad Canyon Road will be installed using horizontal directional drilling, will be inside six (6) in conduit, covered by a minimum of 42 inches, and spaced 10 feet apart.

3.1.1.4 Project Substation

The Project substation will include six (6) main power transformers (MPTs). When the BESS facility is charging, power from the regional electric transmission grid will be stepped down from 500kV to 34.5kV and sent from the Project substation through the MV collection system and PCS units into the battery packs within the BESS enclosures. When the BESS facility is discharging, power from the battery packs within the BESS enclosures will be sent to the PCS units, stepped up to 34.5kV, and transported to the Project substation through the MV collection system before being stepped up to 500kV at the MPTs and delivered back to the regional electric transmission grid. A control building will be installed within the Project substation area and contain an energy management system, metering, and telecommunication equipment for communication with SCE/California Independent System Operator (CAISO) facilities and to support remote Project operations monitoring. The Project substation area will also include seven (7) static masts, up to 150 feet tall, for lightning protection.

3.1.1.5 BESS Facility Access Roads

The Project's roadway system will utilize existing roads wherever available and feasible and include new facility access roads and driveways, a perimeter road, and internal access roads. All new access roads, driveways, internal and perimeter roads will be bladed, compacted, and surfaced with asphalt. All internal roadways and private driveways will be constructed to meet access requirements for construction, O&M, and emergency response.

3.1.1.6 Laydown Yards

The Project will include up to three (3) laydown yards for equipment and material staging and storage during construction. These areas will also be used for worker parking during construction. The primary laydown yard will be located in the northernmost portion of the BESS site. The primary laydown yard will be bladed, compacted, and surfaced with aggregate, while an additional laydown yard to facilitate construction of the gen-tie line will be cleared

of vegetation and surfaced with aggregate or other soil stabilizing materials. Landscape fabric may also be installed under the surface of all laydown yards to prevent vegetation growth, if required to comply with fire prevention standards. The O&M building and required number of parking spaces for O&M staff will be constructed within the primary laydown following construction of the BESS facility components.

The proposed Project's preliminary layout, earthwork volumes, and Project component dimensions assumed for environmental analyses in subsequent chapters are conservatively large to allow for design flexibility within the project footprint and Project schedule preservation.

3.1.1.7 Stormwater Detention Facilities

Regulatory standards require that volumes and flow rates of stormwater discharge after construction are not to exceed pre-development conditions. Stormwater generated on-site will flow to underground stormwater detention chambers located in the southwestern portions BESS facility site (Figure 2, Project Site Plan). Stormwater treatment and storage sizing will be designed to hold the anticipated runoff from a 100-year, 24-hour storm event in compliance with applicable regulations. After a rainfall event, stormwater will infiltrate into the subgrade underneath the stormwater chambers. If the design capacity of the stormwater chambers is exceeded, however, stormwater may be stored in available upstream areas such as catch basins, infiltration trenches, or drain as sheet flow from the surface.

3.1.1.8 Site Security

The BESS facility site will be enclosed with a minimum eight-foot-tall block wall topped with one (1) foot of three-strand barbed wire or razor wire. The wall will be installed on the outside of the perimeter roads. The wall will be required to prevent unauthorized access and to comply with human health and safety regulations. Gates will be installed at various access points along the wall and equipped with locks and knox boxes to allow for authorized personnel (e.g., transmission service provider, O&M staff, emergency response) to access appropriate portions of the BESS facility site. The wall will serve a dual purpose for security and off-site noise reduction.

Lighting will only be in areas where it is required for safety, security, or operations. Controlled security lighting, no more than 28 feet tall, will be installed at the Project substation and around the BESS yards, in accordance with applicable requirements and regulations. Permanent motion-sensitive, directional security lights will be installed to provide adequate illumination around the substation area and points of ingress/egress. All lighting will be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties, compliant with applicable codes and regulations. Security cameras will be placed on site and monitored 24/7.

3.1.1.9 Fire Detection and Suppression System

Fire protection will include multiple fire detection systems on-site and within the individual BESS enclosures. Each BESS enclosure will have a fire rating in conformance with the California Fire Code 2022. In addition, each BESS enclosure will contain an onboard battery management system that monitors the appropriate state of individual battery cells and relays information 24/7 and an internal Fire Alarm Control Panel that will identify which units have incidents and will notify first responders. In the event of an anomaly, the system is designed to shut down and mitigate the hazard.

The Project's fire protection design will comply with California Fire Code 2022, Section 1207 Electrical Energy Storage Systems, which adopts the National Fire Protection Association's Standard for the Installation of Stationary Energy Storage Systems (NFPA 855). BESS enclosures will be Underwriters Laboratories (UL) listed, tested, and certified to the most rigorous international safety standards. UL independently tests equipment for compliance with the latest fire safety code requirements, and the methods were developed to minimize fire risk and safety concerns about battery storage equipment raised by fire departments and building officials in the United States.

Faults, mechanical damage, or manufacturing defects in lithium-ion batteries can cause thermal runaway, which can lead to fires or other hazards. Should a thermal runaway event occur, the BESS enclosures are designed and constructed in such a way that fire will not propagate from one enclosure to a neighboring enclosure. The Project's BESS enclosures, as part of the testing and listing process, will be subjected to destructive testing including fire testing. The Project's BESS enclosures will include the following UL certifications:

- UL 1642 – Standard for Lithium Batteries (cell level certification).
- UL 1973 – Standard for Batteries for Use in Stationary Applications (module level certification).
- UL 9540 – Standard for Energy Storage Systems and Equipment (system level certification).
- UL 9540A – Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems.
- IEC 62619 – Standard for Battery Safety in Stationary Applications.

The BESS facility ingress/egress and circulation will be designed to comply with LA County's Draft fire regulations. Each portion of the BESS facility (the BESS yards north and south of Soledad Canyon Road.) will have primary and secondary access points. The BESS yard north of Soledad Canyon Road. will have a primary access point in the southwest corner of the site and a secondary access point in the northwest corner of the site, near the O&M buildings and laydown yard. The BESS yard south of Soledad Canyon Road. will have a secondary access point directly across from the secondary access point for the northern BESS yard and a primary access point that is approximately 1,030 feet east of the secondary access point. There will also be an access point for the Project Substation that is approximately 340 feet east of the BESS yard primary access point, in the approximate middle of the Project area that is south of Soledad Canyon Road. All access points will have Knox boxes and will connect to roads that are 26 feet wide.

Water for fire defense will be provided via an on-site well that will serve two (2) 40,000-gallon water tanks. There will be a separate water tank and booster pump in each of the BESS yards. The water tanks will serve hydrants located throughout the BESS yards. Hydrants were specifically located to be no more than 300 feet apart throughout the BESS yards. The project commissioned a fire water supply assessment that concluded that the maximum amount of water necessary to fight a fire on the site would be 15,000 gallons. The project will provide 40,000 gallons of water at each BESS yard.

The fire water line system has been highlighted in PSR-BE-201. PSR-BE-201 shows the existing well in the south BESS yard and the water line connection to the water tank in that same yard (approximately 245 feet to the northeast of the existing well). The water tank and associated pumphouse serve as the distribution point for the fire water line. Three (3) lines leave the pumphouse. Two (2) fire water lines support the hydrant system in the south BESS yard. The loops follow the road and surround each of the BESS blocks. The third fire water line runs southwest along the northern road in the south BESS yard until it comes to the first responder secondary entrance. The fire water line then heads north and crosses Soledad Canyon Road along the northeastern side of the two (2) opposing

first responder secondary entrances. Once in the north BESS yard, the fire water line heads back southwest along the southern road in the north BESS yard for approximately 1,030 feet. The fire water line then heads north and connects to the pump house and water tank in the north BESS yard. There are two (2) fire water lines that exit the pump house in the north BESS yard that serve the hydrants that are spaced along access roads and surround the BESS blocks. The Los Angeles County Fire Department will review and comment on the facility fire protection and suppression plans.

3.1.1.10 Operations and Maintenance Building

O&M buildings will be constructed for the Project's anticipated 16 full-time operations staff and is planned to be in the easternmost portion of the BESS yard north of Soledad Canyon Road. The O&M buildings will include parking, outside equipment and laydown areas, basic offices, meeting rooms, washroom facilities and climate-controlled storage for certain equipment and materials. An existing groundwater well will provide water for washroom and a septic system will provide for sanitary facilities. The existing groundwater well is located south of Soledad Canyon Road on APN 3056-019-026. To serve the O&M buildings and fire water needs, which are located north of Soledad Canyon Road, an underground water line will be constructed from the existing groundwater well to the O&M buildings as shown in Figure 2, Project Site Plan. A portion of the water line will be located within Soledad Canyon Road as shown in Figure 2, Project Site Plan. The water line will run under Soledad Canyon Road along the northeast edge of the opposing first responder secondary access points between the north and south BESS yards. The water line will be covered by a minimum of 24 inches of material. The water line will be installed via horizontal directional drilling.

3.1.1.11 Existing Distribution Line Reroute

There is currently an SCE overhead electrical distribution line that bisects the southern portion of the BESS facility site. The distribution line consists of wooden poles with a cross bar carrying the distribution lines. The Project plans to reroute this line around the BESS facility site using similar distribution poles and wires. The Project will alter the existing distribution line route from where it enters the property on the south side of the BESS facility site. The Project will install approximately nine (9) poles similar to the existing poles, outside of the BESS facility site wall, along the southern and western boundary of the BESS facility site south of Soledad Canyon Road until they connect with Soledad Canyon Road. At Soledad Canyon Road, the new distribution line will tie into the existing distribution line at the western boundary of the southern BESS facility site.

3.1.2 Transmission and Interconnection Description, Design, and Operation

The Project will be interconnected to the regional electrical transmission grid via an approximately 1.1-mile-long or 1.8-mile-long new single-circuit 500kV gen-tie line within an up-to 150-foot-wide corridor between the Project substation and the SCE Vincent Substation. The Applicant will construct and own the portion of the gen-tie line between the Project substation and the Point of Change of Ownership (POCO) transmission structure (see Figure 2, Project Site Plan, site layout Pole 10), and SCE will construct and own the remaining portion of the gen-tie from the POCO to the POI within the Vincent Substation. The Project's transmission and interconnection facilities will include the following components:

- 500kV Gen-Tie Line including Transmission Structures and Conductors

- Fiber Optic Telecommunications Utility Poles and Fiber Optic Lines
- Access Paths
- Temporary Work Areas
- Interconnection Facilities within Existing SCE Vincent Substation Footprint (SCE constructed and owned)

The proposed route was selected to minimize the number of existing utility crossings, cross existing utilities at the optimum locations, minimize the total gen-tie line length and number of transmission structures required, minimize the number of turning structures required, and enter the Vincent Substation as close as possible to the POI. The proposed transmission structures were sited to avoid potential impacts to environmental resources. Project components associated with transmission and interconnection facilities are described in the following subsections. Where the gen-tie routes, scattered rural residences, scenic areas (scenic drives and the Los Angeles National Forest), and existing transmission lines within one (1) mile of the proposed routes. There are no parks or recreational areas within one (1) mile of the proposed routes. Table 4 summarizes the preliminary dimensions of major transmission components, and Table 5 summarizes the preliminary new ground disturbance area associated with construction of the transmission and interconnection facilities (Southern Gen-Tie scenario).

Table 4. Preliminary Dimensions of Major Transmission Components

Component	Quantity	Approximate Dimensions
500kV Gen-Tie Line	1	Applicant Owned: North: 3,500 ft long / South: 7,300 ft long
		SCE Owned: 2,800 ft long
Substation Bay Dead-End Transmission Structure	1	Applicant Owned: 170 ft tall
		SCE Owned: n/a
Angled Dead-End Transmission Structure	up to 7	Applicant Owned: 175 ft tall to 195 ft tall
		SCE Owned: n/a
Tangent Delta Transmission Structure	1	Applicant Owned: 155 ft tall (Northern Gen-Tie Route) to 180 ft tall (Southern Gen-Tie Route)
		SCE Owned: n/a
Lattice Tower Transmission Structure	2	Applicant Owned: n/a
		SCE Owned: 234 ft tall to 243 ft tall
Conductors	1	Applicant Owned: North: 30,800 ft / South: 63,000 ft
		SCE Owned: 16,000 ft
Overhead Shield Wire	1	Applicant Owned: North: 3,600 ft / South: 7,300 ft
		SCE Owned: 2,900 ft
Fiber Optic Cables on Gen-Tie Structures	1	Applicant Owned: North: 3,600 ft / South: 7,300 ft
		SCE Owned: 2,900 ft
Fiber Optic Cables Underground	2	Applicant Owned: 12,000 ft
		SCE Owned: 5,700 ft
Transmission Structure Access Path	Varies	26 ft wide
Transmission Line Corridor	1	150 ft wide

Notes: kV = kilovolt; SCE = Southern California Edison; gen-tie = generation interconnection.

Table 5. Approximate New Ground Disturbance Area Associated with Transmission and Interconnection Facilities

Component	Permanent Disturbance	Temporary Disturbance
Applicant Portion		
Transmission Structure Pads	2.48 acres	—
Transmission Structure Access Path	1.14 acres	—
Laydown Area	—	4.23 acres
Tension and Pulling Sites (i.e., Gen-Tie Work Area)	—	19.4 acres
Applicant Total	**3.62 acres**	**~23.63 acres**
SCE Portion		
Transmission Structure Pad	0.3 acres	—
Transmission Structure Access Path	0.5 acres	—
Tension and Pulling Sites (i.e., Gen-Tie Work Area)	—	8.99 acres
SCE Total	**0.8 acres**	**8.99 acres**

Note: gen-tie = generation interconnection; SCE = Southern California Edison.

3.1.2.1 500kV Gen-Tie Line

The 500kV gen-tie line will originate at the Project substation within the BESS facility site and extend south and east, crossing Southern Pacific Railroad tracks and West Carson Mesa Road, as close to perpendicular as possible, and then proceed northeast to the POI at the Vincent Substation. The Project proposes a Northern Gen-Tie Route and Southern Gen-Tie Route. The Applicant understands a crossing agreement with LACMTA will be required prior to construction. LACMTA requires a crossing agreement application to include a 90% design package. This will be provided as the Project design progresses. The Project expects to submit the application in 2026.

The interconnecting 500kV transmission single-circuit configuration will be overhead. The gen-tie line will be constructed with either monopole tubular steel poles or steel lattice towers. Gen-tie structures will be at least 155 feet tall, with a maximum height of 243 feet. There will be a total of approximately one (1) monopole or steel lattice tower structures. The total number of gen-tie structures will be determined by the final design of the gen-tie line. The Project transmission facilities will be designed consistent with the *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) where feasible. Transmission facilities will also be evaluated for potential collision reduction devices in accordance with *Reducing Avian Collisions with Power Lines: The State of Art in 2012* (APLIC 2012).

The POCO will be located on APN 3056-015-023 (see Pole 10 within Figure 2, Project Site Plan). The POCO is the point where the conductors of the Generation Tie-Line are attached to the Last Structure, which will be connected on the side of the last project owned structure (Last Structure) facing Vincent Substation. The project shall own and maintain the Last Structure, the conductors, insulators and jumper loops from such Last Structure to the Interconnection Customer's Large Generating Facility. SCE will own and maintain the Vincent Substation, as well as all towers, transmission lines, circuit breakers, disconnects, relay facilities and metering within the Vincent Substation, together with the line drop, in their entirety, from the Last Structure to Vincent Substation. SCE will own the insulators that are used to attach the project-owned conductors to the Last Structure.

The conductor from the site to the POCO is planned to be triple bundle 795 Drake or equivalent. The conductor from the POCO to the Vincent Substation will be double bundle 2156 Bluebird or equivalent.

Table 4 includes the approximate number and dimensions of the different types of transmission structures that will be used.

3.1.2.2 Transmission Structure Access Path

Where possible, the transmission structure access path will utilize existing access roads to minimize new ground disturbance. A transmission structure access path up to 26 feet wide will be located within portions of the transmission corridor outside of the BESS facility and Vincent Substation footprints and generally follow the centerline of the gen-tie.

3.1.2.3 Telecommunication Facilities

The facility will be designed with a comprehensive Supervisory Control and Data Acquisition (SCADA) System to allow remote monitoring of facility operation and/or remote control of critical components. The fiber optic or other cabling required for the monitoring system typically will be installed in buried conduit within the access road or planned trenching leading to a SCADA system cabinet at the Project substation. External telecommunications connections to the SCADA system cabinets could be provided through wireless or hard-wired connections to locally available commercial service providers.

The Project's SCADA system will interconnect to an external fiber optic network or fixed wireless service at the Project substation and will require installation of buried fiber optic cables underground or fixed wireless antennas. External telecommunications connections to the SCADA system cabinets could be provided through wireless or hard-wired connections to locally available commercial service providers, so no additional disturbance associated with telecommunications is anticipated. As such, the Project will not require any substantial construction efforts regarding telecommunications facilities and structures. No relocation of existing telecommunication structures will occur.

Telecommunications equipment will be installed between the control building at the Project substation and the Vincent Substation to facilitate communication with SCE/CAISO facilities. To achieve communication requirements with the Vincent Substation, the project will involve the following:

- Install optical ground wire on the Generation Tie-Line to provide one (1) of three (3) telecommunication paths required for the line protection scheme, the remote terminal units. A minimum of eight (8) strands within the optical ground wire shall be provided for SCE's exclusive use into Vincent Substation.
- Install appropriate single-mode fiber optic cable from the Project Site to a point near the POCO to the Vincent Substation to provide the second telecommunication path required for the line protection scheme and the RAS. A minimum of eight (8) strands within the single-mode fiber optic cable shall be provided for SCE's exclusive use. The telecommunication path shall meet the Applicable Reliability Standards criteria for diversity.
- Install appropriate single mode fiber optic cables from the Project Site to a point designated by SCE near the Vincent Substation to provide a third telecommunication path required for the Generation Tie-Line protection scheme. A minimum of eight (8) strands within the single mode fiber optic cable shall be provided

for SCE's exclusive use. The telecommunication path shall meet the Applicable Reliability Standards criteria for diversity.

- Own, operate and maintain all three (3) telecommunication paths (including optical ground wire, any fiber-optic cables, and appurtenant facilities) up to the POCO.

In addition to the telecommunications equipment installed by the Project, SCE will install the following equipment:

- Lightwave, channel, and associated equipment (including terminal equipment), supporting protection and the remote terminal unit requirements at the Project Site and Vincent Substation for the interconnection of the Project. Notwithstanding that certain telecommunication equipment, including the telecommunications terminal equipment, will be located on the Interconnection Customer's side of the POCO, SCE shall own, operate and maintain such telecommunication equipment as part of the SCE's Interconnection Facilities.
- Install appropriate length of fiber optic cable, including conduit and vaults, from the Vincent Substation 500kV switchrack to extend the fiber optic cable and conduit into the communication room at Vincent Substation. The 2021 Reassessment Study assumed the installation of approximately 250 feet of underground fiber optic cable and associated conduit, and one (1) 4-foot × 4-foot × 6-foot vault to extend the fiber optic cable into the communication room at Vincent Substation. The actual location and length of fiber optic cable and conduit, and location and number of vaults, will be determined during final engineering of SCE's Interconnection Facilities.
- Install appropriate length of fiber optic cable, including conduit and vaults, to extend the Project's second diverse telecommunications from the point designated by SCE near the SCE's Vincent Substation into the communication room at Vincent Substation. The 2021 Reassessment Study assumed the installation of approximately 250 feet of underground fiber optic cable and associated conduit, and one (1) vault to extend the Project's diverse telecommunications into the communication room at Vincent Substation. The actual location and length of fiber optic cable and conduit, and location and number of vaults, will be determined during final engineering of the SCE's Interconnection Facilities.
- Install appropriate length of fiber optic cable, including conduit and vaults, from the point designated by the SCE to extend the Project's third diverse fiber optic cable to into the communication room at Vincent Substation. The 2021 Reassessment Study assumed the installation of approximately 950 feet of underground fiber optic cable and associated conduit, and one (1) 4-foot × 4-foot × 6-foot vault to extend the fiber optic cable into the communication room at Vincent Substation. The actual location and length of fiber optic cable and conduit, and location and number of vaults, will be determined during final engineering of the Participating TO's Interconnection Facilities.

To meet these requirements, the Applicant and SCE will install one (1) of the three (3) fiber optic lines aboveground on the gen-tie structures. The two (2) other fiber optic lines will be installed underground within trenches anticipated to be up to 4 feet wide within the Southern Gen-Tie Route corridor and separated by at least 25 feet. The two (2) other fiber optic lines will be installed underground within the Southern Gen-Tie Route corridor regardless of which Gen-Tie Route corridor option is selected. Where the underground fiber optic line leaves the BESS facility site it will be installed via horizontal directional drilling underneath the railroad tracks. Horizontal directional drilling is a trenchless construction technique used to install underground utilities like pipelines and conduits without disturbing the surface. The Applicant understands a crossing agreement with LACMTA will be required prior to construction. LACMTA requires a crossing agreement application to include a 90% design package. This will be provided as the Project design progresses. The Project expects to submit the application in 2026.

3.1.2.4 Interconnection Facilities within Existing SCE Vincent Substation Footprint

To facilitate interconnection of the BESS facility to the electric transmission grid, SCE will need to install one (1) 500kV dead end structure, nine (9) 500kV coupling capacitor voltage transformers, three (3) 500kV line drops, three (3) line current relays, and one (1) 500kv line position which includes the following equipment: seven (7) 500kV circuit breakers, seven (7) 500kV disconnect switches, 84 insulators, and two (2) breaker failure backup relays. No additional network upgrades outside of the Vincent Substation are necessary to interconnect the project to the grid.

3.2 Construction

The following sections detail the approximate construction schedule and workforce, construction activities, estimated water use, and materials handling proposed by the Project.

3.2.1 Schedule and Workforce

The Project is anticipated to be built over an approximately 20-month period from the onset of site preparation activities through energization. Following energization, testing and commissioning will take place over 6 months. Initial mobilization and site preparation is anticipated to begin no later than March 2027 and testing and commissioning is anticipated to conclude no later than April 2029. The commercial operation date (COD) is expected shortly following the completion of testing and commissioning in June 2029. It is anticipated that construction crews will work 8 hours to 10 hours per day, with work occurring Monday through Friday. Overtime, night work, and weekend work will be used only as necessary to meet the Project schedule or complete time-sensitive or safety critical work. All work schedules will comply with applicable California labor laws and County regulations. Estimated durations of construction activities are presented in Table 6.

Table 6. Estimated Construction Activity Duration

Construction Activity	Estimated Duration	Estimated Timeframe
Demolition	2 weeks	3/1/2027–3/12/2027
Site Preparation	1.5 months	3/1/2027–4/15/2027
Substation Site Preparation	2 weeks	4/16/2027–4/30/2027
Civil Work and Grading	4 months	5/1/2027–8/31/2027
Substation Civil Work and Grading	1 month	9/1/2027–9/30/2027
Paving	1.5 months	8/15/2027–9/30/2027
Battery Enclosure/PCS Installation	12 months	10/1/2027–10/1/2028
Project Substation Installation	8 months	2/1/2028–10/1/2028
Gen-Tie Foundations and Structure Erection	4 months	2/1/2028–5/31/2028
Gen-Tie Line Stringing and Pulling	1 month	6/1/2028–7/1/2028
SCE Interconnection Facility Upgrades within Vincent Substation	6 months	4/1/2028–10/1/2028
Testing and Commissioning	6 months	10/2/2028–4/1/2029

Note: PCS = power conversion system.

3.2.2 Sequencing

During construction activities, multiple crews will be working on the site with various equipment and vehicles. The daily number of construction workers (consisting of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel) will range from approximately 50 to 250 workers, depending on the phase of construction. It is estimated that construction will require the vehicle trips and equipment listed in Table 7.

Table 7. BESS Project – Construction Equipment and Usage Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Truck Trips[1]	Equipment Type	Quantity	Usage Hours
Demolition	10	4	6	Rubber tired dozer	1	10
				Concrete/Industrial Saws	1	10
				Tractors/Loaders/ Backhoes	2	10
Site Preparation	242	12	24	Tractors/Loaders/ Backhoes	2	10
				Excavator	2	10
				Rubber tired dozer	2	10
Substation Site Preparation	242	12	100	Tractors/Loaders/ Backhoes	1	10
				Excavator	1	10
				Rubber tired dozer	1	10
Grading	242	12	524	Graders	2	10
				Tractors/Loaders/ Backhoes	2	10
				Rollers	2	10
Substation Grading	242	12	486	Graders	1	10
				Tractors/Loaders/ Backhoes	1	10
				Rollers	1	10
Paving	16	0	0	Pavers	2	10
				Paving Equipment	2	10
				Rollers	2	10
Battery Enclosure/ PCS Installation	121	12	20	Air Compressors	1	10
				Cranes	1	10
				Forklift	1	10
				Tractors/Loaders/ Backhoes	1	10
Substation Installation	121	12	4	Aerial Lifts	1	10
				Air Compressors	1	10

Table 7. BESS Project – Construction Equipment and Usage Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Truck Trips[1]	Equipment Type	Quantity	Usage Hours
				Bore/Drill Rigs	1	10
				Forklift	1	10
				Trenchers	1	10
Gen-Tie Foundation and Tower Erection	121	12	0	Air Compressors	1	10
				Cranes	1	10
				Forklifts	1	10
				Pumps	1	10
				Welders	1	10
Gen-Tie Stringing and Pulling	121	12	0	Aerial Lift	1	10
				Tractors/Loaders/ Backhoes	1	10
SCE Interconnection Facility Upgrades	121	12	0	Air Compressors	4	10
				Cranes	2	10
				Excavators	2	10
				Rough Terrain Forklifts	2	10
				Skid Steer Loaders	2	10
				Tractors/Loaders/ Backhoes	2	10
				Trencher	1	10
Testing and Commissioning	242	12	0	NA	NA	NA
Decommissioning	242	12	20	Concrete/Industrial Saws	2	10
				Cranes	2	10
				Rubber Tired Dozers	2	10
				Tractors/Loaders/ Backhoes	2	10

Notes: PCS = power conversion system; gen-tie = generation interconnection; SCE = Southern California Edison.

1 The average daily haul truck trips for each phase consider phase durations from Table 6.

* The Project layout depicted in Figure 2, Project Site Plan, shows the "End of Life" configuration of the BESS, meaning it shows the equipment layout after all augmentation units are implemented. The numbers in this table conservatively assume that foundations and BESS equipment installation related to augmentation occurs during initial construction of the facility. Construction of foundations and BESS equipment installation for augmentation may occur during O&M periodically within the BESS facility footprint.

3.2.3 Site Preparation

Environmental clearance surveys will be performed at the Project site prior to commencement of construction activities. The limits of construction disturbance areas delineated in the final approved engineering design packages will be surveyed and staked. Initial ground disturbing activities in preparation for construction will include

installation of erosion and sediment control measures prior to start of major earthwork activities. Rough grading and grubbing/vegetation removal will be performed where required to accommodate site drainage and allow construction equipment to access the site. Detention chambers and stormwater facilities will be created for hydrologic control. The construction contractor will be required to incorporate applicable best management practices (BMPs) including the guidelines provided in the California Stormwater Quality Association's Construction BMP Handbook (CASQA 2024), as well as a soil erosion and sedimentation control plan to reduce potential impacts related to construction of the proposed Project. Stabilized construction entrances and exits will be installed at driveways to reduce tracking of sediment onto adjacent public roadways.

Site preparation will be consistent with applicable BMPs and the Antelope Valley Air Quality Management District's Fugitive Dust Rules. Site preparation will involve the removal and proper disposal of existing debris that will unduly interfere with Project construction or the health and safety of on-site personnel. Dust-minimizing techniques will be employed, such as placement of wind control fencing, application of water, and application of dust suppressants. All applicable governmental requirements and BMPs will be incorporated into the construction activities for the Project site.

Vegetation on the site will be removed where necessary to ensure the BESS facility is free from combustible vegetation to allow for fire protection and defensible space. Where feasible, in compliance with fire protection requirements, vegetation root mass within appropriate portions of the BESS facility lease area on the outside of the perimeter and substation access roads will be left in place for soil stabilization. However, the environmental analyses in subsequent sections conservatively assume that all areas within the maximum anticipated grading limits of the BESS facility will be permanently disturbed.

3.2.4 Site Grading and Civil Work

Following site preparation activities, grading and civil work will commence. Construction activities during this phase will include excavation and grading of the Project site. Preliminary designs conservatively assume that grading will include up to approximately 175,410 cubic yards (cy) of cut and up to approximately 625,095 cy of fill, resulting in a net of 449,685 cy of fill. Blasting is not expected but may be required if large boulders are encountered during excavation and grading. Fill material requirements will be satisfied by offsite borrow pits or quarries.

Conventional grading will be performed throughout the Project site but minimized to the maximum extent feasible to reduce unnecessary soil movement. Land-leveling equipment, such as a smooth steel drum roller, will be used to even the ground surface and compact the upper layer of soil to a value recommended by a geotechnical engineer for structural support. Following major civil work within the BESS facility site, site access roads and driveways, the perimeter and substation access roads, and interior roadways to access the laydown areas and BESS yards will be graded, compacted, and surfaced with gravel or paving. Once the roadways have been constructed, the Project perimeter fence and access gates will be constructed.

3.2.5 Foundations and Underground Equipment Installation

Following completion of major site grading and civil work, equipment foundations and below grade equipment will be installed. A grounding grid and underground conduit will be installed below grade beneath the Project substation area and BESS components. Typical ground grids consist of direct-buried copper conductors with copper-clad ground rods arranged in a grid pattern. After installation of the grounding grid, the area will be backfilled, compacted, and leveled followed by application of an aggregate rock base. A containment area within the MPT

foundations will be sized to hold the full volume of oil within the MPTs. The MPT foundations within the substation area are anticipated to be concrete slab foundations poured into excavations up to 7 feet deep. Foundations for the control building, static masts, other aboveground substation equipment, O&M buildings, BESS enclosures, PCS units, DC/DC converters, and BESS auxiliary transformers and panels are anticipated to be slab on grade, or pile foundations embedded up to 24 feet below ground level. Depending on soil conditions, the piles may be drilled or driven and set with a slurry. However, some of these Project components may be installed on concrete slab foundations depending on the geotechnical conditions at the final locations.

Additional underground work will include trenching for the placement of underground electrical and communications lines, including the MV collection system, AC and DC cables, and fire alarm cable. The wires will either be installed in conduit, cable-trays, or direct-buried, depending upon final design and application

3.2.6 BESS and Project Substation Equipment Installation

Where possible, major equipment will be delivered directly to its permanent location and offloaded directly into place with a crane or heavy equipment. Where staging or sequencing does not allow, equipment will be stored at one of the laydown areas near its permanent location and installed at a later date. Major aboveground equipment will be the MPTs and other Project substation components, control building, BESS enclosures, PCS units, DC/DC converters, BESS auxiliary transformers and panels, and material for the O&M buildings.

Electrical work will include installing cables, terminations, and splices. Electrical wiring will be installed underground, at-grade, and above ground, depending on the application and location. The wires will either be installed in conduit, cable-trays, or direct-buried, depending upon final design and application.

3.2.7 Gen-Tie Structure Erection

Environmental clearance surveys will be performed within the gen-tie corridor prior to commencement of construction activities. The gen-tie corridor boundaries, gen-tie centerline, telecommunications route centerlines, and transmission structure access path will be surveyed and flagged. Initial activities will include the installation of erosion and sediment control measures and materials, and preparation of the transmission structure and fiber optic utility pole work areas. The transmission structure access path may be bladed, compacted, and surfaced with gravel where necessary to facilitate transmission structure deliveries and construction equipment access. The surface of the access path will be at-grade to allow water to sheet flow across the gen-tie corridor, as it currently does. Overland travel and temporary construction activities associated with the gen-tie and telecommunications facilities may occur anywhere within the 150-foot-wide transmission corridor. Vegetation at the transmission and fiber optic utility pole work areas will be trimmed, mowed, or removed. At locations where gen-tie line structures and fiber optic utility poles will be installed, minor cuts may be required where the foundation will be installed.

Cast-in-place concrete foundations will be installed by placing reinforcing steel and a structure stub or anchor bolt cage into the foundation hole, positioning the stub, and encasing it in concrete. Each transmission structure foundation will be set on anchor bolts on top of the foundation with cranes. Holes will be excavated using a truck-mounted drill rig or standalone auger rig. Poles will be delivered on a flat-bed trailer and hoisted into place with a crane. The annular space between the poles and holes will be backfilled with concrete or soil. Excavated spoil material not used for backfilling will be spread around the structure work areas.

3.2.8 Gen-Tie Stringing and Pulling

For a conductor pulling location, the distance needed behind the dead-end structures should be equal to or greater than a 3:1 ratio (300 feet needed for a 100-foot-tall structure), or as recommended by the conductor manufacturer, to mitigate potential damage to the conductor during installation. The width of the pulling area is consistent with the 150-foot-wide Gen-Tie corridor. The pulling area will need to be relatively flat since trucks, trailers and various other small vehicles will need room to maneuver for placement of materials and equipment. The area will be cleared of any brush or obstacles, to facilitate unobstructed travel. For the wire end of a pull, there will be a minimum of two (2) 53-foot-long semi-trailers side by side, loaded with three (3) conductor reels each. One (1) trailer will be feeding the conductor to a tensioner, as the other trailer will be utilized for replacement of empty reels, and then facilitate a continuation of pulling efforts. The tensioner will be approximately the size of a semi-trailer and is responsible for tensioning the conductor during installation. A heavy-duty forklift or a large size all-terrain crane will be needed to support placement/removal of reels to the wire trailers, due to size and weight. After conductor installation, a bulldozer will be used to secure the installed conductors during application of additional tensions for the sagging process. The pulling equipment utilized is comparable in size/quantity to equipment utilized to support the new conductor reels. Pulling equipment utilizes multiple reels of high-tension pulling cables, mounted to semi-trailers, to support the new conductor placement into position on the structures.

A helicopter may be used to complete gen-tie stringing and pulling where the gen-tie crosses the railroad. For this portion of the stringing and pulling work it is assumed that a MD600 helicopter would be used for up to three (3) 10-hour days consisting of 1 day for mobilization, 1 day for stringing and pulling, and 1 day for demobilization. For the purposes of project analysis, it is anticipated that the helicopter would facilitate pulling of conductors and shield wires from proposed transmission structures No. 1 to No. 9 if the Northern Gen-Tie Route is selected, and transmission structures No. 3 to No. 5 if the Southern Gen-Tie Route is selected. Helicopter use would be supported by one (1) approximately 150-foot by 100-foot landing zone. Landing zones would primarily be used for staging materials, picking up and transporting electrical personnel and equipment, and refueling helicopters. The landing zone is anticipated to be located at the main laydown area but may need to shift to one (1) of the other two (2) laydown areas depending on the sequencing of construction.

3.2.9 SCE-Owned Gen-Tie Segment and Interconnection Facilities within Vincent Substation Footprint

SCE will construct the segment of the gen-tie between the POCO and the POI within the SCE Vincent Substation, and the fiber optic routes between the POCO and the SCE control building within the Vincent Substation footprint. The Applicant will bring the fiber optic cables to underground pull boxes at the POCO structure, and SCE will install the segment of the fiber optic cables between the POCO and control building in conduit placed in underground trenches. The trenches are anticipated to be up to 4 feet wide, and the trenches for the redundant routes will need to be at least 25 feet apart to meet SCE's diverse path requirements. It is anticipated that SCE will install the trenches within the access road to the angled dead-end structure outside the Vincent Substation fence line. However, SCE may install the cables within existing roadways or other pre-disturbed areas along the perimeter of the substation fence depending on final design and routing. SCE will also construct the interconnection upgrades within the Vincent Substation footprint at the POI.

3.2.10 Construction Water Use

Construction water is anticipated to be purchased from a local water purveyor and trucked to the site. During construction, an estimated 18 million gallons (approximately 55 acre-feet) of untreated water will be required for common construction-related purposes, including but not limited to dust suppression, soil compaction, and grading. Dust-control water may be used during ingress and egress of on-site construction vehicle equipment traffic and during the construction of the Project. A sanitary water supply line will not be required during construction because restroom facilities will be portable units, serviced by licensed providers, and water and sewage from the restroom facilities will be stored in on-site tanks and serviced by trucks. Drinking water will be provided via portable water coolers.

3.2.11 Solid and Non-hazardous Waste

The Project will produce a small amount of solid waste from construction activities. This may include paper, wood, glass, plastics from packing material, waste lumber, insulation, scrap metal and concrete, empty nonhazardous containers, and vegetation waste. This waste will be segregated, where practical, for recycling. Non-recyclable waste will be placed in covered dumpsters, located in project laydown areas, and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III (non-hazardous waste) landfill.

3.2.12 Hazardous Materials

The hazardous materials used for construction will be typical of most construction Projects of this type. Materials may include small quantities of gasoline, diesel fuel, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, dust palliatives, herbicides, and welding materials/supplies. A hazardous materials business plan will be prepared prior to commencement of construction activities. The hazardous materials business plan will include a complete list of all materials used on site and information regarding how the materials will be transported and in what form they will be used. This information will be recorded to maintain safety and prevent possible environmental contamination or worker exposure. During Project construction, material safety data sheets for all applicable materials present at the site will be made readily available to on-site personnel.

3.2.13 Hazardous Waste

Small quantities of hazardous waste will most likely be generated over the course of construction. This waste may include waste paint, spent construction solvents, waste cleaners, waste oil, oily rags, waste batteries, and spent welding materials. Workers will be trained to properly identify and handle all hazardous materials. Hazardous waste will be either recycled or disposed of at a permitted and licensed treatment, recycling, or disposal facility in accordance with law. All hazardous waste shipped off site will be transported by a licensed hazardous waste hauler.

3.2.14 Commissioning

As part of Project construction activities, and after installation, equipment will be tested and commissioned. Commissioning work will be completed by qualified personnel, and in accordance with various codes, standards and specifications including IEEE, Institute of Electrical and Electronic Engineers, NEC National Electrical Code (NFPA 70), NETA International Electrical Testing Association, specific provisions of NFPA National Fire Protection Association, and the relevant OEM / manufacturers installation and commissioning manuals. Documentation

necessary for commissioning will include (but is not limited to) complete sets of electrical plans, itemized equipment descriptions, control narratives, and other procedural requirements such as persons or entities to notify when equipment has become available for acceptance tests.

Commissioning will include testing of mechanical, electrical, fire protection, and other systems at substantial completion. Systems to be commissioned and tested include (but are not limited to) BESS enclosures, PCS units, auxiliar service transformers, MV collection system, DC cables, SCADA systems, power backup systems, and fire protection system. Performance testing will also be completed to ensure charge and discharge performance of the systems as designed and in accordance with the utility requirements. Full details of the commissioning activities will be made available in a commissioning plan, prepared by the BESS supplier and construction contractor and reviewed by the Engineer of Record, as part of the construction documentation package.

3.3 Operations and Maintenance

Once constructed, the Project will be available to operate seven (7) days per week, 365 days per year. The facility will be remotely monitored and operated by an Owner contracted O&M provider, by means of a NERC-CIP compliant remote operations center. Project operations will be monitored remotely through the SCADA system and by the Project's anticipated full-time operations staff members. It is estimated that there will be four (4) full-time staff members for remote monitoring and 16 full-time operations staff members on site.

On-site maintenance will be required, which will include replacement of inverter power modules, filters, and miscellaneous electrical repairs on an as-needed basis. During operation of the Project substation, O&M staff will visit the substation periodically for switching and other operation activities. Light duty maintenance trucks will be utilized to perform routine maintenance, including but not limited to equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventative maintenance. Typically, one (1) major maintenance inspection will take place annually. Even when considering routine maintenance and augmentation activities, the project expects to provide no less than a 96% annual availability factor to the grid.

Batteries within utility-scale BESS facilities degrade with use over time, leading to a loss of capacity. To maintain the Project's capacity, periodic augmentation by installing new batteries and related equipment within the Project site will occur to maintain the capacity over an approximate 40-year life. As batteries slowly lose their capacity to store energy, extra batteries will be installed at the beginning of the Project and at several intervals through the Project life, which is referred to as augmentation. Augmentation is expected to occur in order to maintain an annual lifetime capacity of 9,200MWh. If the project were to discharge for eight (8) hours daily and have an annual availability of 96% then the Project would have an annual capacity factor of approximately 32%. The Project's final augmentation strategy will be determined by market-based requirements. Augmentation may include constructing new foundations, installing BESS equipment on the foundations, and completing electrical work within the existing Project footprint. The preliminary site layout depicted on Figure 2, Project Site Plan, shows an "end of life" configuration, meaning it shows the equipment layout after all augmentation units are implemented. The construction sequencing and equipment usage assumptions in Tables 6 and 7 above, and environmental analyses in subsequent chapters, conservatively assume that all initial BESS equipment and augmentation BESS equipment are constructed at the same time.

3.3.1 Solid and Non-hazardous Waste

The Project will produce a small amount of waste associated with maintenance activities, which could include broken and rusted metal, defective or malfunctioning electrical materials, empty containers, and other miscellaneous solid waste, including typical refuse generated by workers. Most of these materials will be collected and delivered back to the manufacturer or to recyclers. Non-recyclable waste will be placed in covered dumpsters, located near the O&M buildings, and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill.

3.3.2 Hazardous Materials

Limited amounts of hazardous materials will be stored or used on the site during operations, including diesel fuel, gasoline, and motor oil for vehicles; refrigerant within the BESS enclosures; mineral oil to be sealed within the transformers; and lead-acid-based batteries for emergency backup. Appropriate spill containment and cleanup kits will be maintained during operation of the Project. A spill prevention control and countermeasures plan will be developed for site operations.

3.3.3 Hazardous Waste

Fuels and lubricants used in operations will be subject to the spill prevention control and countermeasures plan to be prepared for the proposed Project. Solid waste, if generated during operations, will be subject to the material disposal and solid waste management plan to be prepared for the proposed Project.

3.4 Decommissioning

In general, the BESS will be recycled at the expiration of the Project's life (estimated to be 40 years). Most parts of the proposed system are recyclable. Batteries include lithium, which degrades but can be recycled or repurposed. Steel, wood, and concrete from the decommissioned facilities will be recycled. Metal and scrap equipment and parts that do not have free-flowing oil may be sent for salvage. Materials 3 feet or more below the ground surface will be left in place.

Fuel, hydraulic fluids, and oils will be transferred directly to a tanker truck from the respective tanks and vessels. Storage tanks and vessels will be rinsed and transferred to tanker trucks. Other items that are not feasible to remove at the point of generation, such as smaller container lubricants, paints, thinners, solvents, cleaners, batteries, and sealants, will be kept in a locked utility structure with integral secondary containment that meets applicable Certified Unified Program Agencies and Resource Conservation and Recovery Act requirements for hazardous waste storage until removal for proper disposal and recycling. It is anticipated that all oils and batteries will be recycled at an appropriate facility. Site personnel involved in handling these materials will be trained to properly handle them. Containers used to store hazardous materials will be inspected regularly for any signs of failure or leakage. Additional procedures will be specified in a Hazardous Materials Business Plan closure plan submitted to the Certified Unified Program Agencies and California Energy Commission. Transportation of the removed hazardous materials will comply with applicable regulations for transporting hazardous materials, including those set by the Department of Transportation, the U.S. Environmental Protection Agency, California Department of Toxic Substances Control, California Highway Patrol, and California State Fire Marshal.

4 Project Location/Environmental Setting

The Prairie Song Reliability Project is in unincorporated Los Angeles County (County), California, south of State Route 14 (SR 14). The Project is within the USGS 7.5-minute Acton and Pacifico Mountain Quadrangles, Township 5N, Range 12W, Sections 27, 28, 33 and 34 (Figure 1, Project Location). The BESS site is comprised of Assessor Parcel Numbers (APNs) 3056-017-007, 3056-017-020, 3056-017-021, 3056-019-013, 3056-019-026, 3056-019-037, and 3056-019-040. Development of the BESS facility will occur on an area of land situated between two existing transportation corridors, the Antelope Valley Freeway (SR 14) to the north and Southern Pacific Railroad lines and Carson Mesa Road to the south, which are approximately 1,200 feet apart.

The Study Area is in the western San Gabriel Mountains, in the Transverse Ranges Geomorphic Province (CGS 2002). The Transverse Ranges are an east-west trending series of steep mountains and valleys (CGS 2002). The Study Area is located at the conjunction of Soledad Canyon and Kentucky Springs Canyon (USGS 2025a), and at the boundary of the Western Transverse Ranges ecological subregion and Mojave Desert ecological region (Jepson Flora Project 2025). Elevations in the Study Area range from approximately 2,700 feet above mean sea level along the southwestern side to 3,500 feet above mean sea level along the northern hillsides (Google Earth 2025).

The Study Area has an arid climate with the site being located on the northern side of the San Gabriel Mountains and bordering the Antelope Valley. August is the average warmest month with an average high of 93 degrees Fahrenheit (˚F) and December is the coolest month on average with a low of 36 ˚F. Rainfall occurs primarily between November and April, with the maximum average precipitation occurring in February. The mean annual rainfall for the area is approximately nine (9) inches of rain per year (LACPW 2025).

According to the U.S. Department of Agriculture's (USDA) Websoil Survey (USDA 2025), there are seven soil map units that occur within the Study Area, as shown in Figure 3, Soils: Greenfield sandy loam, 2 to 9 percent slopes (GsC); Hanford coarse sandy loam, 0 to 2 percent slopes (HbA); Hanford coarse sandy loam, 2 to 9 percent slopes (HbC); Hanford coarse sandy loam, 9 to 15 percent slopes (HbD); Hanford sandy loam, 2 to 9 percent slopes (HcC); Terrace escarpments (TsF); and Vista coarse sandy loam, 30 to 50 percent slopes (VsF). Of the seven soil map units, only one is ranked as partially hydric: Hanford coarse sandy loam, 0 to 2 percent slopes.

The National Wetlands Inventory (NWI) and National Hydrography Dataset (NHD) were reviewed to identify wetland or hydrologic features in the Study Area (USFWS 2025a, USGS 2025b). Figure 4, Hydrologic Features, depicts the mapped wetland and hydrologic features in the Study Area. Approximately 3.8 acres of potential jurisdictional waters were delineated within the Study Area. Features included non-wetland waters, swales, and erosional features (Figure 5, Aquatic Resources)

Thirteen vegetation communities and two land cover types were mapped within the Study Area. The vegetation communities and land cover locations are illustrated in Figure 6, Vegetation Communities and Land Cover.

5 Analysis of the Potential for Take

The California Fish and Game Code defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (California Fish and Game Code Section 86). Under Section 2081 of the California Fish and Game Code, CDFW may authorize acts that are otherwise prohibited if the take is incidental to otherwise lawful

activities. The Project could potentially result in take of one species listed under the California Endangered Species Act and potentially occurring in the Project vicinity: Crotch's bumble bee. Incidental take could occur if work occurs in areas of the Project site where Crotch's bumble bee occupy habitat during construction. The nature of potential take is discussed below. The Project would also result in permanent, temporary, and indirect impacts to habitat for this species (Table 8; Figure 7). For the purposes of this ITP application, permanent impacts are defined as those that involve permanent land conversion resulting in the loss of existing biological resources (e.g., vegetation community, species habitat, jurisdictional aquatic resource). Temporary impacts are those that involve disturbance of areas that currently support biological resources but which would be actively restored to a natural vegetation community after construction is completed.

Short-term indirect impacts can include dust, human activity, erosion, release of pollutants, and noise that extend beyond the identified construction area. Long-term indirect impacts can include changes to hydrology, introduction of invasive species, dust, and noise that are operations-related or that persist after construction is complete. Compensatory mitigation is being proposed for permanent, temporary, and indirect impacts, as described in Section 8.2, in addition to revegetation/restoration of all temporarily impacted areas when Project construction is complete.

Proposed measures to avoid and reduce the potential for take of Crotch's bumble bee, are listed under Section 8, Proposed Minimization and Mitigation Measures.

Table 8. Impacts to Potential Habitat for California Endangered Species Act Listed Species (acres)

Species	Direct Impacts		Total
	Permanent	Temporary	
Crotch's bumble bee (nesting/foraging) [1]	71.37	29.65	**101.02**

Notes:
[1] Suitable nesting and foraging (nectar source) habitat for Crotch's bumble bee was assessed during habitat assessments conducted in 2023, 2024 and 2025.

5.1 Crotch's Bumble Bee

Protocol surveys for Crotch's bumble bee conducted in 2024 and 2025 were negative for the species and there are no documented occurrences of Crotch's bumble bee within the Study Area or within five miles of the Project (CDFW 2025). During the initial survey each year, it was noted that there were very limited foraging opportunities within the Study Area. However, bumble bees are opportunistic and highly mobile. The species typically nests underground, so nesting individuals could be highly vulnerable to injury and mortality during construction, which could crush nests and individuals, if present on site. Suitable foraging (nectar source) habitat for Crotch's bumble bee was identified as the native and naturalized vegetation communities and the potential nesting habitat was identified as those communities plus disturbed habitat.

As shown in Table 9, the Project has the potential to impact suitable Crotch's bumble bee nesting and foraging/nesting habitat. Permanent direct and indirect effects of the Project on Crotch's bumble bee could include modification or removal of habitat, invasive plants introduced into habitat, and increased pesticide use. The proposed Project would impact a total of 101.02 acres of foraging/nesting habitat including 71.37 acres of permanent impacts (67.49 acres from the BESS, 3.88 acres from the gen-tie) and 29.65 acres of temporary

impacts (Figure 7). The relatively limited permanent habitat loss would not contribute substantially to long-term habitat fragmentation.

Table 9. Potential Impacts to Vegetation Communities and Land Covers in the Study Area

Alliance	Association	Potential Permanent Impacts – BESS[1] (Gross Acreages)	Potential Permanent Impacts – Gen-Tie[2, 3] (Gross Acreage)[5]	Potential Temporary Impacts – Gen-Tie[3, 4] (Gross Acreage)[5]	Total Impacts[6] (Gross Acreage)[5]
Native Communities					
Cheesebush – sweetbush scrub	*Ambrosia salsola – Larrea tridentata*	–	–	0.05	0.05
	Ambrosia salsola Association	–	–	1.57	1.57
Fiddleneck – phacelia fields	*Amsinckia menziesii – Erodium* spp.	2.08	–	–	2.08
California sagebrush – (purple sage) scrub	*Artemisia californica – Eriogonum fasciculatum*	–	0.08	1.44	1.53
Big sagebrush	*Artemisia tridentata – Ericameria nauseosa*	0.42	0.46	2.21	3.09
	Artemisia tridentata – Eriogonum fasciculatum	2.60	–	–	2.60
	Artemisia tridentata ssp. *parishii*	–	–	0.20	0.20
Fourwing saltbush scrub	*Atriplex canescens*	0.67	2.07	18.09	20.82
Mormon tea scrub	*Ephedra viridis*	17.84		–	17.84
Rubber rabbitbrush scrub	*Ericameria nauseosa – Juniperus californica*/herb	10.98	–	1.23	12.20
	Ericameria nauseosa	–	–	–	–
California buckwheat scrub	*Eriogonum fasciculatum*	4.75	–	–	4.75

Table 9. Potential Impacts to Vegetation Communities and Land Covers in the Study Area

Alliance	Association	Potential Permanent Impacts – BESS[1] (Gross Acreages)	Potential Permanent Impacts – Gen-Tie[2, 3] (Gross Acreage)[5]	Potential Temporary Impacts – Gen-Tie[3, 4] (Gross Acreage)[5]	Total Impacts[6] (Gross Acreage)[5]
	Eriogonum fasciculatum var. *foliolosum* – *Juniperus californica*	4.32	–	–	4.32
California buckwheat – Parish's goldeneye scrub	*Eriogonum fasciculatum* rock outcrop	–	–	–	–
California walnut groves	*Juglans californica* / annual herbaceous	–	–	–	–
California juniper woodland	*Juniperus californica* / *Adenostoma fasciculatum* – *Eriogonum fasciculatum*	10.68	0.53	0.35	11.56
	Juniperus californica / herbaceous	7.16	0.39	1.16	8.71
	Juniperus californica / *Eriogonum fasciculatum* – *Artemisia californica*	–	–	–	–
	Subtotal:	*61.49*	*3.52*	*26.31*	*91.32*
Naturalized (Non-Native)					
Avena spp. – *Bromus* spp.	*Avena barbata* – *Bromus hordeaceus*	–	–	–	–
Bromus rubens – *Schismus* (*arabicus*, *barbatus*)	*Bromus rubens* – mixed herbs	–	–	–	–
	Subtotal:	–	–	–	–
Land Cover Types					
Disturbed habitat	Not applicable	6.00	0.36	3.34	9.71
Urban/Developed	Not applicable	3.25	0.41	3.58	7.24
	Subtotal:	*9.26*	*0.77*	*6.92*	*16.95*

Table 9. Potential Impacts to Vegetation Communities and Land Covers in the Study Area

Alliance	Association	Potential Permanent Impacts – BESS[1] (Gross Acreages)	Potential Permanent Impacts – Gen-Tie[2, 3] (Gross Acreage)[5]	Potential Temporary Impacts – Gen-Tie[3, 4] (Gross Acreage)[5]	Total Impacts[6] (Gross Acreage)[5]
	Total Impacts:	70.74	4.29[5]	33.23[5]	108.26[5]
	Total CBB Habitat Impacts[5]	**67.49**	**3.88**	**29.65**	**101.02**

Notes:
[1] There are no temporary impacts associated with the BESS.
[2] Permanent impacts for the gen-tie are for access roads and tower pads.
[3] Includes both gen-tie options.
[4] Temporary impacts will occur due to the construction of the two (2) underground fiber optic lines within the Southern Gen-Tie Route corridor, within areas proposed for construction laydown areas for the gen-tie work, within pull areas from stringing the gen-tie, and within other gen-tie work areas that are outside of the transmission pole pads and access roads.
[5] Excludes Urban/Developed acreage

The Project could result in incidental take of individual Crotch's bumble bee from activities related to Project construction. Project construction could result in the destruction of nesting sites, soil compaction that reduces access to pollinator nesting habitat, and an increase in invasive plant species that displace native flowering food resources. Crotch's bumble bee occurrences near ground-disturbing activities would be adversely affected by temporary construction-related effects such as dust, noise, and vibration that could result in disturbance to habitat or additional harm to Crotch's bumble bee. Much of the potential for take of Crotch's bumble bee will be reduced through measures including pre-construction surveys for Crotch's bumble bee (See Section 8.1, Take Minimization Measures).

6 Analysis of the Impacts of the Proposed Taking

This section discusses the impacts of the proposed take on Crotch's bumble bee resulting from the Project activities. Measures to avoid and minimize take are listed under Section 8.

6.1 Crotch's Bumble Bee

The Project would result in the permanent and temporary loss of suitable Crotch's bumble bee habitat as quantified in Section 5.1. and could potentially result in the take of an unknown number of Crotch's bumble bee individuals, including potential direct take from injury and mortality due to Project activities. The Project will avoid directly impacting approximately 73.36 acres of suitable habitat for Crotch's bumble bee in the Project Study Area (PSA), as shown on Figure 7.

Compensatory mitigation for impacts to Crotch's bumble bee habitat may include on-site habitat preservation, purchase of credits from an existing in-lieu fee program, and/or conservation/mitigation banks, and/or off-site habitat acquisition and preservation. Compensatory habitat mitigation is proposed at a 1:1 ratio (acres of lands preserved: acres of habitat impacted). Additional details regarding proposed compensatory mitigation for Project impacts on Crotch's bumble bee are provided in Section 8.2, Habitat Mitigation Measures.

Upon Project completion, construction areas, staging areas, and any temporary access subject to temporary disturbance will be restored. Measures that will result in avoidance and minimization of take of individual Crotch's bumble bee would include authorization of approved biologists and Crotch's bumble bee pre-activity surveys of habitat. See Section 8.1, Take Minimization Measures, for more detail.

7 Analysis of Whether Issuance of the Incidental Take Permit Would Jeopardize the Species

In determining whether or not the issuance of an ITP would jeopardize the continued existence of Crotch's bumble bee pursuant to Title 14, Section 783.2(a)(7) of the California Code of Regulations, this section includes consideration of each species' (a) capability to survive and reproduce, and (b) any adverse impacts of the incidental taking on those abilities in light of (1) known population trends, (2) known threats to the species, and (3) reasonably foreseeable impacts on the species from other related projects and activities. This analysis describes how the proposed minimization and mitigation measures (Section 8) will ensure that those impacts will not jeopardize the continued existence of the covered species.

7.1 Crotch's Bumble Bee

The Project would result in the permanent removal of a small amount of suitable foraging and nesting habitat for Crotch's bumble bee, as well as potential take of individual Crotch's bumble bee. The Project is anticipated to permanently impact up to approximately 71.37 acres of habitat for Crotch's bumble bee in the PSA. The temporary loss of habitat could result in disruption of foraging and nesting behaviors, potentially resulting in stress of Crotch's bumble bee and temporary displacement. Additionally, potential Project indirect effects include potential spread of invasive plants and human presence during construction. Implementation of minimization and avoidance measures described in Section 8 would limit these effects. The loss of 71.37 acres of nesting/foraging habitat constitutes a relatively small loss of habitat compared to the amount of suitable habitat within the PSA and available habitat for the species within its range. Habitat mitigation, as described in Section 8, would offset the loss of suitable habitat.

If present during construction, foraging Crotch's bumble bee could be at increased risk of injury or mortality from construction traffic. These impacts (i.e., increased risk of injury or mortality, disruption of normal behavior) could reduce survival and reproduction of any Crotch's bumble bee breeding during that time but is not expected to jeopardize their continued existence. Direct effects to Crotch's bumble bee due to construction activities would be avoided/minimized through measures described in Section 8. However, as previously mentioned, a small but indeterminable number of Crotch's bumble bee may be directly impacted due to ground disturbance.

In summary, the Project would not jeopardize the ability of Crotch's bumble bee to survive and reproduce within its range for three primary reasons: (1) take minimization measures would be implemented during construction to avoid or minimize injury and mortality of individual Crotch's bumble bee; (2) the permanent loss of the 71.37 acres of potential nesting/foraging habitat constitutes a relatively small loss of habitat compared to the approximately 173.36 acres of nesting/foraging habitat within the PSA; and (3) habitat mitigation, including permanent preservation of habitat, as described in Section 8.2, would compensate for the loss of habitat.

8 Proposed Minimization and Mitigation Measures

8.1 Take Minimization Measures

Prairie Song Reliability Project proposes implementing the following measures to minimize incidental take of state-listed species:

1. **Approved Biologists.** At least 30 days prior to start of ground disturbance, the names and credentials of personnel seeking to act as approved biologists shall be submitted to CFDW for review. Biologists shall have appropriate training and experience with the species for which they are seeking approval. All biologists shall be approved in writing by CDFW prior to conducting proposed Project activities.
2. **Education Program.** An approved biologist shall conduct environmental awareness training for all individuals working on the Project before work begins. An approved biologist is defined as someone with training, knowledge, and experience with the species discussed in this document. The education program shall cover life history, habitat requirements, and conservation measures for the Covered Species. The training shall also include information on federal and state regulatory protections, restrictions, and guidelines that must be followed by crews to avoid and minimize impacts to threatened and endangered species and their habitat. The training shall include the definition of "take," potential penalties for violating environmental regulations, the benefits of compliance, and required reporting for sightings of potential listed species. Upon completion of training, crews shall sign a form stating that they attended the training and understand all conservation measures. If new personnel are added to the Project, the new personnel shall receive the training prior to starting work.
3. **Approved Biologist Authority.** An approved biologist shall be available to inspect all Project activities to ensure compliance with avoidance and minimization measures of the proposed Project.
    a. Prior to mobilizing, the biologist shall inspect the site for the presence of Covered Species.
    b. A biologist shall be available on-call whenever work is being done and shall have the authority to stop work if a state-listed species is encountered within the active work area.
    c. The approved biologist shall have the authority to stop work if activities might result in take of state-listed species.
4. **Establish Environmentally Sensitive Areas and Non-Disturbance Zones.** Prior to any ground-disturbing activity in a work area, the Project biologist shall use flagging to mark environmentally sensitive areas that support special-status species or aquatic resources and are subject to seasonal restrictions or other avoidance and minimization measures. The Project biologist shall also direct the installation of wildlife exclusion fencing to prevent special-status wildlife species from entering work areas.
5. **Work Stoppage.** If a potential state-listed species is encountered, all activities that have the potential to result in take shall immediately cease. The approved biologist shall be notified and shall inspect the site to positively identify the species. Work shall resume once the biologist has determined the species is not a listed species or once the species has left the area on its own.
6. **Prevent Invasive Species Spread.** The Project site (including roads) shall be maintained in a manner that avoids the spread of invasive species, incorporating a weed control plan. To prevent the transport of non-native invasive species onto the Project site, before bringing any equipment onto the site, equipment must be cleaned of mud, dirt, and plant material.

7. **Biological Surveys.**
   a. Crotch's Bumble Bee
      - A pre-construction survey shall be conducted for Crotch's bumble bee including (1) a habitat assessment, and (2) focused surveys. The habitat assessment shall include historical and current species occurrences; document potential habitat on site including foraging, nesting, and/or overwintering resources; quantify which plant species are in bloom and their percent cover; and other items described in Survey Considerations for CESA Candidate Bumble Bee Species (CDFW 2023).
      - The pre-construction survey shall be performed by a qualified biologist with expertise in surveying for bumble bees and include at least three survey passes that are not on sequential days or in the same week, preferably spaced 2 to 4 weeks apart. The timing of these surveys shall coincide with the colony active period (April through August for Crotch's bumble bee). Surveys shall occur at least 1 hour after sunrise and 2 hours before sunset. Surveys shall not be conducted during wet conditions (e.g., foggy, raining, or drizzling), and surveyors shall wait at least 1 hour following rain. Optimal surveys are conducted when there are sunny to partly sunny skies and the temperature is greater than 60° F. Surveys may be conducted earlier than 1 hour after sunrise if other bees or butterflies are flying. Surveys shall not be conducted when it is windy (i.e., sustained winds greater than 8 mph). Within non-developed habitats, the qualified biologist shall look for nest resources suitable for bumble bee use. Ensuring that all nest resources receive 100% visual coverage, the qualified biologist shall watch the nest resources for up to 5 minutes, looking for exiting or entering worker bumble bees. Worker bees should arrive at and exit an active nest site with frequency, such that their presence would be apparent after 5 minutes of observation. If a bumble bee worker is detected, then a representative shall be identified to species. Qualified biologists shall be able to view several burrows at one time to sufficiently determine if bees are entering/exiting them depending on their proximity to one another. It is up to the discretion of the qualified biologist to determine the actual survey viewshed limits from the chosen vantage point that would provide 100% visual coverage; this could include a 30- to 50-foot-wide area. If a nest is suspected, the surveyor can block the entrance of the possible nest with a sterile vial or jar until nest activity is confirmed (no longer than 30 minutes).
      - A written survey report shall be submitted to CDFW within 30 days of the pre-construction survey. The report shall include survey methods, weather conditions, and survey results, including a list of insect species observed and a figure showing the locations of any Crotch's bumble bee nest sites or individuals observed. If Crotch's bumble bee nests are observed, the survey report shall also include the qualifications/resumes of the surveyor and qualified biologists for identification of photo vouchers, detailed habitat assessment, and recommendations for avoidance; the location information shall be submitted to the CNDDB at the time of, or prior to, submittal of the survey report.
8. **Fire Prevention.** A fire prevention and suppression plan shall be prepared prior to the start of Project activities.
9. **Speed Limits.** Project-related vehicles shall observe a daytime speed limit of 20 mph and a nighttime speed limit of 10 mph, except on Los Angeles County roads and state and federal highways. Emergency vehicles are exempt from these restrictions. Any road mortality/injury observed by workers of any animal that may be a state-listed species shall be reported to an approved biologist, who shall inspect the remains and notify CDFW within 24 hours if the animal is determined to be a state-listed species.
10. **Off-Road Traffic Prohibition.** Off-road traffic outside of designated Project areas shall be prohibited.

11. **Pesticide Use.** Pesticide use on or near suitable Crotch's bumble bee habitat shall also be restricted, particularly while treated plants are in flower.
12. **Rodenticide:** No rodenticide shall be used on site, to prevent impacts to Crotch's bumble bee.
13. **No Pets in Construction Areas.** To avoid harm and harassment of native species, workers and visitors shall not bring pets onto the Project site.
14. **Trash Abatement.** All food-related trash items, such as wrappers, cans, bottles, and food scraps, shall be disposed of in a closed container and removed daily from the Project site, and construction personnel shall not feed or otherwise attract wildlife to the area where construction activities are taking place.
15. **Spill Prevention.** A spill prevention control and countermeasure plan shall be prepared prior to Project implementation. All machinery shall be properly maintained and cleaned to prevent spills and leaks. Any spills or leaks from equipment shall be reported and cleaned up in accordance with applicable local, state, and/or federal regulations.
16. **Exclusion Fencing.** Orange construction fencing or the equivalent shall be installed to ensure that ground disturbance does not extend beyond the allowed construction footprint (i.e., the limit of Project construction plus equipment staging areas and access roads). The Project shall mark the outer boundary of any habitat setback adjacent to or within the Project site with orange construction fencing prior to ground disturbance. The exclusion fencing shall be maintained until all construction activities are completed.
17. **Lighting.** To minimize disturbance to wildlife, temporary and permanent exterior lighting shall be installed such that:
    a. lamps and reflectors have limited visibility beyond the Project site.
    b. reflective glare shall be minimized to the extent feasible.
    c. illumination of the Project and its immediate vicinity is minimized.
    d. lighting shall incorporate fixture hoods/shielding, with light directed downward or toward the area to be illuminated.
    e. all lighting shall be of minimum necessary brightness consistent with operational safety and security.

8.2 Habitat Mitigation Measures

To fully mitigate Project-related impacts on state-listed species and their habitat, Prairie Song Reliability Project LLC proposes to provide for the permanent protection and perpetual management of compensatory habitat and to revegetate/restore temporarily disturbed on-site habitat through the following measures.

1. **Conservation Management Plan.** As part of recording the conservation easement, a Conservation Management Plan (CMP) applicable to the conservation area will be prepared and submitted to the CEC for approval. The CMP shall identify the required resource management activities and the entities that shall be responsible for managing those activities in perpetuity. The CMP will set forth requirements that will be implemented by the entity that holds the conservation easement and/or manages and stewards the Conservation Area, and may include the following: (1) there shall be no grading or other construction activities within the Conservation Area, except for the proposed habitat enhancement/restoration; (2) no fencing or other barriers to wildlife movement shall be installed; (3) commercial honeybee operations shall not be allowed to use the Conservation Area for storing their apiaries; (4) rodenticides shall be prohibited; (5) herbicides and pesticides shall be discouraged, and only those typically used for invasive plant management in California wildlands shall be allowed, per the California Invasive Plant Council & Pesticide

Research Institute's Best Management Practices (BMPs) for Wildland Stewardship ; (6) at least one annual walk-through survey shall be conducted by a biologist to qualitatively monitor the general condition of on-site habitats and to check for any new introduction or expansion of invasive plant species; (13) collect and remove trash, repair vandalized signs, and rectify trespass impacts; and (14) provide annual reporting that document the conditions of the Conservation Area. Approved work will be outlined in the CMP and in the conservation easement, including monitoring and maintenance efforts or for other activities associated with preserve management, and prohibited activities shall be delineated.

2. Habitat Revegetation. Prior to ground disturbing activities, a qualified biologist shall be retained to prepare a Habitat Mitigation and Monitoring Plan (HMMP) detailing the specific approach for each type of habitat restoration and establishment area in the Conservation Area, and short-joint beavertail transplant location, and will outline detailed performance standards and monitoring requirements for each; following the monitoring and reporting methods and performance standards listed below. The HMMP shall be submitted to and approved by the CEC prior to the onset of Project-related ground-disturbing activities. The HMMP shall set out measures for habitat restoration/enhancement implementation, including but not limited to:
    - Identification of proposed plant materials
    - Signage in the habitat restoration area
    - Schedule for habitat restoration/enhancement work
    - Use of pesticides and elimination of non-native vegetation
    - Habitat monitoring and reporting
    - Performance standards

9 Plan to Monitor Compliance

Compliance with the minimization measures described under Section 8 will be monitored by approved biologists present on site during construction as described therein. Biologists approved to conduct on-site monitoring will have demonstrated their experience with Covered Species biology and identification and will therefore be able to effectively monitor construction activities for potential take of individuals. A preserve management plan will be prepared for any preserves established as compensatory mitigation and will describe both management and monitoring activities and reporting requirements. The Project will prepare monthly and annual reports documenting compliance with all mitigation measures and requirements set forth in the preserve management plan and would be subject to reporting in compliance with the preserve management plan.

10 A Description of the Funding Source and the Level of Funding Available for Implementation of the Minimization and Mitigation Measures

Prairie Song Reliability Project LLC, as the Project applicant, is required to ensure that all mitigation, minimization, and avoidance measures identified in this Section 2081 Permit Application (Section 8) are fully funded. Funding for on-site preservation lands, or lands acquired and preserved off site, will be estimated through preparation of a Property Analysis Record (PAR), or PAR-Equivalent Analysis, which is an itemized cost estimate of the initial and capital period costs and annual ongoing costs.

11 References

California Geological Survey. 2002. California Geomorphic Provinces: Note 36. 4 pp. Accessed September 2025. https://koordinates.com/layer/97118-california-geomorphic-provinces/.

CDFW. 2023. *Surveys Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species*. June 6, 2023. Accessed December 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=213150&inline.

Google. 2025. Google Earth, desktop application; centered on the property. Accessed December 2025. https://www.google.com/earth/.

Hatfield, R., and S.J. Jepsen. 2021. "A Conservation Conundrum: Protecting Bumble Bees under the California Endangered Species Act." *California Fish and Wildlife Journal* (Special CESA Issue): 98–106.

Jepson Flora Project. 2025. Jepson eFlora. Berkeley, California: University of California. Accessed September 2025. http://ucjeps.berkeley.edu/interchange/.

Keyer, D., A. Oed, K. Walther-Hellwig, R. Frankl. 2004. Are forests potential landscape barriers for foraging bumblebees? Landscape scale experiments with Bombus terrestris agg. and Bombus pascuorum (Hymenopte, Apidae). Biological Conservation, 2004 – Elsevier Biological Conservation 116:111-118.

LACPW (Los Angeles County Public Works). 2025. Precipitation – Acton Camp Station. Accessed September 2025. http://ladpw.org/wrd/precip/.

Motta, E.V., Raymann, K. and Moran, N.A. 2018. Glyphosate perturbs the gut microbiota of honey bees. *Proceedings of the National Academy of Sciences*, *115*(41), pp.10305-10310. Accessed September 2025. https://people.tamu.edu/~erick.motta/papers/motta2018pnas.pdf.

Muth, F., A. S. Leonard. 2019. A neonicotinoid pesticide impairs foraging, but not learning, in free-flying bumblebees. Sci. Rep. (9) 4764. Accessed September 2025. https://www.nature.com/articles/s41598-019-39701-5.

Osborne, Juliet & Martin, Andrew & Carreck, Norman & Swain, Jennifer & Knight, Mairi & Goulson, Dave & Hale, Roddy & Sanderson, Roy. (2008). *Bumblebee Flight Distances in Relation to The Forage Landscape*. The Journal of animal ecology. 77. 406-15. 10.1111/j.1365-2656.2007.01333. x.

The Xerces Society. 2018. A Petition to the State of California Fish and Game Commission to List the Crotch's bumble bee (Bombus crotchii), Franklin's bumble bee (Bombus franklini), Suckley cuckoo bumble bee (Bombus suckleyi), and western bumble bee (Bombus occidentalis occidentalis) as Endangered under the California Endangered Species Act. Accessed September 2025. https://fgc.ca.gov/CESA/index.

USDA. 2025. Web Soil Survey. USDA Natural Resources Conservation Service, Soil Survey Staff. Accessed December 2025. http://websoilsurvey.nrcs.usda.gov/.

USFWS (U.S. Fish and Wildlife Service). 2025a. National Wetlands Inventory [interactive map application]. Accessed April 2025. https://www.fws.gov/program/national-wetlands-inventory.

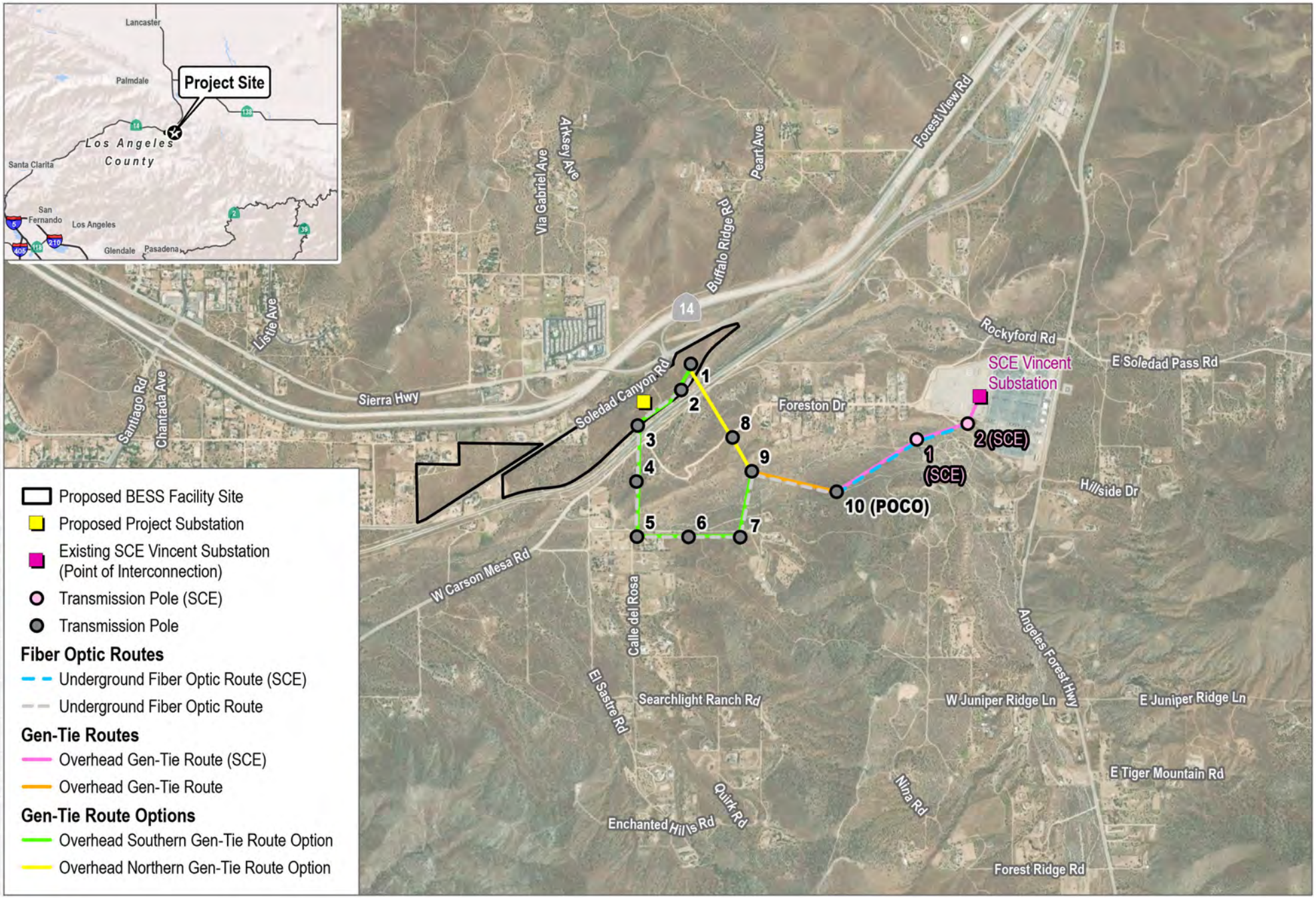
USGS (U.S. Geologic Survey). 2025a. Acton, California and Pacifico Mountain, California 7.5-minute topographic quadrangles. Accessed September 2025. https://www.usgs.gov/tools/75-15-minute-topographic-maps-usgs-store.

USGS. 2025b. National Hydrography and Watershed Boundary Dataset. USGS National Hydrography Products. Accessed April 2025. https://www.usgs.gov/national-hydrography.

Whitehorn PR, O'Connor S, Wackers FL, Goulson D. Neonicotinoid pesticide reduces bumble bee colony growth and queen production. Science. 2012 Apr 20;336(6079):351-2. doi: 10.1126/science.1215025. Epub 2012 Mar 29. PMID: 22461500. Accessed September 2025. https://pubmed.ncbi.nlm.nih.gov/22461500.

Attachment 2

Figures



SOURCE: World Imagery

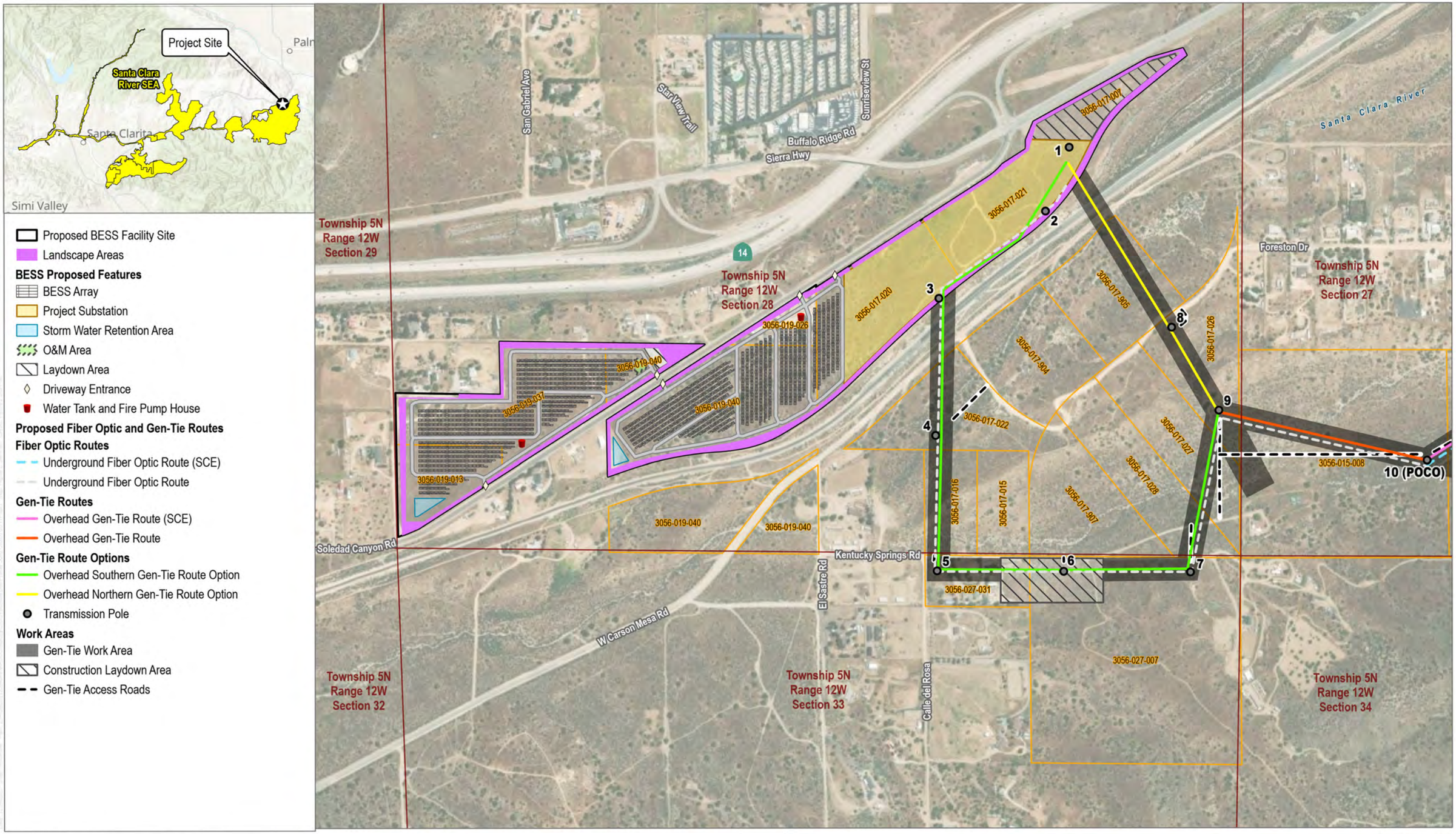
DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Prairie Song Reliability Project



SOURCE: Maxar 2024; Los Angeles County 2025

DUDEK

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FIGURE 2A

Site Plan

Prairie Song Reliability Project

SOURCE: Maxar 2024; Los Angeles County 2025

DUDEK

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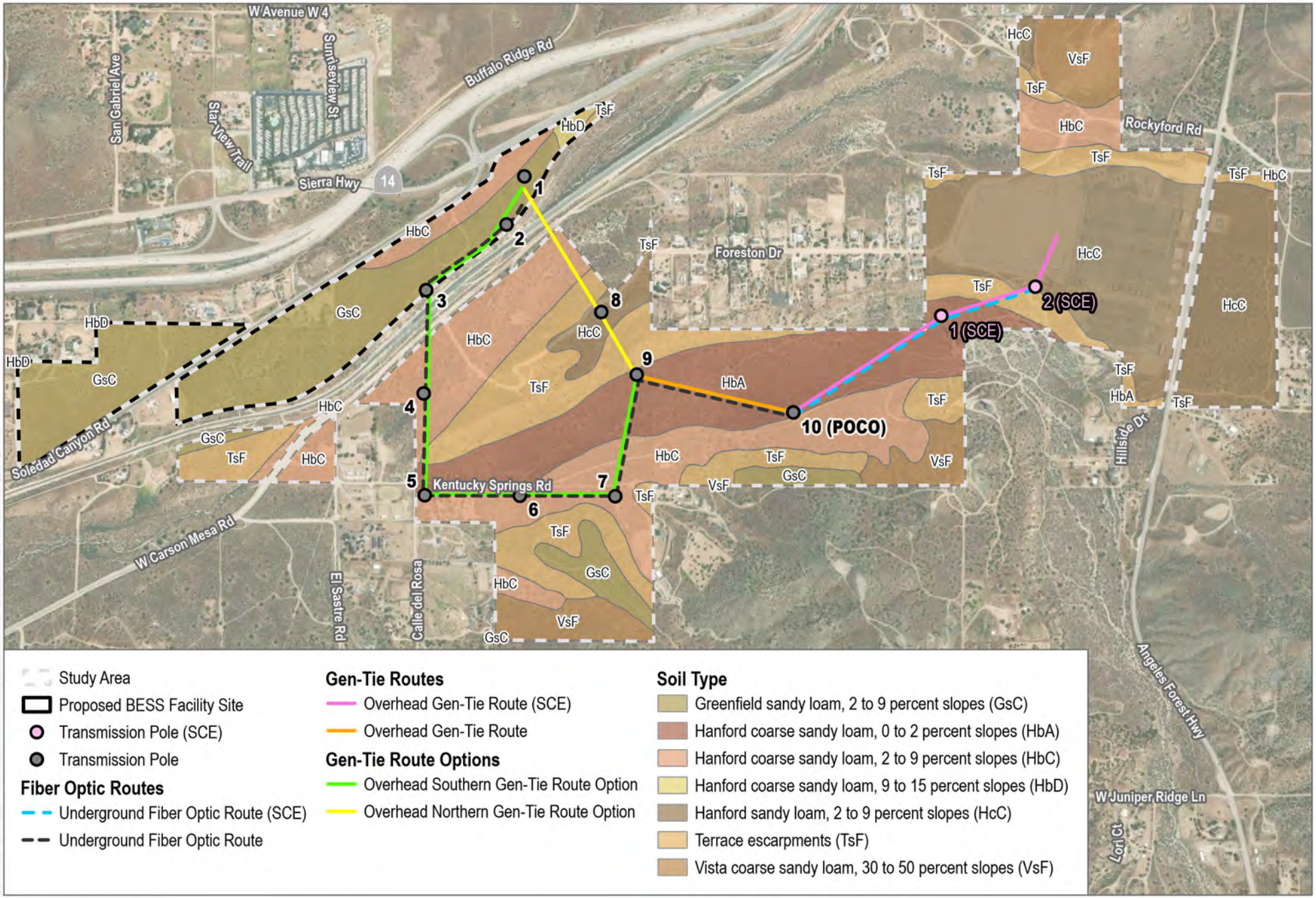
FIGURE 2B

Site Plan

Prairie Song Reliability Project



SOURCE: World Imagery; USDA

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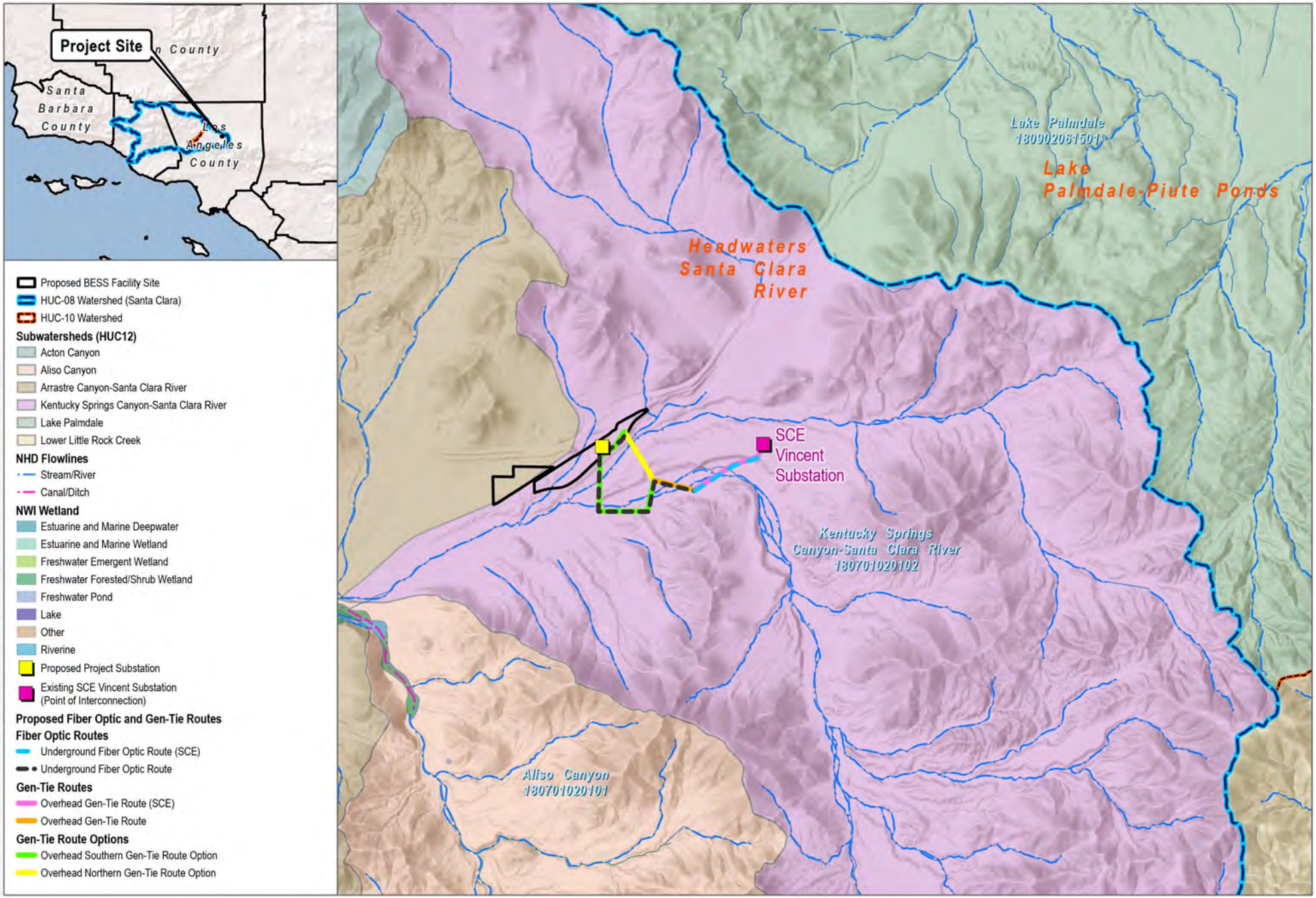
FIGURE 3

Soils

Prairie Song Reliability Project



SOURCE: World HIllshade; SWRQCB

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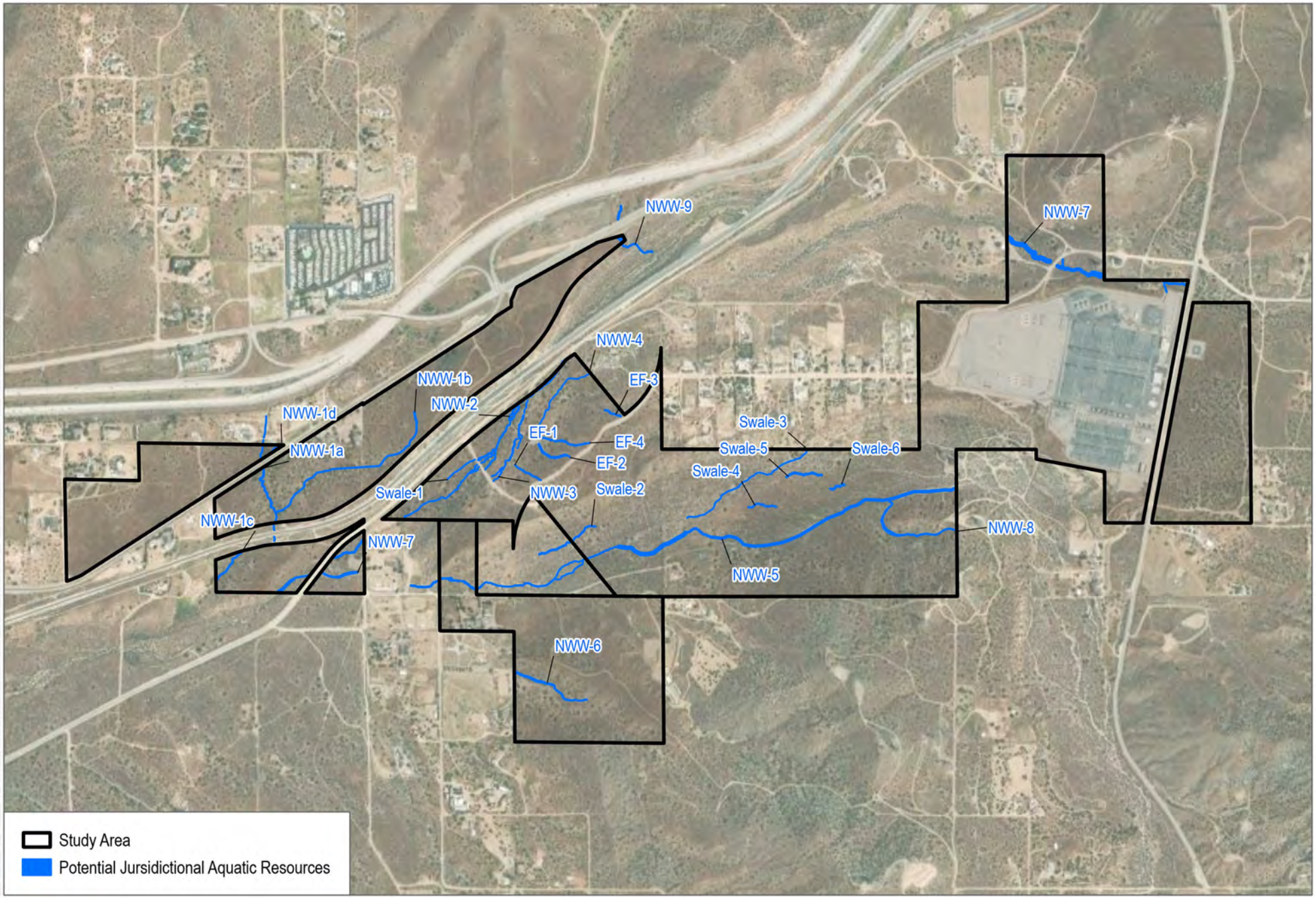
FIGURE 4

Hydrologic Setting

Prairie Song Reliability Project



SOURCE: World Imagery

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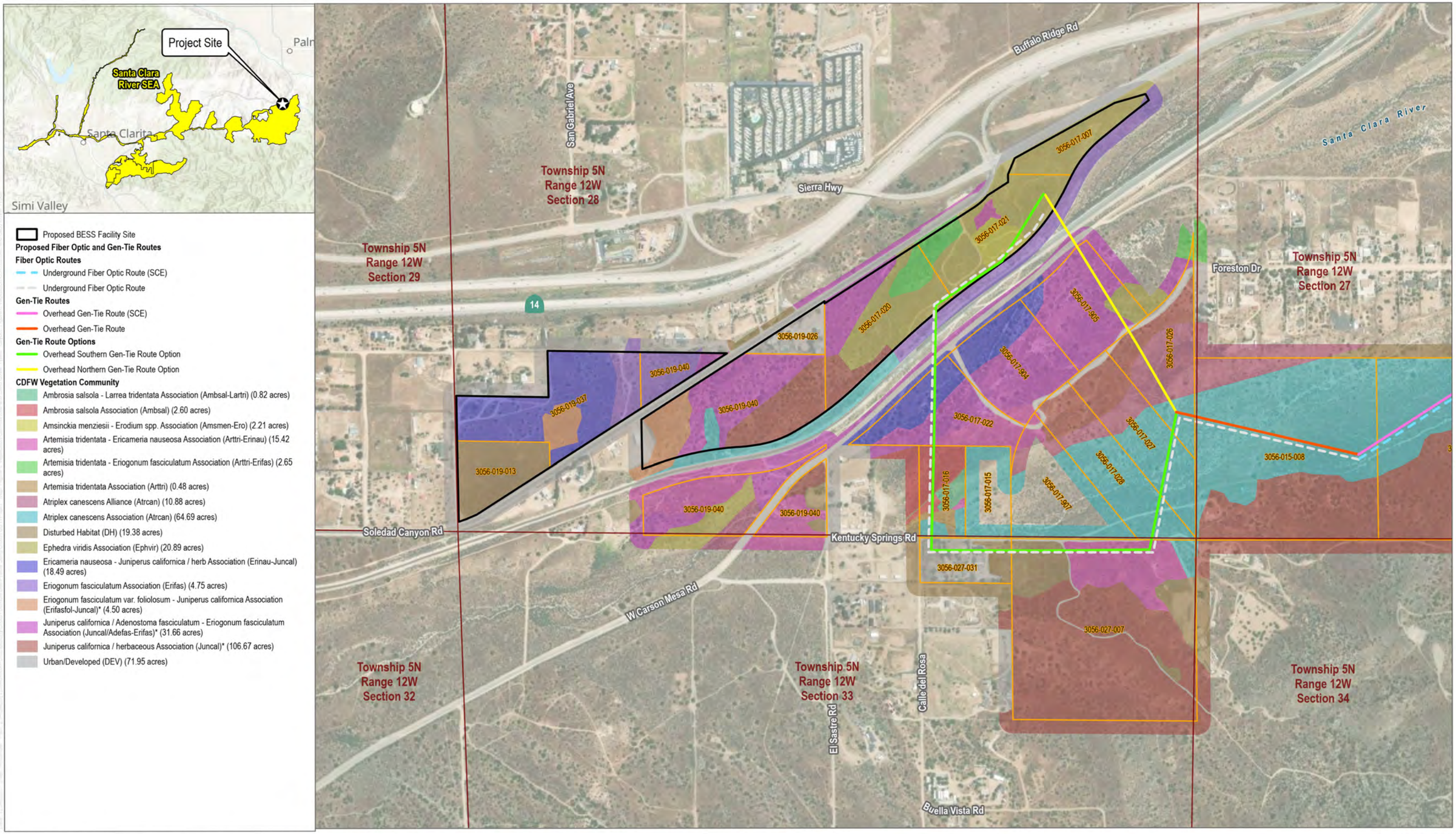
FIGURE 5

Aquatic Resources Delineation

Prairie Song Reliability Project



SOURCE: Maxar 2024; Los Angeles County 2025

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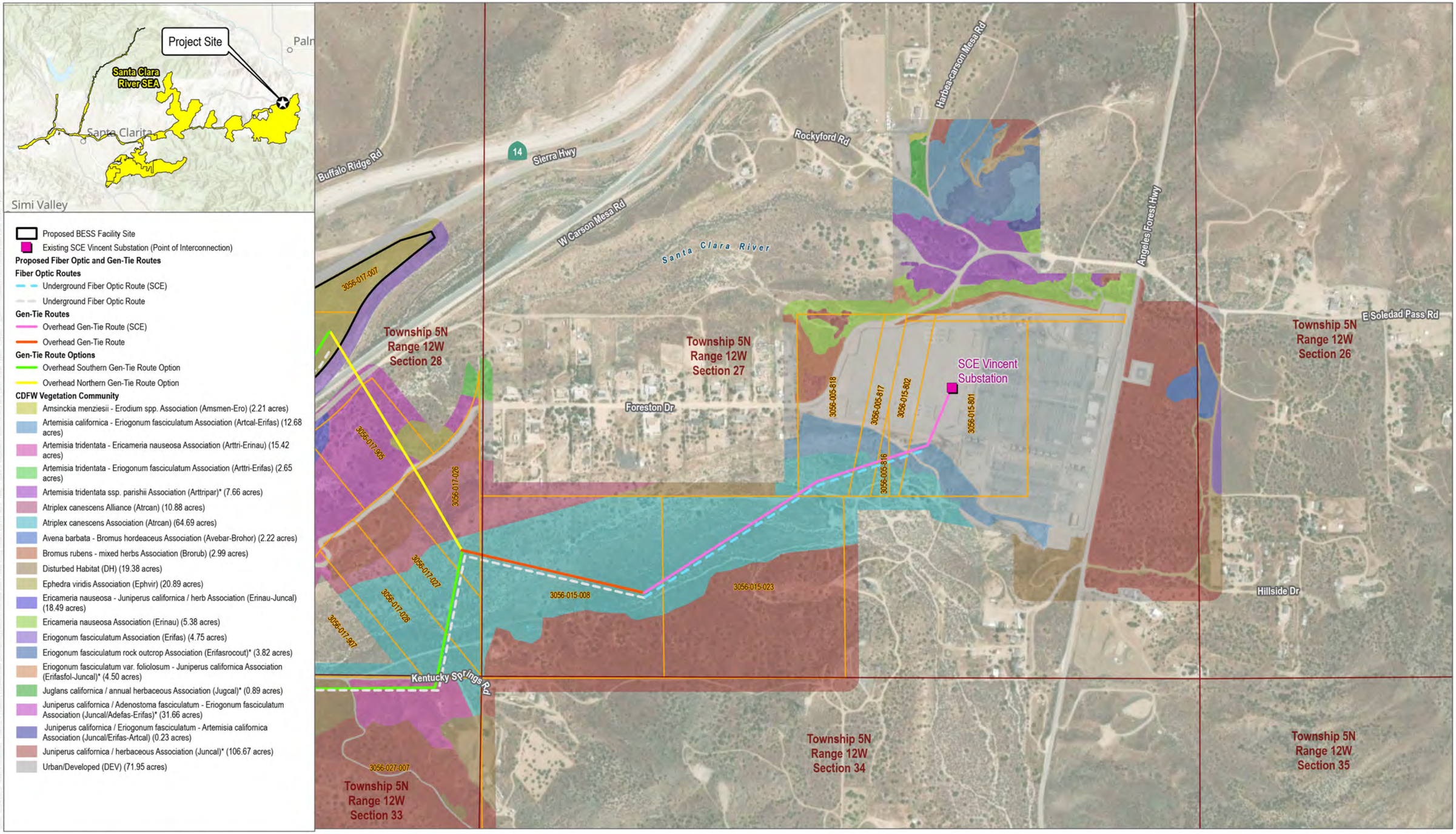
FIGURE 6A

Vegetation Communities and Land Cover Types

Prairie Song Reliability Project



SOURCE: Maxar 2024; Los Angeles County 2025

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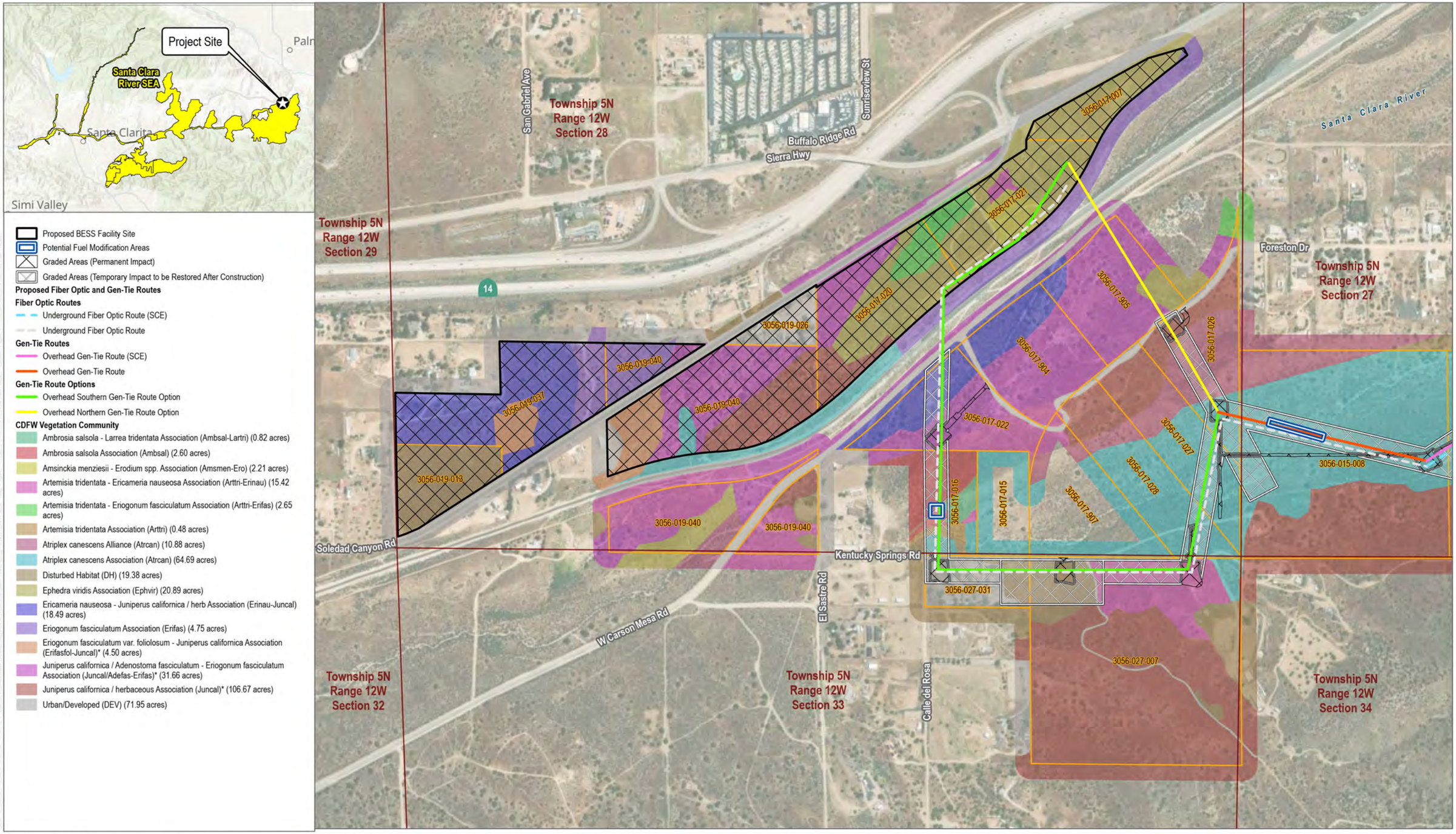
FIGURE 6B

Vegetation Communities and Land Cover Types

Prairie Song Reliability Project



SOURCE: Maxar 2024; Los Angeles County 2025

DUDEK

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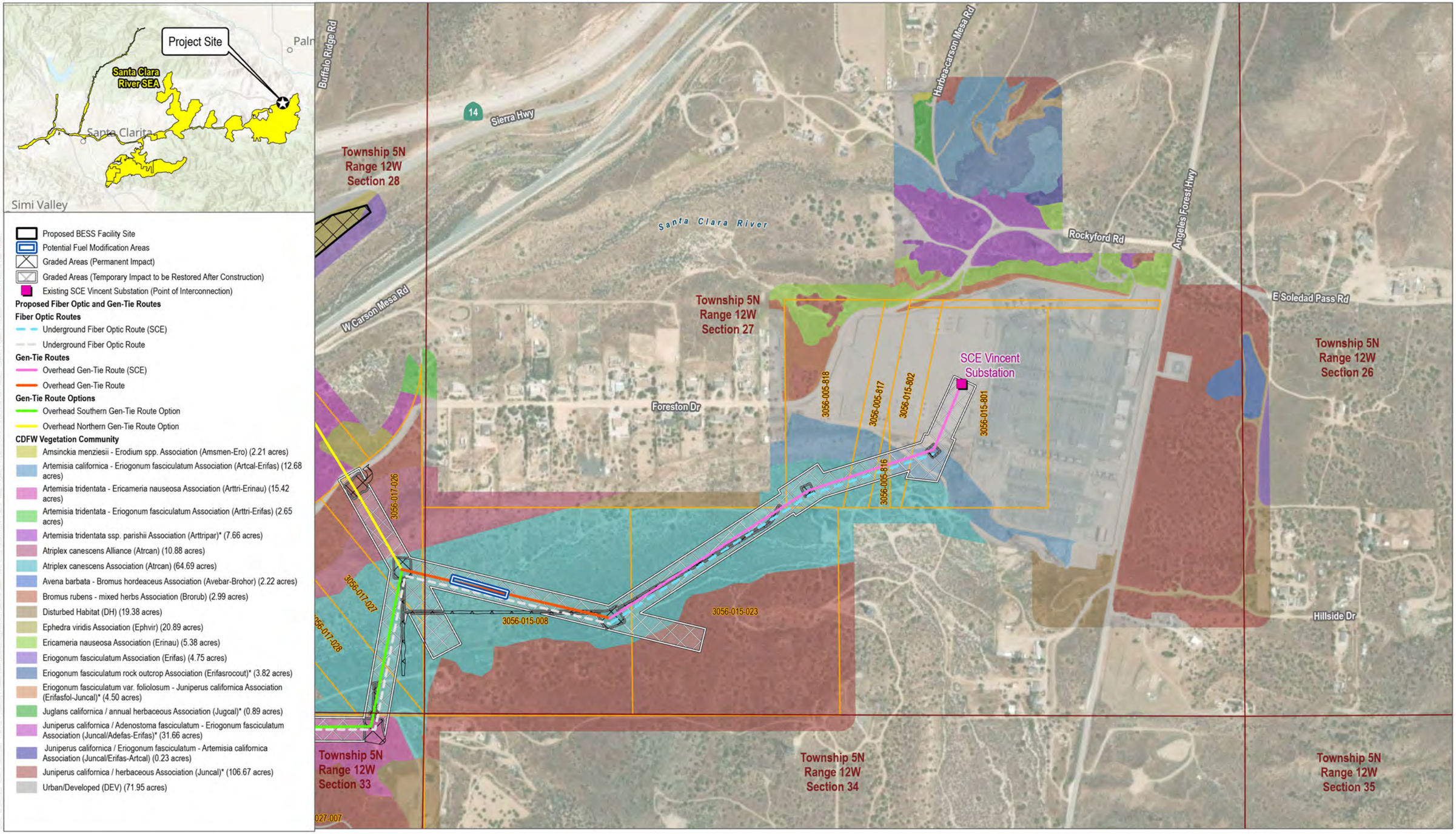
FIGURE 7A

Impacts to Crotch Bumble Bee Habitat

Prairie Song Reliability Project



- Proposed BESS Facility Site
- Potential Fuel Modification Areas
- Graded Areas (Permanent Impact)
- Graded Areas (Temporary Impact to be Restored After Construction)
- Existing SCE Vincent Substation (Point of Interconnection)

Proposed Fiber Optic and Gen-Tie Routes

Fiber Optic Routes

- Underground Fiber Optic Route (SCE)
- Underground Fiber Optic Route

Gen-Tie Routes

- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options

- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

CDFW Vegetation Community

- Amsinckia menziesii - Erodium spp. Association (Amsmen-Ero) (2.21 acres)
- Artemisia californica - Eriogonum fasciculatum Association (Artcal-Erifas) (12.68 acres)
- Artemisia tridentata - Ericameria nauseosa Association (Arttri-Erinau) (15.42 acres)
- Artemisia tridentata - Eriogonum fasciculatum Association (Arttri-Erifas) (2.65 acres)
- Artemisia tridentata ssp. parishii Association (Arttripar)* (7.66 acres)
- Atriplex canescens Alliance (Atrcan) (10.88 acres)
- Atriplex canescens Association (Atrcan) (64.69 acres)
- Avena barbata - Bromus hordeaceus Association (Avebar-Brohor) (2.22 acres)
- Bromus rubens - mixed herbs Association (Brorub) (2.99 acres)
- Disturbed Habitat (DH) (19.38 acres)
- Ephedra viridis Association (Ephvir) (20.89 acres)
- Ericameria nauseosa Association (Erinau) (5.38 acres)
- Eriogonum fasciculatum Association (Erifas) (4.75 acres)
- Eriogonum fasciculatum rock outcrop Association (Erifasrocout)* (3.82 acres)
- Eriogonum fasciculatum var. foliolosum - Juniperus californica Association (Erifasfol-Juncal)* (4.50 acres)
- Juglans californica / annual herbaceous Association (Jugcal)* (0.89 acres)
- Juniperus californica / Adenostoma fasciculatum - Eriogonum fasciculatum Association (Juncal/Adefas-Erifas)* (31.66 acres)
- Juniperus californica / Eriogonum fasciculatum - Artemisia californica Association (Juncal/Erifas-Artcal) (0.23 acres)
- Juniperus californica / herbaceous Association (Juncal)* (106.67 acres)
- Urban/Developed (DEV) (71.95 acres)

SOURCE: Maxar 2024; Los Angeles County 2025

DUDEK

0 300 600 Feet

FIGURE 7B

Impacts to Crotch Bumble Bee Habitat

Prairie Song Reliability Project