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Document Title:	Los Esteros Critical Energy Facility (03-AFC-02C) Petition for Modification Tanager Battery Energy Storage System Project
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Los Esteros Critical Energy Facility, LLC

717 Texas Ave, Suite 1000
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January 24, 2025

John Heiser
Compliance Project Manager
California Energy Commission
715 P Street
Sacramento, CA 95814

RE: Los Esteros Critical Energy Facility (03-AFC-02C)
Petition for Modification: Tanager Battery Energy Storage System Project

Dear Mr. Heiser:

Pursuant to Section 1769 of the California Energy Commission's Regulations, Los Esteros Critical Energy Facility, LLC[1] ("Project Owner"), on behalf of Tanager Power, LLC, submits this *Petition for Modification*: *Tanager Battery Energy Storage System Project* for the Los Esteros Critical Energy Facility ("LECEF") (03-AFC-2C). The Tanager Battery Energy Storage System Project will be an up to 200-megawatt battery energy storage system that will provide grid support and reliability services to the Bay Area Local Reliability Area.

The amendment fee of $5,000 and the list of affected property owners will be submitted under separate cover. If you have any questions or require more information, please contact Nadira Basdeo at Nadira.Basdeo@calpine.com.

Sincerely,

DocuSigned by:
Mitchell Weinberg
1D79E158014B4B4...

Mitchell D. Weinberg
Vice President, Strategic Origination & Development

Calpine Corporation
3003 Oak Road, Suite 400
Walnut Creek, CA 94597

[1] Los Esteros Critical Energy Facility, LLC is a wholly owned subsidiary of Calpine Corporation.

Petition for Modification
Tanager Battery Energy Storage System Project

Los Esteros Critical Energy Facility
03-AFC-02C

Submitted to
California Energy Commission

Submitted by
Los Esteros Critical Energy Facility, LLC

January 2025

Pursuant to Section 1769 of the California Energy Commission's ("CEC") regulations, Los Esteros Critical Energy Facility, LLC ("Project Owner") submits this petition ("Petition") to modify the Phase 2 certification of the Los Esteros Critical Energy Facility ("LECEF") on behalf of Tanager Power, LLC.[1] Tanager Power, LLC proposes to construct and operate the Tanager Battery Energy Storage System Project ("Tanager BESS Project") at the former laydown and construction parking area for the LECEF. The Tanager BESS Project consists of the installation of an up to 200-megawatt ("MW") lithium-ion battery energy storage system ("BESS"), interconnection, and communication system. The Tanager BESS Project will provide grid support and reliability services to the Bay Area Local Reliability Area.

Compliance with the Conditions of Certification identified in Appendix A will ensure that the proposed modification will not result in any significant environmental impacts or affect LECEF's compliance with applicable laws, ordinances, regulations, and standards ("LORS").

The Project Owner will remain responsible for compliance with the existing Conditions of Certification applicable to LECEF. Tanager Power, LLC will be responsible for compliance with any Conditions of Certification applicable to the Tanager BESS Project. To meet critical construction milestones, the Project Owner requests approval of this Petition by July 1, 2025.

1. SECTION 1769 (A)(1)(A): DESCRIPTION OF THE PROPOSED CHANGE, INCLUDING NEW LANGUAGE FOR ANY CONDITIONS OF CERTIFICATION THAT WILL BE AFFECTED.

LECEF is an operational 320-MW combined-cycle power plant located in the City of San Jose at 800 Thomas Foon Chew Way. The LECEF site is located on Assessor Parcel No. 015-31-072. The Tanager BESS Project will be co-located on the same parcel, north of Aviso Milpitas Rd. and south of the LECEF just outside of the existing fence line. The Tanager BESS Project will be located on the former laydown and parking area for the LECEF facility, which is currently disturbed and covered by fill and gravel. A site plan for the Tanager BESS Project is provided as Appendix B to this Petition.

Construction is expected to commence in the first quarter of 2026, with an anticipated commercial operations date in the first or second quarter of 2027. Construction is expected to last approximately 12 months, with an estimated 200 - 250 total construction jobs created.

The Tanager BESS Project consists of the following primary components:

- **Installation of a nominal 200-MW lithium-ion ("Li-ion") battery energy storage system, with approximately 1600 MWh of energy storage discharge capacity.**

The Tanager BESS Project will utilize a containerized battery energy storage system. The dimensions of the battery containers will be dependent upon the technology selected, which will be finalized during the detailed design process post-approval of this Petition.

[1] Tanager Power, LLC and Los Esteros Critical Energy Facility, LLC are both affiliates of Calpine Corporation.

It is anticipated that the BESS containers will be approximately 25 feet high. The battery containers will be placed on either concrete foundations or elevated from grade on pile foundations. If foundations are utilized, foundation depths for BESS equipment are estimated to be approximately five feet, with corresponding excavation depths. Excavation depths for generation-tie line poles are estimated to be 60 feet, and driven pile depths estimated at 15 feet.

- **A new, approximately 0.5-mile generation-tie line from the Tanager BESS Project to the PG&E 230-kV bus at the Los Esteros Substation, primarily traversing south to north along the eastern boundary of the LECEF site.**

The Tanager BESS Project will interconnect to the California Independent System Operator ("CAISO") controlled grid at the Pacific Gas and Electric Company ("PG&E") 230-kV bus at the Los Esteros Substation via a new, approximately 0.5-mile 23-kV gen-tie line. The Tanager BESS Project will also include a 230-kV switchyard and generator step-up ("GSU") transformer.

The batteries' collection systems will feed into a new 34.5-kV gen-tie line, which will be constructed through the existing LECEF landscaping berm, to the new Tanager 34.5-/230-kV switchyard located within the security fence of the LECEF. At this location, a GSU transformer will step the voltage up from 34.5-kV to the 230-kV level needed for transmission interconnection. From the Tanager 34.5-/230-kV switchyard, the electricity will travel north via the above ground 230-kV gen-tie line. In the northeastern corner of the parcel, the gen-tie line will transition to an underground system. The gen-tie will continue underground past the Silicon Valley Power ("SVP") switchyard to the "PG&E Los Esteros Sub" at the Point of Interconnection ("POI").

- **Installation of a new revenue meter for monitoring battery charging and discharging activity.**

While the LECEF and Tanager BESS Projects will be co-located on the same parcel, the two facilities have separate metering equipment and different CAISO Resource ID numbers. The Tanager BESS Project will be charged exclusively from the grid.

- **Modifications to the existing LECEF.**

Modifications to the LECEF control room will be required to facilitate monitoring of the Tanager BESS Project and related switchyard from the modified LECEF control room by personnel common to LECEF and the Tanager BESS Project, including monitoring of the Tanager BESS Project's fire alarms. The existing LECEF fire loop will be extended into the Tanager BESS Project area and additional hydrants will be added at intervals recommended by the local fire department. The Tanager BESS Project will also require the addition of a third entrance to the parcel and a new internal road connecting the LECEF and Tanager BESS Project areas. This internal road will provide multiple internal and external access points, allowing personnel to move within and between the LECEF and Tanager BESS Project. Stormwater from the Tanager BESS Project will be connected to and will discharge into the existing stormwater control system designed and constructed to serve the facility.

The CEC's Final Decision for LECEF Phase 2 required the installation of a berm, trees, and landscaping on the former laydown and parking area. The Tanager BESS Project will require the removal of certain LECEF facilities, including a portion of the berm, as well as some of the trees and landscaping, all of which were dedicated to mitigating potentially significant environmental impacts of LECEF.

A summary of the existing Conditions of Certification, and any proposed modifications, that are specifically applicable to the Tanager BESS Project, are provided in Appendix A.

2. SECTION 1769 (A)(1)(B): DISCUSSION OF THE NECESSITY FOR THE PROPOSED CHANGE AND AN EXPLANATION OF WHY THE CHANGE SHOULD BE PERMITTED.

The change should be permitted as the Tanager BESS Project will provide critically needed grid support and reliability. The Tanager BESS Project will support the California Public Utilities Commission's ("CPUC") Mid-Term Reliability mandate and any subsequent CPUC-ordered incremental capacity procurement by load-serving entities. In particular, the Tanager BESS Project responds to the need for energy storage to support California renewable energy, climate goals, and reliability needs. Locating the Tanager BESS Project on the 34-acre site also takes advantage of existing infrastructure both within the site and grid infrastructure in the vicinity. The Tanager BESS Project will help serve critical Bay Area needs, especially given its location in a highly constrained sub-area in the City of San Jose and will provide local resource adequacy capacity in the Greater Bay Area.

3. SECTION 1769(A)(1)(C): DESCRIPTION OF ANY NEW INFORMATION OR CHANGE IN CIRCUMSTANCES THAT NECESSITATED THE CHANGE.

As described above, the Tanager BESS Project will provide critically needed grid support and reliability. In addition to meeting the critical need for additional capacity, the Tanager BESS Project will also specifically meet the goals outlined in Senate Bill 100 ("SB 100"), which the California Legislature passed in 2018. SB 100 set goals for the provision of 100 percent of electricity retail sales and state loads from renewable and zero-carbon resources in California by 2045. The new information and change in circumstances relating to climate change, particularly California's efforts to respond to climate change, demonstrate the need for the Tanager BESS Project.

4. SECTION 1769(A)(1)(D): AN ANALYSIS OF THE EFFECTS THAT THE PROPOSED CHANGE MAY HAVE ON THE ENVIRONMENT AND PROPOSED MEASURES TO MITIGATE ANY SIGNIFICANT ENVIRONMENTAL EFFECTS.

With the implementation of Conditions of Certification, the Tanager BESS Project will not result in an adverse change to the environment.

Air Quality/ Public Health: The proposed modification will not affect emissions from the LECEF, and the LECEF will continue to meet all existing emissions limits established in the

existing permits. With implementation of the air quality Conditions of Certification set forth in Appendix A, the Tanager BESS Project will not have a significant impact to air quality.

Biological Resources: The proposed modification will occur on the former laydown and parking area for the LECEF facility and will not result in any significant habitat or ground disturbance. This portion of the parcel is heavily disturbed and was used for parking and laydown during the construction of the LECEF. As the site has been previously disturbed and is adjacent to existing industrial uses, and will specifically sit between existing gas-fired generation facilities and a major freeway, the proposed modification will not have a significant impact to biological resources. Pre-construction measures will be taken to protect any sensitive biological resources. The Project Owner is proposing implementation of biological resources Conditions of Certification to ensure that potential impacts to biological resources are less than significant. A technical memorandum that provides further details regarding the existing baseline biological conditions, potential impacts, and the proposed avoidance and minimization measures are provided as Appendix C, and an Aquatic Resources Delineation Report is provided as Appendix D to this Petition. The Project Owner will conduct protocol surveys for burrowing owls in the first quarter of 2025 and will submit an additional technical memorandum following completion of surveys. Applicable existing biological resources Conditions of Certification, and proposed modifications, are provided in Appendix A.

Cultural Resources: The proposed modification will occur entirely on a disturbed industrial site and will not result in any significant impact to cultural resources. Extensive backhoe testing was performed for a Phase 2 environmental site assessment and the testing demonstrated the general lack of buried resources on site. Batteries will be placed on either concrete foundations or elevated from grade on pile foundations and any excavation will comply with all Phase 2 applicable Cultural Conditions of Certification. A technical memorandum that provides further details regarding the existing baseline cultural conditions, potential impacts, and the proposed avoidance and minimization measures is provided as Appendix E to this Petition. Applicable existing cultural resources Conditions of Certification, and proposed modifications, are provided in Appendix A.

Hazardous Materials Management: At this time it is anticipated that no new hazardous materials will be associated with the project. The Li-ion batteries proposed for use at the site are closed cell batteries. The system will be totally enclosed and exposure to hazardous ingredients is not expected. Li-ion batteries are made with non-toxic, non-hazardous materials. There is minimal fire hazard when manufacturers' recommendations are followed for proper handling of the battery and the container. Further information regarding the fire protection features of the Tanager BESS Project are discussed below in the Worker Safety and Fire Protection section. Containers will be IP55-rated or higher, which satisfies the requirements for containment of battery electrolyte. In addition, each Li-ion cell is continuously monitored and is provided with an automatic shutdown to prevent a runaway thermal condition. These design features, along with implementation of the Conditions of Certification proposed in Appendix A, will ensure that potential impacts are less than significant.

Land Use: The use described in the proposed modification is consistent with land uses in the area and applicable land use designations.

The LECEF site is designated as Light Industrial in the City's General Plan 2040, with a zoning designation of a planned development ("PD") district, with an alternative base zoning district of Agriculture ("A"). Development of a parcel designated as "PD" must occur pursuant to either (1) "an effective" PD permit or (2) in accordance with the requirements of the base zoning district. (City of San Jose Code §20.10.070(D).

The CEC's Final Decision and subsequent amendments for LECEF acts as the PD permit for the site, and all development must occur consistent with the provisions of the Final Decision, as amended. The Tanager BESS Project is consistent with the uses approved in the LECEF Final Decision.

The Tanager BESS Project is consistent with the underlying Agriculture zoning designation as a utility facility use. The "A" zoning designation provides that "Utility Facilities" are a conditionally permitted use in the A zoning district, and include buildings, structures, plants, and equipment used for the provision and operation of utility services and electrical transmission facilities, but does not include electrical power generation facilities. (City of San Jose Code §20.200.1310.) As the Tanager BESS Project stores, but does not generate, electricity, the project meets the definition of a utility facility use.

Noise: The Li-ion battery would add minimal new sources of noise to the site. The source of the noise would be either an HVAC system for air-cooled Li-ion batteries or pumps and fans of a liquid coolant system, dependent upon the selected technology. Batteries are typically low in noise and will not cause a significant adverse noise impact. The noise will meet the City of San Jose Noise Ordinance and noise Conditions of Certification in the Phase 2 CEC License.

Soils: Construction will result in land disturbance of one acre or more to build the foundations associated with the battery installation, therefore compliance with the requirements of the General Storm Water Permit will be required. LECEF will obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance (Construction General Permit) Order 2009-0009-DWQ and prepare a Construction Storm Water Pollution Prevention Plan ("SWPPP"). In addition, any excavations and soil disposal will comply with the existing Soils Management Plan. All excavated soil will be disposed of in accordance with the existing Soils Management Plan. Final grading will comply with the existing Erosion and Sedimentation Control Plan.

Traffic and Transportation: All project deliveries during construction will continue to comply with all applicable Conditions of Certification TRANS-3. The Project Owner will ensure that permits and/or licenses are secured from the California Highway Patrol and Caltrans for the transport of any hazardous materials, and that all federal and state regulations for the transport of hazardous materials are observed.

The Project Owner shall ensure that all heavy vehicles and vehicles transporting hazardous materials shall use the following route: from SR 237, exit northbound at Zanker Road, from Zanker turn right to enter the LECEF site via Thomas Foon Chew Way, the primary site access road for the parcel.

Transmission System Engineering: The Tanager BESS Project was studied by the California Independent System Operator as part of Cluster 12 and has an executed Large Generator Interconnection Agreement ("LGIA"). Minor network upgrades to the Los Esteros Substation were identified and will occur within the existing boundaries of the Los Esteros Substation.

Visual Resources: The proposed modification will not substantially degrade the existing visual character or quality of the site, or its surroundings. The expected height of the energy storage system will be 25 feet. This will not exceed the Urban Design Policy 10 of the City's General Plan, which has a building height limitation of 50 feet, or structural height limitation of 100 feet. The proposed modification will not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. Therefore, the proposed modification will not have a significant impact to visual resources. A visual resources impact assessment is provided as Appendix F to this Petition.

Waste Management: The proposed changes will not change or affect waste management practices or the types or quantities of waste generated by the construction or operation of the project. All waste generated during construction will comply with the facility's existing Waste Management Plan.

Worker Safety and Fire Protection: Li-ion based BESS containers are designed with advanced safety features, reflecting their status as some of the safest options available in energy storage technology.

The Li-ion battery cells are encased in robust metallic housings and feature pressure-activated current interruption devices ("CIDs"). CIDs are critical safety components that automatically isolate the cell electrically in the event of pressure buildup due to cell failure or overcurrent conditions, effectively preventing potential safety hazards.

Additionally, to ensure optimal performance and prevent overheating, the system will utilize a liquid-cooled (or equivalent) thermal management solution. This system will maintain the cells within a safe operating temperature range, significantly reducing the risk of thermal runaway and ensuring stable operation even under varying environmental conditions.

Any BESS container chosen for this project will be equipped with a sophisticated Battery Management System ("BMS") that will provide multi-level monitoring at the cell, module, rack, and system levels. This comprehensive monitoring system is designed to track critical parameters such as voltage, current, and temperature through an array of sensors. The BMS will be engineered to continuously perform safety checks and provide real-time alerts to both the site operators and the Site Energy Management System. Additionally, the system will include remotely operable contactors that allow for the disconnection of cell strings if needed, providing an extra layer of control and fault management.

In case of any imbalance in voltage, temperature, current, or other communication latency or other errors within the container, the BMS has multiple levels of fire prevention response that may be triggered depending on the concern detected and the magnitude of concern outside of

acceptable ranges. At a low threshold, the BMS may communicate with the Power Conversion System ("PCS") to derate the power by up to 50%; at a medium threshold, the BMS may communicate with the PCS to enter "standby mode," which prevents any electrical load from entering or leaving the battery; and at a high threshold, the BMS may open the disconnect switch to disconnect the battery containers from the electrical network. Additionally, at a project level, there will be fire alarms that alert the site operations team and, if needed, the local fire department.

Finally, the containers will meet rigorous safety standards, having undergone extensive testing in accordance with UL9540 and UL9540A standards. UL9540 ensures the overall safety and performance of energy storage systems, while UL9540A specifically tests for fire safety and thermal runaway propagation, confirming that no thermal runaway can extend beyond the unit level.

The containers will comply with all relevant National Fire Protection Association ("NFPA") standards, including NFPA 855, and local fire codes. The City of San Jose has adopted the 2022 California Fire Code, with amendments. With respect to BESS, the City has adopted the entirety of Chapter 2 (Definitions) and Chapter 12 (Energy Systems), except as otherwise provided for. These regulations cover essential safety aspects such as fire detection, alarm systems, ventilation, and deflagration prevention, ensuring robust measures are in place to isolate faults, prevent fire propagation, and notify operators in the event of an incident.

In the case of a thermal event, it is typically recommended to not apply water on an affected container. Instead, the recommendation from BESS manufacturers is to apply water to neighboring battery containers to prevent any potential, if unlikely, propagation. The Tanager BESS Project will involve the extension of the site's existing underground fire water loop into the BESS project site, with hydrants at intervals required by the San Jose Fire Department. Site internal access roads will meet San Jose Fire Department Fire Apparatus Access Road standards as it relates to width, turn radius, grade, turnaround minimums, and any other pertinent requirements. A project-specific Emergency Response Plan will be developed and shared with applicable Authorities Having Jurisdiction as required by Senate Bill 38.

5. SECTION 1769(A)(1)(E): ANALYSIS OF HOW THE PROPOSED CHANGE WOULD AFFECT THE PROJECT'S COMPLIANCE WITH APPLICABLE LAWS, ORDINANCES, REGULATIONS, AND STANDARDS.

The proposed changes will not impact LECEF's ability to comply with applicable LORS. As detailed herein, the Tanager BESS Project has also been designed and will be operated to ensure compliance with applicable LORS as discussed in this Petition and the accompanying materials.

6. SECTION 1769(A)(1)(F): DISCUSSION OF HOW THE PROPOSED CHANGE WOULD AFFECT THE PUBLIC.

The proposed changes will not adversely affect the public. The proposed changes do not result in significant unmitigated impacts to the environment and do not negatively impact air quality or public health. Construction and operation are all within the existing parcel, and with

implementation of proposed Conditions there will be no significant adverse effects on neighboring property owners.

7. SECTION 1769(A)(1)(G): PROVIDE A LIST OF CURRENT ASSESSOR'S PARCEL NUMBERS AND OWNERS' NAMES AND ADDRESSES FOR ALL PARCELS WITHIN 500 FEET OF ANY AFFECTED PROJECT LINEARS AND 1000 FEET OF THE PROJECT SITE.

The Project Owner will provide a list of neighboring property owners directly to the Compliance Project Manager ("CPM").

8. SECTION 1769(A)(1)(H): DISCUSSION OF THE POTENTIAL EFFECT ON NEARBY PROPERTY OWNERS, RESIDENTS, AND THE PUBLIC.

The proposed changes will have no significant environmental effects and will be in compliance with applicable LORS. Therefore, the proposed changes will have no impact on nearby property owners, residents, or the public.

APPENDIX A:

CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification
Air Quality	
AQ-SC1	No proposed modification.[2]
AQ-SC2	No proposed modification.
AQ-SC3	No proposed modification.
AQ-SC4	No proposed modification.
AQ-SC5	No proposed modification.
AQ-SC8	No proposed modification.
Biological Resources	
BIO-1	No proposed modification.
BIO-2	No proposed modification.
BIO-3	No proposed modification.
BIO-4	No proposed modification.
BIO-8	No proposed modification.
BIO-9	No proposed modification.
BIO-10	No proposed modification.
BIO-11	**SURVEY AND PROVIDE HABITAT COMPENSATION FOR BURROWING OWLS** **BIO-11** The ~~applicant~~ Tanager BESS Project Owner shall survey for burrowing owl activities on the ~~34 acre parcel~~ Tanager BESS Project site and along all new ancillary linear facilities prior to site mobilization to assess owl presence and need for further mitigation. All survey results shall be submitted to the CPM ~~CDFG~~. If owls are present, and nesting is not occurring, owls are to be removed per CDFW~~G~~

[2] Although no significant modifications are proposed for these conditions, global administrative changes such as "project owner" to "Tanager BESS Project Owner" may be required to clarify the entity responsible for compliance with the condition.

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification
	approved passive relocation. Passive relocation is recommended from September 1 to January 31, to avoid disruption of breeding activities. If owls are nesting, nest(s) should be avoided by a minimum of a 500~~250~~-foot buffer until fledging has occurred (February 1 through August 31). Following fledging, owls may be passively relocated. If burrowing owls are found on the Tanager BESS Project site or along all new ancillary linear corridors, on-site or off-site compensation for losses will be required, whichever is feasible. CDF~~G~~W recommends 6.5 acres of protected lands for each pair of owls or unpaired resident bird. Foraging habitat should be replaced at 0.5:1 (mitigation: impacts). Mitigation lands bought outside of Santa Clara County shall be purchased at a 0.75:1 (mitigation: impacts) for contiguous counties and 1.5:1 for all other California counties. In addition, existing unsuitable burrows on the protected lands should be enhanced (e.g., cleared of debris or enlarged) or new burrows installed at a ratio of 2:1. If off-site compensation is the only option, the mitigation ratios will increase depending on the distance from the site and burrowing presence on or near the mitigation parcel. **Verification**: Burrowing owl surveys shall be conducted 20 days prior to any project-related ground disturbance activities. At least 15 days prior to project-related ground disturbance the ~~project owner~~ Tanager BESS Project Owner shall provide the CPM and CDFW with the burrowing owl survey results and identify any lands proposed for mitigation (if applicable). The land purchase shall be approved by the CPM and reviewed by CDFW. The ~~project owner~~ Tanager BESS Project Owner shall notify the CPM five working days before implementing any modifications to the BRMIMP.
BIO-14	~~**REVEGETATION OF TEMPORARY DISTURBANCE**~~ ~~**BIO-14** After construction, the laydown area will be stripped of any armoring material, the surface scarified, and topsoil restored. Barley seed will be sowed as a temporary cover crop, but native seeds from the topsoil will be allowed to sprout and grow.~~

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification
	~~**Verification**: The applicant shall provide the revegetation plan in the BRMIMP and submit it within 60 days after the start of any site and related facilities mobilization.~~
BIO-17	No proposed modification.
BIO-19	No proposed modification.
BIO-20	**BIO-20** During construction of the Tanager BESS Project ~~combined cycle facility~~, the ~~project owner~~ Tanager BESS Project Owner shall ~~distribute flyers to~~ notify project-construction employees informing them of the possible presence of burrowing owls near Thomas Foon Chew Way. The ~~project owner~~ Tanager BESS Project Owner shall highlight that the posted speed limit is 15 miles-per-hour along the primary access road, Thomas Foon Chew Way, and take actions to correct repeat violations by project-construction drivers. **Verification**: All mitigation measures and their implementation methods will be included in the BRMIMP. The monthly compliance report shall include the number of possible speed limit violations. The CPM reserves the right to inspect the primary access road for signs and to contact the construction manager to correct problems.
BIO-21	No proposed modification.
Cultural Resources	
CUL-1	No proposed modification.
CUL-2	No proposed modification.
CUL-3	No proposed modification.
CUL-4	No proposed modification.
CUL-5	No proposed modification.
CUL-6	No proposed modification.
CUL-8	No proposed modification.
CUL-9	No proposed modification.
CUL-10	No proposed modification.

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification
CUL-11	No proposed modification.
Facility Design	
GEN-1	**GEN-1** The ~~project owner~~ Tanager BESS Project Owner shall design, construct and inspect the ~~project~~ Tanager BESS Project in accordance with the~~ 2001~~ applicable provisions of the California Building Standards Code (CBSC) (also known as Title 24, California Code of Regulations), which encompasses the California Building Code (CBC), California Building Standards Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code of Building Conservation, California Reference Standards Code, and all other applicable engineering LORS in effect at the time initial design plans are submitted to the CBO for review and approval. (The CBC in effect is that edition that has been adopted by the California Building Standards Commission and published at least 180 days previously.) The ~~project owner~~ Tanager BESS Project Owner shall ~~i~~ensure that all the provisions of the above applicable codes be enforced during any construction, addition, alteration, moving, demolition, repair, or maintenance of the completed facility ~~[2001 CBC, Section 101.3, Scope~~]. All transmission facilities (lines, switchyards, switching stations, and substations) are ~~handled in~~ subject to the Transmission System Engineering Conditions of Certification ~~in the Transmission System Engineering Section of this document~~. ~~In the event that the initial engineering designs are submitted to the CBO when a successor to the 2001 CBSC is in effect, the 2001 CBSC provisions identified herein shall be replaced with the applicable successor provisions.~~ Where, in any specific case, different sections of the code specify different materials, methods of construction, or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern. The ~~project owner~~ Tanager BESS Project Owner shall ~~i~~ensure that all contracts with contractors, subcontractors and suppliers shall clearly specify that all work performed and materials supplied on this project comply with the codes listed above.

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification
	Verification: Within 30 days after receipt of the Certificate of Occupancy, the ~~project owner~~ Tanager BESS Project Owner shall submit to the Compliance Project Manager (CPM) a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation and inspection requirements of the applicable LORS and the Energy Commission's Decision have been met in the area of facility design. The ~~project owner~~ Tanager BESS Project Owner shall provide the CPM a copy of the Certificate of Occupancy within 30 days of receipt from the CBO. ~~[2001 CBC, Section 109 – Certificate of Occupancy.]~~ Once the Certificate of Occupancy has been issued, the ~~project owner~~ Tanager BESS Project Owner shall inform the CPM at least 30 days prior to any construction, addition, alteration, moving, demolition, repair, or maintenance to be performed on any portion(s) of the completed facility which may require CBO approval for the purpose of complying with the above stated codes. The CPM will then determine the necessity of CBO approval on the work to be performed.
GEN-2	**GEN-2** Prior to submittal of the initial engineering designs for CBO review, the ~~project owner~~ Tanager BESS Project Owner shall furnish to the CPM and to the CBO a preliminary schedule of facility design submittals, a Master Drawing List, and a Master Specifications List. The schedule shall contain a list of proposed submittal packages of designs, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the ~~project owner~~ Tanager BESS Project Owner shall provide specific packages to the CPM when requested. **Verification**: At least 30 days (or ~~project owner~~ Tanager BESS Project Owner and CBO approved alternative timeframe) prior to the start of rough grading, the ~~project owner~~ Tanager BESS Project Owner shall submit to the CBO and to the CPM the preliminary schedule, the Master Drawing List, and the Master Specifications List of documents to be submitted to the CBO for review and approval. These documents shall be the pertinent design documents for the major structures and equipment, as applicable.~~, listed in Table 1 below. Major structures and equipment shall be added to or deleted from the Table only with CPM approval. The project owner shall provide schedule updates in the Monthly Compliance Report.~~ **~~Table 1: Major Structures and Equipment List~~**

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification

~~Equipment/System~~	~~Quantity (Plant)~~
~~Combustion Turbine Generator Foundation and Connections~~	~~4~~
~~SCR Unit Structure, Foundation and Connections~~	~~4~~
~~Transformer Foundation and Connections~~	~~4~~
~~CT Inlet Air Filter/Duct Structure, Foundation and Connections~~	~~4~~
~~Inlet Air Chillers Skid Foundation and Connections~~	~~4~~
~~Exhaust Stack Structure, Foundation and Connections~~	~~4~~
~~Fuel Gas Filter Foundation and Connections~~	~~4~~
~~Fuel Gas Compressor Foundation and Connections~~	~~1~~
~~Gas Turbine Enclosures Structure, Foundation and Connections~~	~~4~~
~~Potable Water Tank Foundation and Connections~~	~~1~~
~~Ammonia Storage Tank & Pump Foundation and Connections~~	~~1~~
~~Cooling Tower Foundation and Connections~~	~~1~~
~~Lube Oil Storage Room Structure, Foundation and Connections~~	~~1~~
~~Starting Hydraulic Skid Foundation and Connections~~	~~4~~
~~Performance Skid Foundation and Connections~~	~~4~~
~~Demineralized Water Filter Skid Foundation and Connections~~	~~4~~
~~Auxiliary Water Injection Pumps Foundation and Connections~~	~~4~~
~~Air Compressor/Air Dryer Foundation and Connections~~	~~1~~
~~Oil/Water Separator Foundation and Connections~~	~~2~~
~~Wash Water Drain Tank Foundation and Connections~~	~~2~~
~~Ammonia Vaporizer Skid Foundation and Connections~~	~~4~~

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification		
		~~Switchgear Building Structure, Foundation and Connections~~	~~1~~
		~~Black Start Generator Foundation and Connections~~	~~1~~
		~~Fire Water Tank Foundation and Connections~~	~~1~~
		~~Fuel Gas Metering Station Structure, Foundation and Connections~~	~~1~~
		~~Fire Water Primary and Emergency Pump Foundation and Connections~~	~~1~~
		~~Auxiliary Cooling Water Pump Foundation and Connections~~	~~1~~
		~~Service/Administration Building Structure, Foundation and Connections~~	~~1~~
		~~Switchyard Control Room Structure, Foundation and Connections~~	~~1~~
		~~115 kV Switchyard Building Structure, Foundation and Connections~~	~~1~~
		~~Steam Turbine (ST) Foundation and Connections~~	~~1~~
		~~Steam Turbine Generator (STG) Foundation and Connections~~	~~1~~
		~~Steam Condenser and Auxiliaries Foundation and Connections~~	~~1~~
		~~Heat Recovery Steam Generator (HRSG) Structure, Foundation and Connections~~	4
		~~HRSG Feed Pumps Foundation and Connections~~	~~4~~
		~~STG Unit Auxiliary Transformer Foundation and Connections~~	~~1~~
		~~STG Power Distribution Center Structure, Foundation and Connections~~	~~1~~
		~~STG Main Transformer Foundation and Connections~~	~~1~~
		~~Condensate Pumps Foundation and Connections~~	~~2~~
		~~Circulating Water Pumps Foundation and Connection~~	~~2~~
		~~Condensate Storage and Transfer System Foundation and Connections~~	~~1~~
		~~Boiler Feed Water Pump Foundation and Connections~~	~~2~~

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

<table>
<tr><th>Existing Condition of Certification Applicable to Tanager BESS Project</th><th>Proposed Modification</th></tr>
<tr><td></td><td><table>
<tr><td>~~Cooling Tower Structure, Foundation and Connections~~</td><td>~~1~~</td></tr>
<tr><td>~~Cooling Tower Blowdown Storage Tank, Foundation and Connections~~</td><td>~~1~~</td></tr>
<tr><td>~~Circulating Water Chemical Feed System Foundation and Connections~~</td><td>~~1~~</td></tr>
<tr><td>~~Aqueous Ammonia Storage Tank Foundation and Connections~~</td><td>~~1~~</td></tr>
<tr><td>~~Equipment Cooling Water Heat Exchanger Foundation and Connections~~</td><td>~~1~~</td></tr>
<tr><td>~~Potable Water Systems~~</td><td>~~1 Lot~~</td></tr>
<tr><td>~~Drainage Systems (including sanitary drain and waste)~~</td><td>~~1 Lot~~</td></tr>
<tr><td>~~High Pressure and Large Diameter Piping~~</td><td>~~1 Lot~~</td></tr>
<tr><td>~~HVAC and Refrigeration Systems~~</td><td>~~1 Lot~~</td></tr>
<tr><td>~~Temperature Control and Ventilation Systems (including water and sewer connections)~~</td><td>~~1 Lot~~</td></tr>
<tr><td>~~Building Energy Conservation Systems~~</td><td>~~1 Lot~~</td></tr>
<tr><td>~~Switchyard, Buses and Towers~~</td><td>~~1 Lot~~</td></tr>
<tr><td>~~Electrical Duct Banks~~</td><td>~~1 Lot~~</td></tr>
</table></td></tr>
<tr><td>GEN-3</td><td>No proposed modifications.</td></tr>
<tr><td>GEN-4</td><td>No proposed modifications.</td></tr>
<tr><td>GEN-5</td><td>No proposed modifications.</td></tr>
<tr><td>GEN-6</td><td>No proposed modifications.</td></tr>
<tr><td>GEN-7</td><td>No proposed modifications.</td></tr>
<tr><td>GEN-8</td><td>No proposed modifications.</td></tr>
<tr><td>CIVIL-1</td><td>Update reference to applicable version of California Building Code.</td></tr>
<tr><td>CIVIL-2</td><td>Update reference to applicable version of California Building Code.</td></tr>
<tr><td>CIVIL-3</td><td>Update reference to applicable version of California Building Code.</td></tr>
<tr><td>CIVIL-4</td><td>Update reference to applicable version of California Building Code.</td></tr>
</table>

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification
STRUC-1	Update reference to applicable version of California Building Code.
STRUC-2	Update reference to applicable version of California Building Code.
STRUC-3	Update reference to applicable version of California Building Code.
ELEC-1	**ELEC-1** Prior to the start of any increment of electrical construction for electrical equipment and systems 480 volts and higher, listed below, with the exception of underground duct work and any physical layout drawings and drawings not related to code compliance and life safety, the ~~project owner~~ Tanager BESS Project Owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations [CBC 2001, Section 106.3.2, Submittal documents]. Upon approval, the above listed plans, together with design changes and design change notices, shall remain on the site or at another accessible location for the operating life of the project. The ~~project owner~~ Tanager BESS Project Owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS [2001 CBC, Section 108.4, Approval Required, and Section 108.3, Inspection Requests]. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification in the Transmission System Engineering section of this document. A. Final plant design plans to include: 1. One-line diagrams ~~for the 13.8 kV, 4.16 kV and 480 V systems~~; and 2. System grounding drawings. B. Final plant calculations to establish: 1. short-circuit ratings of plant equipment; 2. ampacity of feeder cables; 3. voltage drop in feeder cables; 4. system grounding requirements; 5. coordination study calculations for fuses, circuit breakers and protective relay settings ~~for the 13.8 kV, 4.16 kV and 480 V systems~~; 6. ~~system grounding requirements~~; and

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification
	7. lighting energy calculations. C. The following activities shall be reported to the CPM in the Monthly Compliance Report: 1. receipt or delay of major electrical equipment; 2. testing or energization of major electrical equipment; and 3. a signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Energy Commission Decision. **Verification**: At least 30 days (or ~~project owner~~ Tanager BESS Project Owner and CBO approved alternative timeframe) prior to the start of each increment of electrical construction, the ~~project owner~~ Tanager BESS Project Owner shall submit to the CBO, for design review and approval, all of the above listed documents. The ~~project owner~~ Tanager BESS Project Owner shall include in this submittal a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.
Geological and Paleontological Resources	
PAL-1	No proposed modifications.
PAL-2	No proposed modifications.
PAL-3	No proposed modifications.
PAL-4	No proposed modifications.
PAL-5	No proposed modifications.
PAL-6	No proposed modifications.
Geological and Paleontological Resources	
NOISE-1	No proposed modifications.
NOISE-2	No proposed modifications.
NOISE-3	No proposed modifications.

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification
NOISE-6	**NOISE-6** The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that operation of the project will not cause noise levels due to plant operation to exceed the values shown here: Monitoring Location — Noise Due to Project Cilker Residence — 55 dBA Leq Coyote Creek Riparian Corridor (M2) — 60 dBA Ldn No new pure-tone components may be introduced. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. Steam relief valves and transient vents shall be adequately muffled to preclude noise that draws legitimate complaints. A. When the project first achieves a sustained output of 80 percent or greater of rated capacity, the ~~project owner~~ Tanager BESS Project Owner shall conduct a 25-hour community noise survey at the Cilker residence. This survey during power plant operation shall also include measurement of one-third octave band sound pressure levels at each of the above locations to ensure that no new pure-tone noise components have been introduced. During the period of this survey, the ~~project owner~~ Tanager BESS Project Owner shall conduct a short-term survey of noise at the Coyote Creek Riparian Corridor. The short-term noise measurements shall be conducted during both daytime (7 a.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.) periods. The measurement of power plant noise for the purposes of demonstrating compliance with this Condition of Certification may alternatively be made at a location, acceptable to the CPM, closer to the plant (e.g., 400 feet from the plant boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the nearest residence. However, notwithstanding the use of this alternative method for determining the noise level, the character of the plant noise shall be evaluated at the nearest residence to determine the presence of pure tones or other dominant sources of plant noise. B. If the results from the noise survey indicate that the power plant noise level (Leq) at the affected receptor exceeds the above value for any given hour during the 25-hour period,

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification
	mitigation measures shall be implemented to reduce noise to a level of compliance with these limits. C. If the results from the noise survey indicate that pure tones are present, mitigation measures shall be implemented to eliminate the pure tones. **Verification**: The survey shall take place within 30 days of the project first achieving a sustained output of 80 percent or greater of rated capacity. Within 30 days after completing the survey, the ~~project owner~~ Tanager BESS Project Owner shall submit a summary report of the survey to the CPM. Included in the survey report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures. When these measures are in place, the ~~project owner~~ Tanager BESS Project Owner shall repeat the noise survey. Within 30 days of completion of the new survey, the ~~project owner~~ Tanager BESS Project Owner shall submit to the CPM a summary report of the new noise survey, performed as described above and showing compliance with this condition.
NOISE-8	**NOISE-8** Pile driving ~~and steam blows~~ shall be restricted to the times of day delineated below unless otherwise approved by the CPM: Any day 8 a.m. to 5 p.m. Haul trucks and other engine-powered equipment shall be equipped with adequate mufflers. Haul trucks shall be operated in accordance with posted speed limits. Truck engine exhaust brake use shall be limited to emergencies. **Verification**: Prior to ground disturbance, the ~~project owner~~ Tanager BESS Project Owner shall transmit to the CPM a statement acknowledging that the above restrictions will be observed throughout the construction of the project.
Socioeconomics	

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification
SOCIO-1	**SOCIO-1** The ~~project owner~~ Tanager BESS Project Owner and its contractors and subcontractors shall recruit employees and procure materials and supplies within the Bay Area unless: • To do so will violate federal and/or state statutes; • The materials and/or supplies are not available; • Qualified employees for specific jobs or positions are not available; or • There is a reasonable basis to hire someone for a specific position from outside the local area. **Verification**: At least 60 days prior to the start of construction, the ~~project owner~~ Tanager BESS Project Owner shall submit to the Energy Commission CPM copies of contractor, subcontractor, and vendor solicitations and guidelines stating hiring and procurement requirements and procedures. In addition, the ~~project owner~~ Tanager BESS Project Owner shall notify the CPM in each Monthly Compliance Report of the reasons for any planned procurement of materials or hiring outside the Bay Area that will occur during the next two months.
Soil and Water Resources	
SOIL&WATER-1	No proposed modifications.
SOIL&WATER-2	**SOIL&WATER-2** The ~~project owner~~ Tanager BESS Project Owner shall submit a Notice of Intent for construction under the General NPDES Permit for Discharges of Storm Water Associated with Construction Activity to the State Water Resources Control Board (SWRCB), and obtain CPM approval of the related Storm Water Pollution Prevention Plan (SWPPP) for Construction Activity associated with ~~Phase 2~~ the Tanager BESS Project. The SWPPP will include final construction drainage design and specify Best Management Practices (BMPs) for all on- and off-site ~~LECEF project~~ Tanager BESS Project facilities. This includes final site drainage plans and locations of BMPs. **Verification**: At least 60 days prior to the start of any site mobilization activities, the ~~Phase 2~~ SWPPP for Construction Activity and a copy of the Notice of Intent for construction under the General NPDES Permit for

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification
	Discharges of Storm Water Associated with Construction Activity filed with the SWRCB, shall be submitted to the CPM. Approval of the final SWPPP ~~plan~~ by the CPM must be received prior to initiation of any site mobilization activities.
Traffic and Transportation	
TRANS-1	**TRANS-1** The ~~project owner~~ Tanager BESS Project Owner shall develop a Construction Traffic Control Plan that limits peak hour construction-period truck and commute traffic in coordination with the City of San Jose Public Works Department. The ~~project owner~~ Tanager BESS Project Owner shall also consult with Santa Clara County, Caltrans, the California Highway Patrol, and the City of San Jose staff dealing with traffic regulation enforcement. Specifically, the overall traffic control plan shall include the following: • Require the primary contractor and major subcontractors to develop and implement a construction employee carpool program; • Through worker education and shift scheduling, maximize worker commute trips during off-peak hours, which are defined as (1) before 6 a.m.; (2) between 9 a.m. and 4 p.m.; and (3) after 6 p.m., or other hours as agreed to by the CPM; • Schedule heavy vehicle equipment and building material deliveries as well as the movement of materials and equipment to the site and the adjacent lay-down area to occur during off-peak hours; • Signing, lighting, and traffic control device placement; • Temporary travel lane closures and potential need for flagmen; • Maintaining access to adjacent residential and commercial properties; and • Emergency access. **Verification**: At least 60 days prior to start of site mobilization, the ~~project owner~~ Tanager BESS Project Owner shall provide to Santa Clara County, the City of San Jose, the California Highway Patrol, and Caltrans for review and comment, and to the CPM for review and approval, a copy of its Construction Traffic Control Plan. Every two

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification
	months during the construction period, the ~~project owner~~ Tanager BESS Project Owner shall monitor and report the turning movements and traffic volumes for the project access roads during the AM (7 to 9 a.m.) and PM (4 to 6 p.m.) peak hours to confirm construction trip generation rates.
TRANS-2	No proposed modifications.
TRANS-4	**TRANS-4** Prior to the construction of the power plant and all related facilities, the ~~project owner~~ Tanager BESS Project Owner shall develop a parking and staging plan for all phases of project construction, to enforce a policy that all project-related parking occurs onsite. **Verification**: At least 30 days prior to the start of site mobilization, the ~~project owner~~ Tanager BESS Project Owner shall submit the plan to the City of San Jose Public Works staff for review and comment, and to the CPM for review and approval. The material submitted to the CPM shall include documentation of the City's review and comments. Monthly Compliance Reports submitted to the CPM shall describe the ~~project owner's~~ Tanager BESS Project Owner's actions to ensure that this condition is being met.
TRANS-5	No proposed modifications.
Transmission Line Safety	
TLSN-3	**TLSN-3** The ~~project owner~~ Tanager BESS Project Owner shall build the proposed overhead 230 kV interconnection lines according to the applicable requirements of CPUC's GO-52, (and GO-128 if underground) Title 8, Section 2700 et seq. of the California Code of regulations, and PG&E's EMF reduction guidelines arising from CPUC Decision 93-11-013. **Verification**: Thirty days before line-related ground disturbance, the ~~project owner~~ Tanager BESS Project Owner shall submit to the Commission's Compliance Project Manager (CPM) a letter signed by a California registered electrical engineer affirming that the proposed line will be constructed according to the requirements noted above.
Transmission System Engineering	

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification
TSE-1	No proposed modifications.
TSE-2	No proposed modifications.
TSE-3	No proposed modifications.
TSE-4	**TSE-4** For the ~~power plant~~ Tanager BESS Project switchyard, outlet line and termination, the ~~project owner~~ Tanager BESS Project Owner shall not begin any increment of construction until plans for that increment have been approved by the CBO. These plans, together with design changes and design change notices, shall remain on the site for one year after completion of construction. The ~~project owner~~ Tanager BESS Project Owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS. The following activities shall be reported in the Monthly Compliance Report: a. receipt or delay of major electrical equipment; b. testing or energization of major electrical equipment; and c. the number of electrical drawings approved, submitted for approval, and still to be submitted. **Verification**: At least 30 days (or a lesser number of days mutually agreed to by the ~~project owner~~ Tanager BESS Project Owner and the CBO) prior to the start of each increment of construction, the ~~project owner~~ Tanager BESS Project Owner shall submit to the CBO for review and approval the final design plans, specifications and calculations for equipment and systems of the power plant switchyard, outlet line and termination, including a copy of the signed and stamped statement from the responsible electrical engineer attesting to compliance with the applicable LORS, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.
TSE-5	No proposed modifications.
TSE-6	No proposed modifications.
TSE-7	**TSE-7** The ~~project owner~~ Tanager BESS Project Owner shall provide the following Notice to the California Independent System Operator (Cal-ISO) ~~and SVP~~ prior to synchronizing the facility with the California transmission system:

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification
	1. At least one week prior to synchronizing the facility with the grid for testing, provide the Cal-ISO a letter stating the proposed date of synchronization; and 2. At least one (1) business day prior to synchronizing the facility with the grid for testing, provide telephone notification to the ISO Outage Coordination Department. **Verification**: The ~~project owner~~ Tanager BESS Project Owner shall provide copies of the Cal-ISO letter to the CPM ~~and SVP~~ when it is sent to the Cal-ISO one (1) week prior to initial synchronization with the grid. The ~~project owner~~ Tanager BESS Project Owner shall contact the Cal-ISO Outage Coordination Department, Monday through Friday, between the hours of 0700 and 1530 at (916) 351-2300 at least one business day prior to synchronizing the facility with the grid for testing. A report of conversation with the Cal-ISO shall be provided electronically to the CPM one (1) day before synchronizing the facility with the California transmission system for the first time.
TSE-8	No proposed modifications.
Visual Resources	
VIS-1	No proposed modifications.
VIS-4	No proposed modifications.
VIS-5	No proposed modifications.
Waste Management	
WASTE-1	No proposed modifications.
WASTE-2	No proposed modifications.
WASTE-5	No proposed modifications.
WASTE-6	No proposed modifications.
WASTE-7	No proposed modifications.
Worker Safety and Fire Protection	
WORKER SAFETY-1	No proposed modifications.
WORKER SAFETY-2	No proposed modifications.

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

Existing Condition of Certification Applicable to Tanager BESS Project	Proposed Modification
WORKER SAFETY-3	No proposed modifications.
WORKER SAFETY-4	No proposed modifications.
WORKER SAFETY-5	No proposed modifications.

APPENDIX A: CONDITIONS OF CERTIFICATION APPLICABLE TO THE TANAGER BESS PROJECT AND PROPOSED MODIFICATIONS

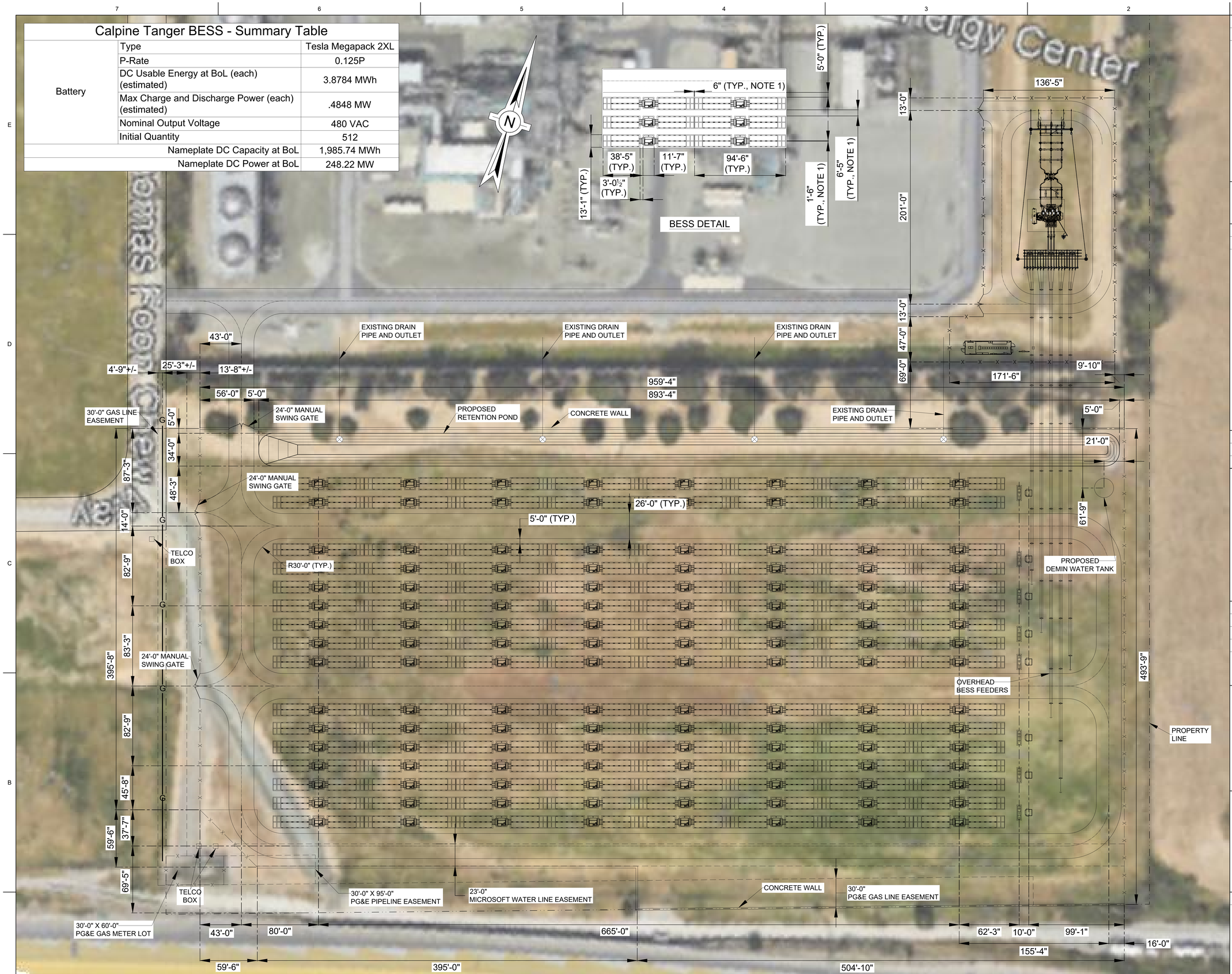
Proposed Condition of Certification Applicable Only to Tanager BESS Project	Proposed Language
TANAGER WORKER SAFETY-6	The Tanager BESS Project Owner shall submit a BESS hazard mitigation analysis per UL 9540A to the City of San Jose Fire Department for review and comment, to the DCBO for plan check and inspection, and to the CPM for review and approval. The hazard mitigation analysis shall include consideration of potential thermal runaway fault conditions occurring within a single battery storage rack, cell module or cell array. The analysis shall include mitigations to prevent flammable gases released during fire, battery overcharging, and other abnormal operating conditions within the BESS from creating an explosion hazard that could injure workers or emergency first responders. **Verification**: At least sixty (60) days prior to the start of construction of the BESS project, the Tanager BESS Project Owner shall provide the hazard mitigation analysis to the City of San Jose Fire Department for review and comment, to the DCBO for plan check and inspection, and to the CPM for review and approval.
TANAGER WORKER SAFETY-7	The Tanager BESS Project Owner shall provide an approved fire water supply for use by first responders when responding to an emergency related to the BESS. Tanager BESS Project Owner shall also provide access to information and the facility for the local fire department to conduct training. **Verification**: At least sixty (60) days prior to the start of construction of the BESS, the Tanager BESS Project Owner shall: a) Provide the fire water supply plans to the City of San Jose Fire Department for review and comment, to the DCBO for plan check and inspection, and to the CPM for review and approval; and b) Provide a copy of a letter from the Tanager BESS Project Owner to the City of San Jose Fire Department offering access to information and the facility for training of City of San Jose Fire Department personnel for emergencies that could occur at the BESS facility.

APPENDIX B:

TANAGER BESS PROJECT SITE PLAN

Calpine Tanger BESS - Summary Table

Battery	Type	Tesla Megapack 2XL
	P-Rate	0.125P
	DC Usable Energy at BoL (each) (estimated)	3.8784 MWh
	Max Charge and Discharge Power (each) (estimated)	.4848 MW
	Nominal Output Voltage	480 VAC
	Initial Quantity	512
Nameplate DC Capacity at BoL		1,985.74 MWh
Nameplate DC Power at BoL		248.22 MW



PRELIMINARY
NOT FOR CONSTRUCTION

NOTE:
1. MINIMUM REQUIRED MEGAPACK 2XL CLEARANCE PER TESLA GUIDELINES.

PLAN
1" = 35'-0"

0 35' 70' 105' 140'
GRAPHIC SCALE

HOLD

HOLD NOTES:
1. THIS DRAWING IS FOR ESTIMATING PURPOSES ONLY - NOT FOR CONSTRUCTION.
2. ALL EQUIPMENT AND RATINGS ON HOLD PENDING DETAILED DESIGN AND FINAL VENDOR DRAWINGS.

HOLD INFORMATION

NO.	DESCRIPTION

CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF ITS SUB-CONTRACTOR(S)) PERFORMING THE WORK.

RELEASE INFORMATION

REV.	DATE	DESCRIPTION
0A	06/14/2024	ISSUED FOR 10% REVIEW
0B	06/26/2024	RE-ISSUED FOR 10% REVIEW
0C	01/06/2025	RE-ISSUED FOR 10% REVIEW

ISSUE PURPOSE:	10% DESIGN PACKAGE
SPECIFICATION:	--
PROJECT NO.:	13999-013

CAD FILE NAME:	G-100_8HR.dwg
PREPARED BY:	P. RILEY
REVIEWED BY:	G. MAGSAYSAY
APPROVED BY:	E. WEYHRICH

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PROJECT

TANAGER
ENERGY STORAGE PROJECT
800 THOMAS FOON CHEW WAY
SAN JOSE, CA

DRAWING TITLE

PLAN OF
GENERAL ARRANGEMENT
(8-HOUR LAYOUT)

DRAWING NUMBER	REVISION
G-100	0C
SHEET 1 OF 1	

APPENDIX C:

BIOLOGICAL RESOURCES ASSESSMENT

(Confidential figures submitted separately under an application for confidential designation.)

Tanager BESS Project - Biological Environmental Setting Assessment

Date:	January 2025
Project Name:	Tanager BESS Project
Attention:	Nadira Basdeo/Calpine
Company:	Calpine Corporation
Prepared By:	Sam Young/Jacobs
Reviewed By:	Scott Lindemann/Jacobs, Kevin Fisher/Jacobs
Copies To:	Joe Aguirre/Jacobs

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1. Introduction

Los Esteros Critical Energy Facility (LECEF), LLC, on behalf of Tanager Power, LLC proposes to construct and operate the Tanager Battery Energy Storage System (BESS) Project (Project) at the former laydown and construction parking area for the LECEF. The Project consists of the installation of a nominal 200-megawatt lithium-ion BESS, generation interconnection (gen-tie) line, and communication system. The Project will provide grid support and reliability services to the Bay Area Local Reliability Area.

This technical memorandum identifies biological conditions in the Biological Study Area (BSA), which includes a 500-foot buffer around the Project site and proposed gen-tie line.

The identified conditions discussed in this document are the results of a reconnaissance-level biological survey conducted on April 17, 2024; a jurisdictional delineation of aquatic resources conducted on July 3, 2024; data queries of the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2024), California Native Plant Society's (CNPS)Rare Plant Inventory (CNPS 2024), and other applicable online database resources/mappers (see, Section 3.2); previously prepared reports for nearby projects; and professional knowledge of the area. Information from these sources has been compiled to inform construction planning as well as to avoid or minimize impacts to sensitive biological resources that may occur on-site during construction of the Project.

2. Background

2.1 Project Location

The Project would be located immediately south of the existing Los Esteros Critical Energy Facility (LECEF). The LECEF is located at 800 Thomas Foon Chew Way in northern San Jose, California. The BESS site is north of State Route 237 near Coyote Creek and its adjacent flood control channel to the east. West of the site is San Jose/Santa Clara Water Pollution Control Plant (WPCP) buffer lands, northwest of the site is the WPCP, and north of LECEF are the WPCP sludge drying ponds. Vacant land is located east of the site, although, a potential data center is in planning stages for this site. Refer to **Attachment 1, Figure BIO-1** for a regional map of the Project location.

2.2 Project Description

The BESS consists of a 200-megawatt lithium-ion battery system that will be used to store and provide power to the grid via connecting gen-tie line. There are existing paved roadways from Zanker Road which will provide access to the approximately 12.8-acre BESS footprint which is currently vegetated by European annual grasses and ornamental woody plants around the LECEF perimeter.

3. Methods

3.1 Definition of Special-Status Species

For the purposes of this assessment, special-status species include species that meet one or more of the following criteria:

- Listed, proposed for listing, or identified as a candidate for listing, as threatened or endangered under the federal Endangered Species Act (FESA) (50 CFR 17.11 for wildlife; 50 CFR 17.12 for plants; 67 Federal Register 40658 for candidates and various notices in the Federal Register for proposed species).
- Listed under the California Endangered Species Act (CESA) as threatened or endangered, or proposed or candidates for listing.
- Plant species that are designated as rare under the Native Plant Protection Act.
- Plant species that otherwise meet the definition of rare, threatened, or endangered species under California Environmental Quality Act (CEQA) Guidelines section 15380. This includes species listed by the CNPS in the online version of its Inventory of Rare and Endangered Plants of California (CNPS 2024) as Ranks 1A, 1B, 2A, or 2B.
- Designated as a Species of Special Concern (SSC) or a Fully Protected species by CDFW and/or statute.

3.2 Desktop Review

Prior to field surveys, Jacobs Engineering Group Inc. (Jacobs) conducted desktop reviews of publicly available data pertaining to aquatic resources, soils, and topography within the BSA. The following biological databases were utilized to obtain records of special-status plants, natural communities, wildlife, and aquatic resources that may have potential to occur in the BSA, including a 5-mile radius, for the Project:

- CDFW CNDDB within five miles of the BSA (CDFW 2024).
- CNPS Online Inventory of Rare and Endangered Vascular Plants of California within the Project USGS 7.5-minute quadrangle (CNPS 2024b).
- US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) within the BSA (USFWS 2024a).
- National Marine Fisheries Service (NMFS) – California Species List Tool, Queried for Endangered and Threatened Species (NMFS 2024).
- National Wetlands Inventory (NWI) (USFWS 2024b).
- National Hydrography Dataset (NHD) (USGS 2024a).

- Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2024).
- Current and historical topographic maps (as provided by the U.S. Geological Survey [USGS] via the Environmental Systems Research Institute) (USGS 2024b).

3.3 Field Survey

Jacobs's biologist Sam Young performed a reconnaissance-level biological survey of the BSA on April 17, 2024.

The biologist conducted the reconnaissance-level survey to identify aquatic resources with the potential to be jurisdictional waters of the United States and/or State; the presence of special-status species or their habitats, including the presence of burrows or other refugia habitat within 500 feet of the Project footprint; and other sensitive areas such as riparian habitat.

A jurisdictional delineation of aquatic resources was conducted July 3, 2024, by Jacobs biologists Sam Young and Greg Davis. The focus of the jurisdictional delineation of aquatic resources were on locations identified by evidence of surficial wetland hydrology and hydrophytic vegetation observed during the April 17, 2024 reconnaissance-level biological survey. Representative points in upland areas of the BESS area, were taken for comparison to data points collected in potential wetland features. At sample points, vegetation species within a 1-meter radius of the sample point were identified by stratum. Wetland indicator statuses for plants were taken from the National Wetland Plant List, Version 3.5 (USACE 2020). The soil profile was examined to a depth of approximately 12 inches. Soils were characterized by evaluating texture and color within each distinct layer of the profile. Soil color was described using a Munsell Soil Color Chart (Munsell 2009). The vicinity of each sampling location was examined for evidence of wetland hydrology. Surveys were not conducted throughout all seasons or weather conditions.

4. Existing Conditions

4.1 Geology, Topography, and Physical Setting

The BSA is within the Bay Flats subsection of the Central California Coast (261Ab) Section on the margin of the southern San Francisco Bay. The area is characterized by quaternary bay-fill within ten feet of the mean tide level. The area was primarily flat, low elevation delta and estuarine habitats often inundated during high tides prior to the construction of artificial barriers and deposition of fill material (Miles and Goudey, 1997).

4.2 Climate and Soils

Climate within the BSA is stable with a heavy maritime influence. Average annual temperatures range from 54° F to 60° F (Miles and Goudey, 1997). Annual precipitation averages vary from 15-25 inches, primarily in the winter months.

Three soil map units occur within the BSA (**Attachment 1, Figure BIO-2**). Elder fine sandy loam, 0-2 percent slopes, rarely flooded, occupies a small southeast portion of the 500-foot Project footprint buffer and is confined to the riparian area surrounding Coyote Creek. The majority of the Project footprint along with the gen-tie alignment is mapped as Elder fine sandy loam, protected, 0-2 percent slopes. Approximately 200 feet of the western BESS footprint is mapped as Campbell silt loam, 0-2 percent slopes (NRCS, 2024). This soil map unit is rated as a hydric soil. Table 1 details the NRCS SSURGO soil map unit area within the BSA.

Table 1. NRCS SSURGO Map Units in the BSA

Soil Series	Map Unit	Description	Hydric Soil	pH	Acres in BSA
Campbell	Campbell silt loam, 0 to 2 percent slopes, protected (166)	Very deep moderately well drained soils on floodplains and alluvial fans derived from alluvium of mixed parent material	Yes	7.1 – 7.7 (Neutral to Slightly Alkaline)	27
Elder	Elder fine sandy loam, protected, 0 to 2 percent slopes (168)	Very deep well drained soils derived from alluvium of mixed parent material	No	6.0 – 6.5 (Slightly Acid)	67

4.3 Hydrology/Surface Water Resources

The BSA is located within the San Jose State University-Frontal San Francisco Bay Estuaries subwatershed (Hydrologic Unit Code [HUC] 180500030305) within the overall Coyote Subbasin watershed (NOAA, 2024). Nearby surface water features include Coyote Creek, Guadalupe River, Saratoga/San Thomas Aquino Creek and the San Francisco Bay. Construction of levees, bay fill, and channel modification is prevalent and has significantly changed hydrologic processes in the region over the last century.

Riparian vegetation associated with Coyote Creek marginally intersects the BSA but is not anticipated to be impacted by Project activities. Refer to **Attachment 1, Figure BIO-3** for a map of aquatic features in the Project vicinity.

4.4 Land Cover/Vegetation Communities

Vegetation has historically been associated with periodic inundation and tidal influence. Intertidal zones are often dominated by pickleweed (*Salicornia sp.*) and upland margins of tidal marshes dominated by salt grass (*Distichilis spicata*). Inland, emergent wetlands were historically prevalent (Miles and Goudey, 1997). Agricultural development replaced many of the natural vegetation types in the area, and more recently residential, technological, and industrial facility development has taken place enabled by the fill of historic tidal and emergent wetlands in the previous century.

A single wetland feature was identified along the access route to the Project area immediately north of the Thomas Foon Chew Way pavement. This feature is a seasonal depression dominated by spikerush *(Eleocharis macrostachya)* and is a total of 0.239 acre in size from the road shoulder to approximately 168 feet north of the roadway which will be used for access to the Project footprint (Jacobs 2024).

Evidence of a seasonal emergent wetland was observed west of the Los Esteros Substation, outside of the BSA. The majority of the Project location is developed, non-native horticultural plantings, and European annual grassland.

CDFW VegCAMP published a fine scale vegetation map for Santa Clara and Santa Cruz Counties on January 30, 2024. The BSA is mapped as California Annual and Perennial Grassland [Macrogroup], which is defined by native and non-native annual forb/grass vegetation growing within the California Mediterranean climate (Sikes et al., 2023). Adjacent map units include developed areas of the power plant and roadways, non-native woodland and forest which consists of ornamental plantings around the existing power plant facility, and Fremont cottonwood forest and woodland in the riparian zone of Coyote Creek.

Land cover types are shown in **Attachment 1, Figure BIO-4**, as well as listed in Table 2. The vegetation types are described in more detail in the following section.

Table 2. Vegetation Communities and Land Cover Types within the BSA

Land Cover	Vegetation Community Type	Potential Temporary Impact Acreages in the BSA
Non-vegetated Land Cover	Developed/Roadway	31
	Open water	0.2
Non-native Vegetation Dominated Community	California Annual and Perennial Grasslands Macrogroup	53.1
	Non-Native Forest	2.6
Native Vegetation Dominated Community	Coast live oak woodland alliance	1
	Fremont Cottonwood Forest and Woodland (Riparian)	1
	Willow Riparian Woodland and Forest	2.9
	Arid West Interior Freshwater Marsh Group	2.0
Observed Additional Habitats	Potential wetland features	0.2
Total		94 acres

4.4.1 California Annual and Perennial Grasslands Macrogroup

The key for vegetation types in the Santa Clara and Santa Cruz Counties Fine Scale Vegetation Map (Sikes et al., 2023) defines the California Annual and Perennial Grasslands Macrogroup:

"Native and non-native annual forb/grass vegetation AND native perennial grasslands growing within the California Mediterranean climate. Stands are generally found in relatively drier sites than those in the Vancouverian Macrogroups, which is more common near the coast. Includes vegetation characterized by, but not limited to *Amsinckia, Avena, Brassica, Bromus, Centaurea, Cynosurus, Elymus glaucus, Eschscholzia, Lasthenia californica, Lolium, Lupinus, Melica, Nassella, Plagiobothrys nothofulvus, Plantago erecta, Pteridium aquilinum and Vulpia microstachys.*"

Onsite grassland habitats were observed to be dominated by European annual grasses most prevalent indicating that locally vegetation fits within the Californian Ruderal Grassland, Meadow & Scrub Group within the Macrogroup. Dominant genera on site in this habitat type included *Avena, Bromus, Hordeum,* and *Festuca*.

4.4.2 Non-native Forest

Non-native forests are defined as woodland and forest vegetation that is dominated by non-native, ornamental or land scaping trees (Sikes et al., 2023). Native and non-native ornamental tree and shrub plantings were observed to be restricted to the outer perimeter of the LECEF. These included *Acacia longifolia, Arctostaphylos sp., Casuarina equisetifolia*, *Cotoneaster hodjingensis, C. lacteus, Fraxinus excelcior, Heteromeles arbutifolia, Leptospermum laevigatum, Melaleuca quinquenervia, M. viminalis, Pinus canariensis, Prunus sp., Quercus agrifolia,* and *Vitis vinifera.*

4.4.3 Willow Riparian Woodland and Forest

The Santa Clara and Santa Cruz counties fine scale vegetation map identifies willow dominated vegetation within the BSA mapped as Goodding's willow – Red willow riparian woodland and forest. The key to vegetation types for this map defines this as *Salix laevigata* being dominant and *Populus fremontii* composing less than 5% of the emergent canopy (Sikes et al., 2023). Within the BSA this willow vegetation was primarily observed to consist of *S. lasiolepis* which would better meet criteria for the *S. lasiolepis* (Arroyo Willow Thickets) fine scale map class (CNPS, 2024b). This vegetation type was observed around canals near the northwestern corner and around emergent wetlands on the coyote creek floodplain south of State Route 237.

4.4.4 Fremont Cottonwood Forest and Woodland (Riparian)

The key to vegetation types for the Santa Clara and Santa Cruz counties fine scale vegetation map defines Fremont Cottonwood forest and woodland as *Populus fremontii* being dominant or co-dominant in the tree canopy with *Acer negundo, Juglans*, and/or *Salix*, with *Populus* having as little as 5% absolute cover (Sikes, et al. 2023). This vegetation type was restricted to the riparian zone along Coyote Creek.

4.4.5 Arid West Interior Freshwater Marsh Macrogroup

Within this vegetation community cattails (*Typha spp.*) are dominant or co-dominant in the herbaceous layer with other bulrushes (*Schoenoplectus* ssp.). These are most often found along streams, ditches, shores, bars, and channels of river mouth estuaries (Sikes et al., 2023). These vegetation types are restricted to emergent marshes south of State Route 237 and are within 500ft of the Project footprint. Wetland features identified during the July 3, 2024 jurisdictional delineation of aquatic resources are not included in this group and are discussed in section 5 below.

4.4.6 Coast Live Oak Woodland Alliance

The key to vegetation types for the Santa Clara and Santa Cruz counties fine scale vegetation map defines Coast Live Oak Woodland Alliance as *Quercus agrifolia* being dominant or co-dominant with *Arbutus menziesii* in the canopy in an upland setting. The understory is often an herbaceous layer of mixed native and non-native herbs, grasses, and shrubs (Sikes et al., 2023). This vegetation types is restricted a small area in the southwest corner of the BSA south of State Route 237.

5. Results

This section discusses the results of the April 17, 2024 reconnaissance-level survey, July 3, 2024 jurisdictional delineation of aquatic resources, and desktop review. Figures are included as **Attachment 1**, the wildlife and plant species potential to occur table is included as **Attachment 2**, and representative site photos are included as **Attachment 3**. Findings were variable between Project elements and are summarized in Table 3. Potential impacts to sensitive biological resources would likely be concentrated within the western 200 feet of the BESS footprint.

Table 3. Summary of Findings From Desktop Review and Field Surveys

Resources	BESS Footprint	Gen-Tie Alignment	500-foot BSA Buffer
Aquatic Resources			

Wetlands	Not Present	Not Present	Observed to be present north of Thomas Foon Chew Way
Other Waters	Not Present	Observed to be present as ditches within the LECEF facility boundaries	Observed to be present as ditches within the LECEF facility boundaries
Special Status Species			
Tricolored Blackbird	Not expected to occur	Not expected to occur	Moderate potential to occur
Golden Eagle	Present within 1-mile	High potential to occur	Present within 1-mile
Burrowing Owl	High potential to occur	High potential to occur	High potential to occur
White Tailed Kite	High potential to occur	High potential to occur	High potential to occur
MBTA Species	High potential to occur	High potential to occur	High potential to occur
Congdon's Tar Plant	Moderate potential to occur in southwestern corner	Not expected to occur	Moderate potential to occur
Hoover's Button-celery	Moderate potential to occur in southwestern corner	Not expected to occur	Moderate potential to occur

5.1 Aquatic Resources

A jurisdictional delineation of aquatic resources was conducted and results are discussed in the subsections below. Refer to Attachment 1, Figure BIO-3 for a map of aquatic features.

5.1.1 Wetlands

A single wetland feature (W-1) was identified along the access route to the Project area immediately north of the Thomas Foon Chew Way pavement. This feature is a seasonal depression dominated by spikerush (Eleocharis macrostachya) and is a total of 0.239 acre in size from the road shoulder to approximately 168 feet north of the roadway which will be used for access to the Project footprint. The Cowardin classification assigned to this feature is Palustrine Emergent, persistent, seasonally flooded (PEM1C) (Cowardin et al. 1979).

Freshwater emergent wetlands and riverine features are mapped by NWI west of the Los Esteros Substation and along coyote creek, outside of the BSA. Similarly, freshwater ponds and freshwater emergent wetlands are mapped south of Highway 237. No impacts to these features are anticipated as a result of this Project. **Attachment 1, Figure BIO-3** shows mapped aquatic resources along with sample

points taken for soil analysis (SP-1A, SP-2A, SP-3A, SP-4A, SP-W3A, SP-W3B). Refer to the Aquatic Resources Delineation Report for further information on aquatic resources (Jacobs 2024).

5.1.2 Other Waters

Three ditches were delineated within the existing LECEF (D-1, D-2, D-3). These function to capture and divert storm water to LECEF facilities and do not discharge to any of the surrounding waterways. A total of 0.139 acre of other waters were delineated in these canals. The Cowardin classification assigned to these waters is Riverine, Lower Perennial, Unconsolidated Bottom (R2UB) (Cowardin et al. 1979).

Several surface water features are mapped by NWI and NHD within small portions of the BSA south of State Route 237. These include two pond features and Coyote Creek which were observed during the reconnaissance-level survey. No impacts to these features are anticipated as a result of this Project. **Attachment 1, Figure BIO-3** shows mapped aquatic resources. Refer to the Aquatic Resources Delineation Report for further information on aquatic resources (Jacobs 2024).

5.2 Special Status Species

The CNDDB, CNPS, NMFS, and USFWS database searches identified 44 special-status species within the vicinity of the BSA, comprising 28 special-status animal species and 16 special-status plant species. Five special-status wildlife species and two special-status plant species were determined to have moderate or high potential to occur within the BSA due to the presence of potentially suitable habitat and known occurrences. These species are described in further detail in **Attachment 2**, Tables B-1 and B-2. Special-status species identified in the database searches that are unlikely to be found in the BSA or otherwise be affected by the Project are not discussed in this section but are included in **Attachment 2**. CNDDB occurrences of special-status species within five miles of the BSA are shown in **Attachment 1, Figure BIO-5**.

Based on habitat present within the BSA and known species occurrences, the following species have the potential to occur in the BSA and are discussed in the following sections:

5.2.1 Wildlife Species with Potential to Occur

5.2.1.1 Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) is a state threatened species and a CDFW species of special concern. There are five CNDDB occurrences of the species within five miles of the Project footprint, including a 0.8mi accuracy observation from 2021 that overlaps with the BSA. The annual grasslands in the BSA and nearby wetlands provide highly suitable foraging habitat for the species. The nearby dense stands of emergent vegetation along the riparian corridors of agricultural drainages, canals, and rivers provide highly suitable nesting habitat for this species. See AMM-9 in section 6.3 for recommended measures to avoid and minimize potential impacts to tricolored blackbird.

5.2.1.2 Golden Eagle

Golden eagle (*Aquila chrysaetos*) is a CDFW fully protected species. There are two nesting records within five miles of the Project footprint including one approximately 0.9 miles to the west (**Attachment 1, Figure BIO-6**). This is an unusual occurrence as Golden Eagles do not typically nest in urban settings or in palm trees like the Canary Island date palm (*Pheonix canariensis*) stand that the breeding pair has inhabited since 2018 (Higgins and Menzel, 2023). This is the first documented golden eagle breeding

activity within the city limits of San Jose since the late 1800s. As this species is known to engage in nesting activity within one mile of the Project footprint, avoidance and minimization measures will need to be implemented for all Project activities within one mile of any active nest which includes a portion of the western side of the Project footprint. See AMM-10 and 12 in section 6.3 for recommended measures to avoid and minimize impacts to Golden Eagle.

5.2.1.3 Burrowing Owl

Burrowing owl (*Athene cunicularia*) is a CDFW candidate for potential listing as a protected species under CESA. There are 32 CNDDB occurrence records for this species within five miles of the Project and several active mitigation sites on adjacent properties. Suitable burrows and habitat are present for this species within 500 feet of the Project footprint and Burrowing owl was observed to be present on a Santa Clara Habitat Agency easement approximately one mile west from the Project location. See AMM-11 in section 6.3 for recommended measures to avoid and minimize impacts to Burrowing Owl.

5.2.1.4 White-tailed Kite

White tailed kite (*Elanus leucurus*) is a CDFW fully protected species. There are two CNDDB nesting records for this species within five miles of the Project footprint. The nearest record is 0.6 miles to the west from 1971 and has an accuracy of 0.4 miles. There have been undocumented observations of nesting activity within the last several years in a high voltage transmission tower approximately one mile east from the Project footprint (Higgins pers. com.). Annual grasslands provide suitable foraging habitat for this species, and nesting is possible on transmission towers present onsite. See AMM-12 in section 6.3 for recommended measures to avoid and minimize potential impacts to white-tailed kite.

5.2.2 Migratory Birds

IPaC lists 18 migratory birds of conservation concern as potentially occurring within the BSA: Allen's hummingbird (*Selaphorus sasin*), bald eagle (*Haliaeetus leucocephalus*), Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), black oystercatcher (*Haematopus bachmani*), black skimmer (*Rynchops niger*), black turnstone (*Arenaria melanocephala*), Bullock's oriole (*Icterus bullockii*), California gull (*Larus californicus*), California thrasher (*Toxostoma redivivum*), Clark's grebe (*Aechmophorus clarkii*), common yellowthroat (*Geothlypis trichas sinuosa*), elegant tern (*Thalasseus elegans*), Golden Eagle (*Aquila chrysaetos*), Marbled godwit (*Limosa fedoa*), northern harrier(*Circus hudsonius*), oak titmouse (*Baeolophus inornatus*), olive-side flycatcher (*Contopus cooperi*), red knot (*Calidris canutus roselaari*), short-billed dowitcher (*Limnodromus griseus*), tricolored blackbird (*Agelaius tricolor*), western grebe (*Aechmophorus occidentalis*), western gull (*Larus occidentalis*), willet (*Tringa semipalmata*), wrentit (*Chamaea fasciata*) and yellow-billed magpie (*Pica nuttalli*) (USFWS 2024a). In addition, several other bird species are expected to occur in the area and have potential to nest in or near the BSA.

5.2.3 Plant Species with Potential to Occur

See AMM-9 in section 6.3 for recommended measures to avoid and minimize potential impacts to migratory birds.

5.2.3.1 Congdon's Tarplant

Congdon's tarplant (*Centromadia parryi subsp. congdoni*) is an annual herb in the sunflower family (Asteraceae), ranked 1B.1 (more than 80% of occurrences imperiled throughout its range) in the CNPS RPI. It is endemic to California's central coast and ranges in seasonally moist alkaline soils in grassland and

disturbed habitats. During typical years it blooms between June and October. There are six CNDDB records within five miles of the Project footprint, the nearest record being one mile to the west on Santa Clara Habitat Agency mitigation land. Campbell series soils and open grassland with interspersed wet areas are suitable for this species in the western portion of the BSA.

See AMM-13 in section 6.3 for recommended measures to avoid and minimize potential impacts to Congdon's tarplant.

5.2.3.2 Hoover's Button Celery

Hoover's button celery (*Eryngium aristulatum var. hooveri*) is a biennial to perennial herb in the carrot family (Apiaceae), ranked 1B.1 (more than 80% of occurrences imperiled throughout its range) in the CNPS RPI. It is endemic to California's central coast and ranges in alkaline seasonal wetlands such as vernal pools. During typical years it blooms during July. There are four CNDDB records within five miles of the Project area. The closest of these is one mile to the northwest but is thought to be potentially extirpated due to development. Two of the four records are considered to be extant, and both are located in vernal pool habitat in Don Edwards National Wildlife refuge. Campbell series soils and open grassland with interspersed wet areas are suitable for this species in the western portion of the BSA.

See AMM-13 in section 6.3 for recommended measures to avoid and minimize potential impacts to Hoover's Button Celery.

6. Discussion and Summary of Recommendations

6.1 Aquatic Resources

Three drainage ditches were identified within the existing LECEF facility boundaries (within the BSA), including one which intersects with the gen-tie footprint. One wetland feature was identified north of Thomas Foon Chew Way, outside of the project footprint but within the BSA. Seasonally wet portions of the southwestern BESS footprint were found to not exhibit indicators of hydric soils and were determined to not be a jurisdictional aquatic resource.

Aquatic resources occurring within the BSA do not have a continuous surface connection to "navigable waters" in a manner that would require permitting under section 404 of the Clean Water Act. However, they may qualify as Waters of the State under the Porter-Cologne Water Quality Control Act and could be subject to CFG 1600 et seq. regulations. Therefore any impacts to Waters of the State would require permits.

6.2 Special-Status Wildlife and Plant Species

The BSA is in a highly modified portion of the southern San Francisco Bay Margin surrounded by urban development. Habitat is suitable for tricolored blackbird, golden eagle, western burrowing owl, white-tailed kite, Congdon's tarplant, and Hoover's button celery. Preconstruction surveys, for nesting activity, for tricolored blackbird, golden eagle, and white tailed kite are recommended within two weeks of the start of construction activities.

Burrowing owl surveys, following the California Burrowing Owl Consortium protocol (1993), are recommended. This includes four site visits and a 500ft buffer from the Project area, with the first visit occurring after February 1 in the year construction is expected to start and the last visit occurring within two weeks of the start of construction activities.

Congdon's tar plant surveys are recommended and would occur during the period of identifiable phenology (June – October) and should be conducted by traversing the entire Project area to ensure thorough coverage, documenting all plant taxa observed. While the aquatic resource delineation was conducted in July 2024, an inventory of plants present during the typically blooming period for Congdon's tar plant was taken. Nearby reference populations of Congdon's tar plant were not observed at the time of the survey, suggesting that the species may not have been detectable. Further Congdon's tar plant surveys, occurring during the period of identifiable phenology (June – October), should be conducted by traversing the entire Project area to ensure thorough coverage, documenting all plant taxa observed and confirming phenology at a reference population.

Hoover's button celery was not observed during the July 2024 aquatic resource delineation. As this species has a much narrower blooming window (July) than Congdon's tar plant, it is not expected to occur on site despite presence of potentially suitable habitat.

Suitable nesting habitat for bird species protected under the Migratory Bird Treaty act is present within the BSA. Surveys for nesting birds within the BSA would need to occur within two weeks prior to the start of any activities between February 15 and August 15.

Golden eagle and white-tailed kites have been previously documented nesting in the Project vicinity. Nest surveys within two weeks prior to Project activities occurring between January 1 to August 31 are recommended for areas within one mile of the Project footprint. If an active Golden Eagle nest is discovered within one mile of the Project footprint, or a white-tailed kite nest within 0.5mi of the Project footprint additional avoidance and minimization measures may become necessary including stopping work within avoidance buffers until observed nests are no longer active. A stand of Canary Island date palms (*Phoenix canariensis*) 0.9 miles west of the Project footprint has been occupied by a Golden Eagle pair since at least 2018. While they have not produced young every year, it is highly likely they will continue to engage in nesting activity at this location. This would place a portion of the western side of the BESS area within the 1-mile exclusion buffer (**Attachment 1, Figure BIO-6**). Initiating Project activities outside of the nesting season and monitoring golden eagle activity for the duration of the Project is recommended.

Riparian woodlands along Coyote Creek and surrounding wetlands are suitable habitat for California red-legged frog and western pond turtle. Both of these species have been documented moving overland through a variety of land cover types between aquatic features. While there is no suitable habitat for these species within the Project footprint, wildlife exclusion fencing and an on-site biological monitor are recommended to avoid potential impacts to these species.

6.3 Avoidance and Minimization Measures

The following are a set of applicable avoidance and minimization measures adapted from the LECEF application for certification (AFC).

6.3.1 Project construction

BIO-1: Designated Biologist

> Site and related facilities (including any access roads, transmission lines, water and gas lines, storage areas, staging areas, pulling sites, substations, wells, etc) mobilization activities for the combined cycle facility shall not begin until an Energy Commission CPM approved Designated Biologist or approved Biological Monitor(s) are available to be on-site.

Protocol: The Designated Biologist must meet the following minimum qualifications:

1. Bachelor's Degree in biological sciences, zoology, botany, ecology, or a closely related field;

2. Three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society;

3. At least one year of field experience with biological resources found in or near the project area; and

4. An ability to demonstrate to the satisfaction of the CPM the appropriate education and experience for the biological resources tasks that must be addressed during project construction and operation.

If the CPM determines the proposed Designated Biologist to be unacceptable, the project owner shall submit another individual's name and qualifications for consideration. If the approved Designated Biologist needs to be replaced, the project owner shall obtain approval of a new Designated Biologist by submitting to the CPM the name, qualifications, address, and telephone number of the proposed replacement. No habitat disturbance will be allowed in any designated sensitive areas until the CPM approves a new Designated Biologist and the new Designated Biologist or approved Biological Monitor(s) is on-site.

Verification: At least 35 days prior to the start of any site and related facilities mobilization activities for the combined cycle facility, the project owner shall submit to the CPM for approval the name, qualifications, address, and telephone number of the individual selected by the project owner as the Designated Biologist. If a Designated Biologist is replaced, the information on the proposed replacement as specified in the Condition must be submitted in writing at least 10 working days prior to the termination or release of the preceding Designated Biologist.

BIO-2: Designated Biologist Duties

The CPM approved Designated Biologist shall perform the following during any site and related facilities mobilization, construction, and operation activities for the combined cycle facility:

1. Advise the project owner's Construction/Operation Manager, supervising construction and operations engineer on the implementation of the biological resources Conditions of Certification;

2. Supervise or conduct mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and special status species; and

3. Notify the project owner and the CPM of any non-compliance with any biological resources Condition of Certification.

4. Train the Biological Monitors as appropriate, and ensure their familiarity with the BRMIMP, WEAP training and all permits

5. The Designated Biologist may be assisted by the approved Biological Monitor(s), but remains the contact for the project owner and CPM.

Verification: During site and related facilities mobilization and construction the Designated Biologist shall maintain written records of the tasks described above, and summaries of these records shall be submitted along with the Monthly Compliance Reports to the CPM. During site and related facilities mobilization and construction for the combined cycle facility, the Designated

Biologist shall submit reports when warranted along with the Monthly Compliance Reports to the CPM. During project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report

BIO-3: Designated Biologist and Biological Monitor(s) Authority

The project owner's Construction/Operation Manager for the combined cycle facility shall act on the advice of the Designated Biologist and Biological Monitor(s) to ensure conformance with the Biological Resources Conditions of Certification.

Protocol: The project owner's Construction/Operation Manager shall halt, if necessary, all construction or operation activities in areas specifically identified by the Designated Biologist and Biological Monitor(s) as sensitive to assure that potential significant biological resource impacts are avoided.

The Designated Biologist and Biological Monitor(s) shall:

1. Inform the project owner and the Construction/Operation Manager when to resume construction or operation, and

2. Advise the Energy Commission CPM if any corrective actions are needed or have to be instituted.

BIO-4: Worker Environmental Awareness Program

The project owner shall develop and implement a CPM approved Worker Environmental Awareness Program in which each of its employees, as well as employees of contractors and subcontractors who work on the project or related facilities during site mobilization, construction and operation of the combined cycle facility, are informed about sensitive biological resources associated with the project. The training may be presented in the form of a videotape or digital video disk presentation so long as the Protocol is met.

Protocol: The Worker Environmental Awareness Program must:

1. Be developed by or in consultation with the Designated Biologist and consist of an on-site or training center presentation in which supporting written material and electronic media is made available to all participants;

2. Discuss the locations and types of sensitive biological resources on the project site and adjacent areas;

3. Present the reasons for protecting these resources;

4. Present the meaning of various temporary and permanent habitat protection measures; and

5. Identify whom to contact if there are further comments and questions about the material discussed in the program.

The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist. Each participant in the on-site Worker Environmental Awareness Program shall sign a statement declaring that the individual understands and shall abide by the guidelines set forth in the program materials. The person administering the program shall also sign each statement.

Verification: At least 30 days prior to the start of any site and related facilities mobilization, the project owner shall provide two copies of the Worker Environmental Awareness Program and all supporting written materials and electronic media reviewed or prepared by the Designated Biologist and the name and qualifications of the person(s) administering the program to the CPM for approval.

The project owner shall state in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. The signed statements for the mobilization and construction phase shall be kept on file by the project owner and made available for examination by the CPM for a period of at least six months after the start of commercial operation. During project operation, signed statements for active project operational personnel shall be kept on file for six months, following the termination of an individual's employment.

BIO – 10: Mitigation Measures

The project owner will implement the mitigation measures identified below.

Protocol: The project owner will:

1. Site transmission line poles, access roads, pulling sites, and storage and parking areas to avoid sensitive resources whenever possible;

2. Avoid all wetlands;

3. Design and construct transmission lines and poles to reduce the likelihood of electrocutions of large birds;

4. Implement the terms and conditions of a current CDFG Streambed Alteration Agreement (if required);

5. Implement a Worker Environmental Awareness Program; 6. Clearly mark construction area boundaries with stakes, flagging, and/or rope or cord to minimize inadvertent degradation or loss of adjacent habitat during facility construction/modernization. All equipment storage will be restricted to designated construction zones or areas that are currently not considered sensitive species habitat. Parking will not be allowed below the canopy of trees;

7. Provide a Designated Biologist to monitor all activities that may result in incidental take of listed species or their habitat;

8. Fence and provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches outside of the facility fence. Fence will be hardware cloth or similar materials that are approved for use by the USFWS and CDFG;

9. Inspect trenches outside of the facility fence every 12 hours for entrapped animals and prior to the beginning of construction in an area that has been unattended for over 3 hours during the night. Inspections will be made by someone specially trained by the Designated Biologist in the proper handling of wildlife. Construction will be allowed to begin only after trapped animals are able to escape voluntarily or in a safe and humane manner.

10. Inspect all construction pipes, culverts, or similar structures with diameter of 4-inches or greater outside the facility fence for sensitive species (such as foxes) prior to pipe burial. Pipes to be left in trenches for more than eight 8 hours will be capped.

11. Provide a post-construction compliance report, within 45 calendar days of completion of the project, to the Energy Commission CPM;

12. Make certain that all food-related trash will be disposed of in closed containers and removed at least once a week. Feeding of wildlife shall be prohibited;

13. Report all inadvertent deaths of sensitive species to the appropriate project representative. Injured animals will be reported to the CDFG, and the project owner will follow instructions that are provided by the CDFG;

14. Limit the use of biocides in project areas (see BIO-17 for more detail);

15. Implement erosion control in the temporary impact areas, especially near wetlands and waterways;

16. Any fixed lighting used during construction activities must be designed to be directed downward and away from riparian areas;

17. No construction activity shall be allowed within 500 feet of the levee wall from one (1) hour before sunset until one (1) hour after sunrise (as defined by a California solar timetable);

18. Contact the San Francisco Bird Observatory (Sherry Hudson at 408- 946-6548 or shudson@sfbbo.org) two weeks prior to beginning construction of the stormwater outfall at the levee wall to arrange alternative access to the Observatory's long-term bird banding site; and

19. Follow the management plan for the burrowing owl mitigation area (see BIO-19 for more detail).

Verification: All mitigation measures and their implementation methods will be included in the BRMIMP. Two copies of the CPM approved BRMIMP must be provided to the CPM five days prior to site mobilization and copies provided to the USFWS and CDFG

BIO-11: Survey and Provide Habitat Compensation for Burrowing Owls

Tanager BESS Project Owner shall survey for burrowing owl activities on the Tanager BESS Project site and along all new ancillary linear facilities prior to site mobilization to assess owl presence and need for further mitigation. All survey results shall be submitted to the CPM. If owls are present, and nesting is not occurring, owls are to be removed per CDFW approved passive relocation. Passive relocation is recommended from September 1 to January 31, to avoid disruption of breeding activities. If owls are nesting, nest(s) should be avoided by a minimum of a 500-foot buffer until fledging has occurred (February 1 through August 31). Following fledging, owls may be passively relocated.

If burrowing owls are found on the Tanager BESS Project site or along all new ancillary linear corridors on-site or off-site compensation for losses will be required, whichever is feasible. CDFW recommends 6.5 acres of protected lands for each pair of owls or unpaired resident bird. Foraging habitat should be replaced at 0.5:1 (mitigation: impacts). Mitigation lands bought outside of Santa Clara County shall be purchased at a 0.75:1 (mitigation: impacts) for contiguous counties and 1.5:1 for all other California counties. In addition, existing unsuitable burrows on the protected lands should be enhanced (e.g., cleared of debris or enlarged) or new burrows installed at a ratio of 2:1. If off-site compensation is the only option, the mitigation ratios will increase depending on the distance from the site and burrowing presence on or near the mitigation parcel.

Verification: Burrowing owl surveys shall be conducted 20 days prior to any project-related ground disturbance activities. At least 15 days prior to project related ground disturbance the Tanager BESS Project Owner shall provide the CPM and CDFW with the burrowing owl survey results and identify any lands proposed for mitigation (if applicable). The land purchase shall be approved by the CPM and reviewed by CDFG. The Tanager BESS Project Owner shall notify the CPM five working days before implementing any modifications to the BRMIMP.

BIO-17: Landscaping Plan

The applicant will complete a Landscaping Plan for review by the CPM. The project owner shall follow the approved Landscaping Plan during the lifetime of the power plant.

Protocol: The Landscaping Plan must include measures which:

1. Direct landscaping lights away form the riparian area;

2. Limit the amounts of biocides used on the project site;

3. Remove invasive, non-native plants (e.g., yellow star thistle) whenever possible to avoid the spread of weeds to the riparian corridor buffer zone. Employ the most effective aspects of the following control methods: 1) manual removal and, 2) mechanical control through soil disturbance. If the previous two methods are unsuccessful in controlling the problem, the following method could be used: 3) herbicides with low environmental persistence, applied from ground-based equipment. These products should only be used within the parameters presented on the label;

4. Avoid plant species that are not already found within the Coyote Creek watershed to avoid potentially new hybrids from cross-pollination;

5. Select a drought-tolerant mix of native species for ground cover;

6. Select a drought-tolerant mix of native tree species to the extent possible, particularly along the eastern edges of the landscaped areas (facing Coyote Creek);

7. Avoid long-term irrigation and limit short-term irrigation;

8. Avoid landscaping species/design(s) which would require initial and/or future maintenance equipment that contribute to noise and/or air pollution; and

9. Avoid the use of non-native ground cover (e.g., bark, rocks, soils).

Verification: At least 45 days prior to LECEF landscape installation, a Landscaping Plan will be sent to the CPM. All mitigation measures and their implementation methods will be included in the BRMIMP. Two copies of the BRMIMP must be provided to the CPM and one copy each provided to both the USFWS and CDFG five days prior to andscape installation.

BIO-20: Worker Education and Speed Limits on Primary Access Road

During construction of the combined cycle facility, the project owner shall distribute flyers to project-construction employees informing them of the possible presence of burrowing owls near Thomas Foon Chew Way. The project owner shall highlight that the posted speed limit is 15 miles-per-hour along the primary access road, Thomas Foon Chew Way, and take actions to correct repeat violations by project-construction drivers.

Verification: All mitigation measures and their implementation methods will be included in the BRMIMP. The monthly compliance report shall include the number of possible speed limit violations. The CPM reserves the right to inspect the primary access road for signs and to contact the construction manager to correct problems.

BIO-21: Biological Monitor Qualifications

The project owner shall submit the resume and contact information of the proposed Biological Monitor(s) to the CPM for review. Biological Monitor(s) training by the Designated Biologist shall include familiarity with the Conditions of Certification, the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), the Worker Environmental Awareness Program (WEAP), and all permits.

Verification: The project owner shall submit the specified information to the CPM for review at least 30 days prior to the start of any site (or related facilities) mobilization. The Designated Biologist shall submit a written statement to the CPM confirming that individual Biological Monitor(s) have been trained including the date when training was completed as part of the MCR or annual reporting. If additional Biological Monitors are needed during construction the specified information shall be submitted to the CPM for review 10 days prior to their first day monitoring activities.

7. References

California Department of Fish and Wildlife (CDFW). 2023. Survey Consideration for California Endangered Species Act (CESA) Candidate Bumble Bee Species. Accessed May, 2024. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=213150&inline.

California Department of Fish and Wildlife (CDFW). 2024. California Natural Diversity Database, Biogeographic Data Branch. Sacramento, CA. Accessed April, 2024. https://www.wildlfe.ca.gov/data/cnddb

California Native Plant Society (CNPS). 2024a. A Manual of California Vegetation, Online Edition. Accessed April, 2024. http://www.cnps.org/cnps/vegetation.

California Native Plant Society (CNPS). 2024b. Online Inventory of Rare, Threatened and Endangered Plants of California. Accessed April, 2024. http://www.rareplants.cnps.org/advanced.html.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31. Washington, D.C.

Hatfield, R., Jepsen, S., Thorp, R., Richardson, L., Colla, S. & Foltz Jordan, S. 2015. *Bombus occidentalis*. The IUCN Red List of Threatened Species 2015: e.T44937492A46440201. Accessed May 2024. https://dx.doi.org/10.2305/IUCN.UK.2015-2.RLTS.T44937492A46440201.en.

Higgins, P.G.; Menzel, S.; 2023. Golden Eagles in an Urban Setting in a Canary Island Date Palm Tree, San Jose California. *Journal of Raptor Research.* 57(1): 114-115. DOI: 10.3356/JRR-21-57.

Jacobs. 2024. *Aquatic Resources Delineation Report for the Tanager BESS Project.* Oakland, California.

Jepson Flora Project (eds.) 2024. Jepson eFlora, accessed April, 2024. https://ucjeps.berkeley.edu/eflora/.

Miles, S.R.; Goudey, C.B., comps. 1997. Ecological subregions of California: section and subsection descriptions. R5-EM-TP-005. San Francisco, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Region National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS). 2024. California Species List Tool. Queried for endangered and threatened species. https://archive.fisheries.noaa.gov/wcr/maps_data/california_species_list_tools.html.

Munsell Soil-Color Charts (Munsell). 2009. Munsell Soil Color Charts. Year 2009 Revised Edition. Grand Rapids, Michigan.

Natural Resources Conservation Service (NRCS). 2024. Web Soil Survey. U.S. Department of Agriculture. Accessed April 14, 2023. http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

Sikes, K., J. Buck-Diaz, S. Vu, & J.M. Evens. 2023. Vegetation classification of alliances and associations in Santa Cruz and Santa Clara Counties, California. Report to the Santa Cruz Mountains Stewardship Network. California Native Plant Society, Vegetation Program, Sacramento, CA.

U.S. Army Corps of Engineers (USACE). 2020. National Wetland Plant List, Version 3.5. U.S. Army Corps of Engineers Engineer Research and Development Center Cold Regions Research and Engineering Laboratory, Hanover, NH. http://wetland-plants.usace.army.mil/.

U.S. Fish and Wildlife Service (USFWS). 2014. Proposed Threatened Status for the Western Distinct Population Segment of the Yellow-Billed Cuckoo. Accessed April, 2024. https://www.fws.gov/species-publication-action/proposed-threatened-status-western-distinct-population-segment-yellow.

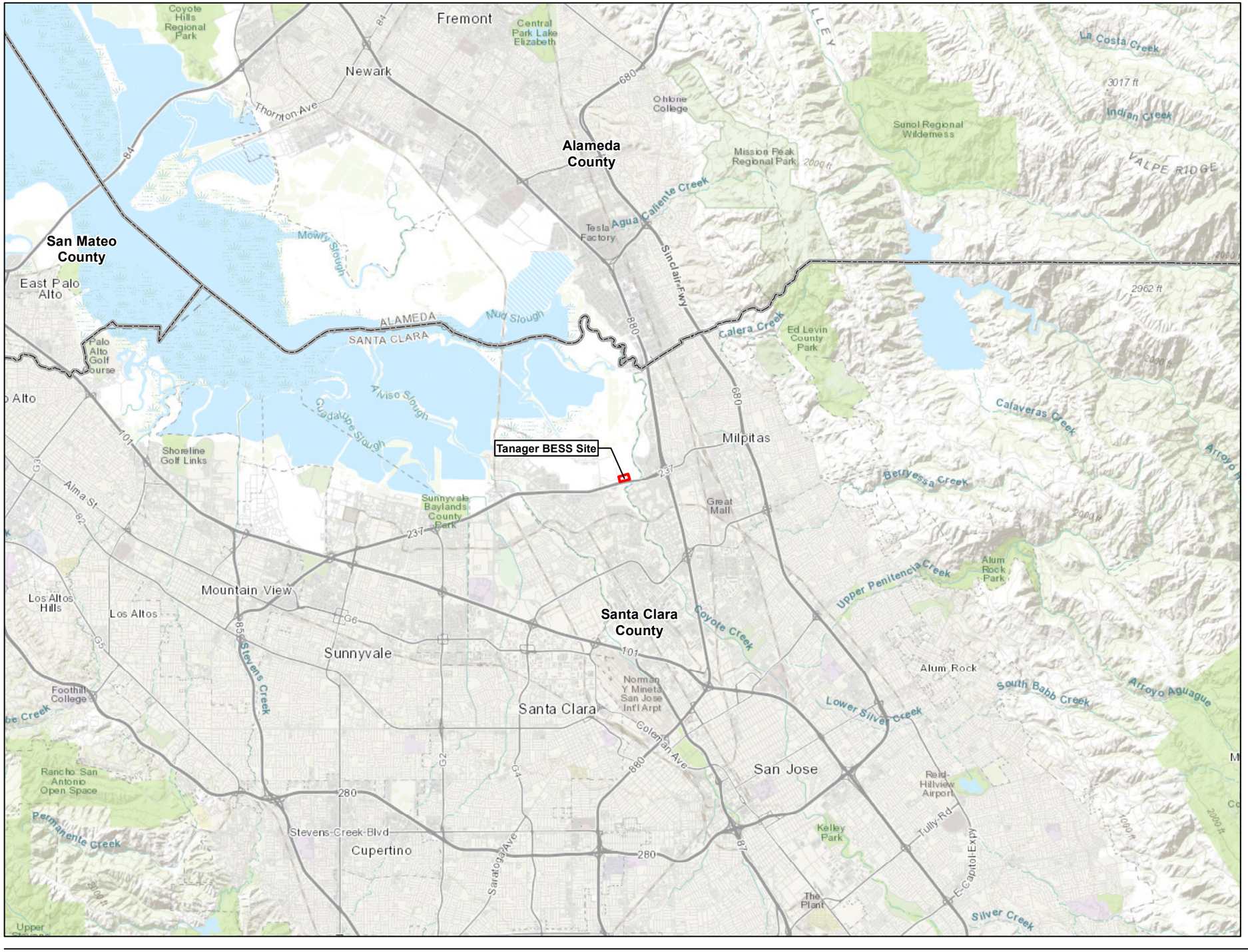
U.S. Fish and Wildlife Service (USFWS). 2024a. Environmental Conservation Online System: Information for Planning and Consultation (IPaC). Accessed April, 2023. https://ecos.fws.gov/ipac/.

U.S. Fish and Wildlife Service (USFWS). 2024b. National Wetlands Inventory. Accessed April, 2024. https://www.fws.gov/wetlands/data/Mapper.html.

U.S. Geological Survey (USGS). 2024a. National Hydrography Dataset. United States Department of the Interior. Accessed April 13, 2024. https://www.usgs.gov/core-science-systems/ngp/national-hydrography.

Xerces Society for Invertebrate Conservation (Xerces). 2024. Western Bumble Bee, *Bombus occidentalis*. Accessed April, 2024. https://xerces.org/endangered-species/species-profiles/at-risk-bumble-bees/western-bumble-bee.

Attachment 1. Figures



Legend

- Tanager BESS Site Area
- County Boundary

Source; Calpine, 2024

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0 1 2 4

Miles

Figure BIO-1:
Project Vicinity
Tanager BESS Project
San Jose, California

Jacobs

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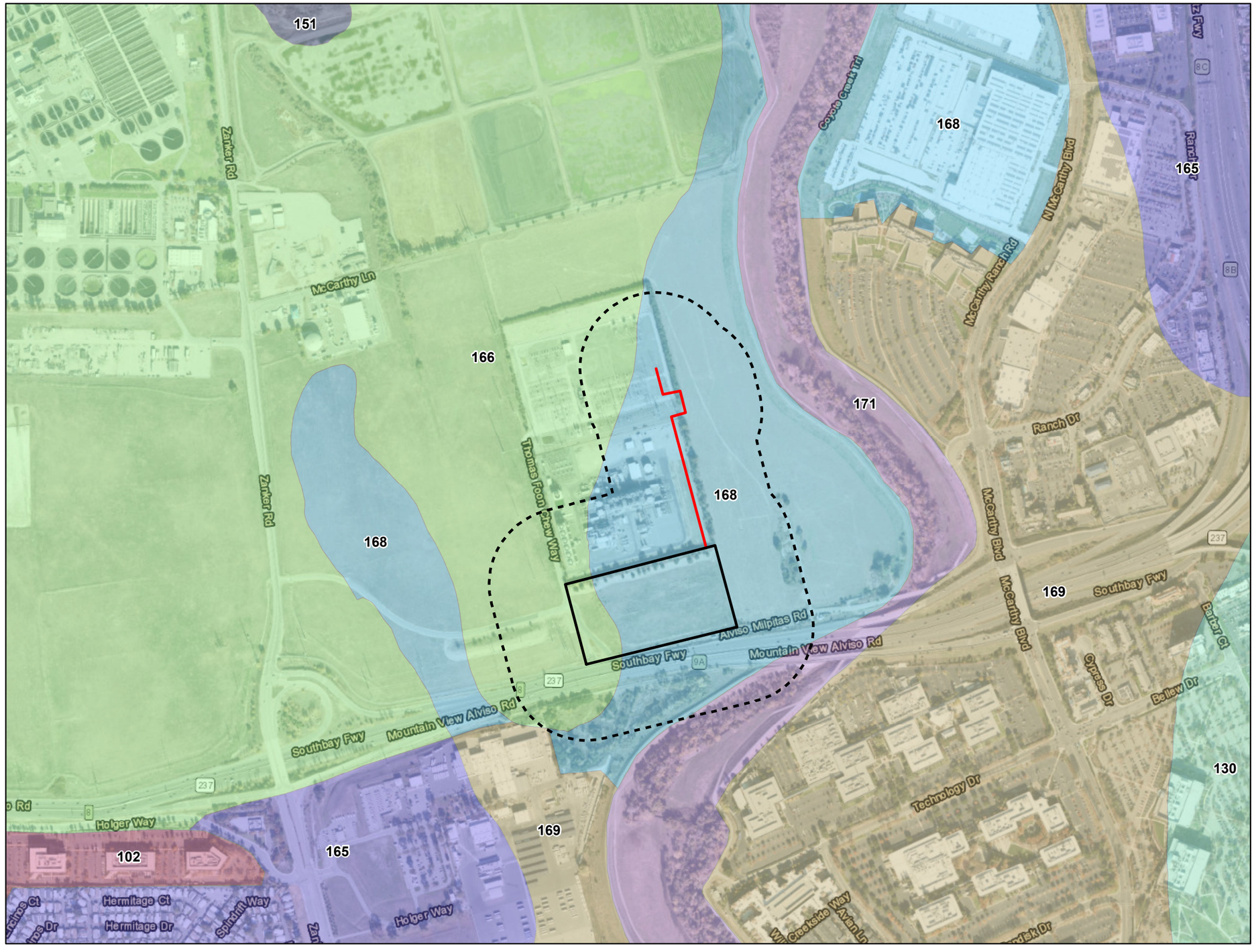

Source; Calpine, 2024; USDA NRCS, 2024

Figure BIO-2:
Soils
Tanager BESS Project
San Jose, California

Jacobs

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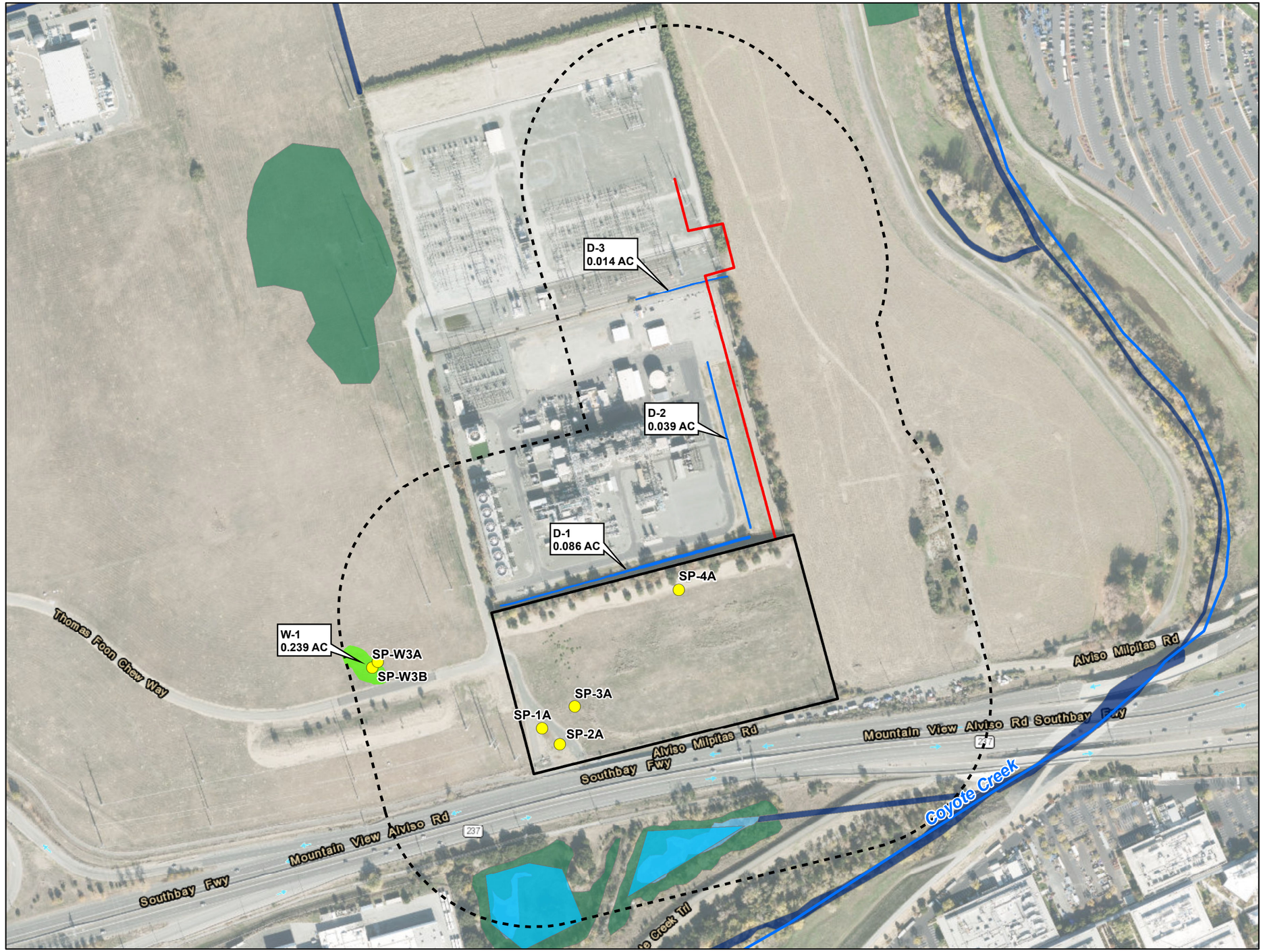

Figure BIO-3:
Aquatic Resources
Tanager BESS Project
San Jose, California

Jacobs

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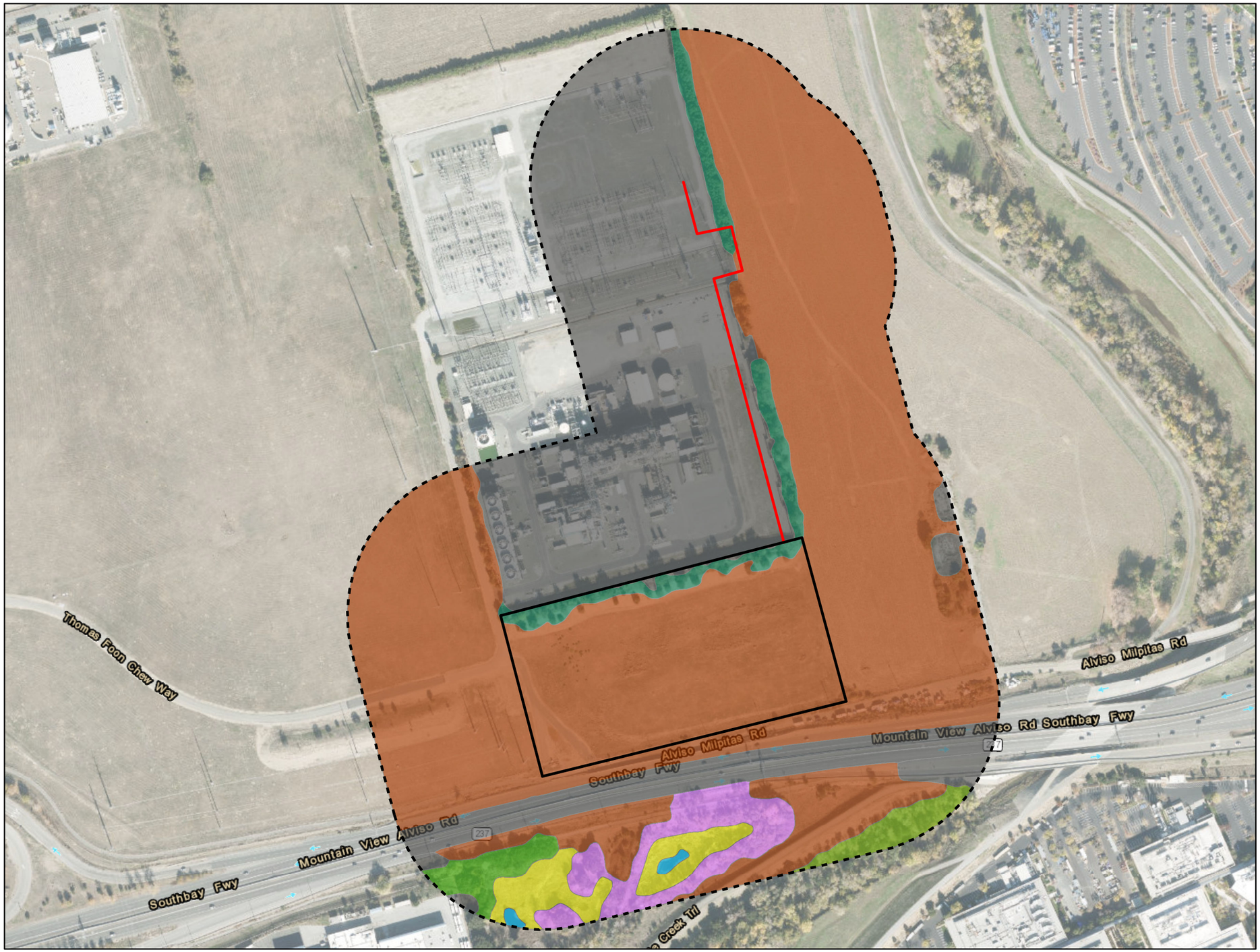

Legend

- Tanager BESS Site Area
- Biological Study Area (500 ft Buffer)
- Gen-Tie Alignment

Land Cover Type

- Arid West Interior Freshwater Marsh Group
- Californian Annual & Perennial Grassland Macrogroup
- Coast live oak woodland alliance
- Developed/Major Road
- Fremont Cottonwood Forest and Woodland
- Non-native Forest
- Water
- Willow riparian woodland and forest

Source; Calpine, 2024; USDA NRCS, 2024

N

0 125 250 500
Feet

Figure BIO-4:
Land Cover
Tanager BESS Project
San Jose, California

Jacobs

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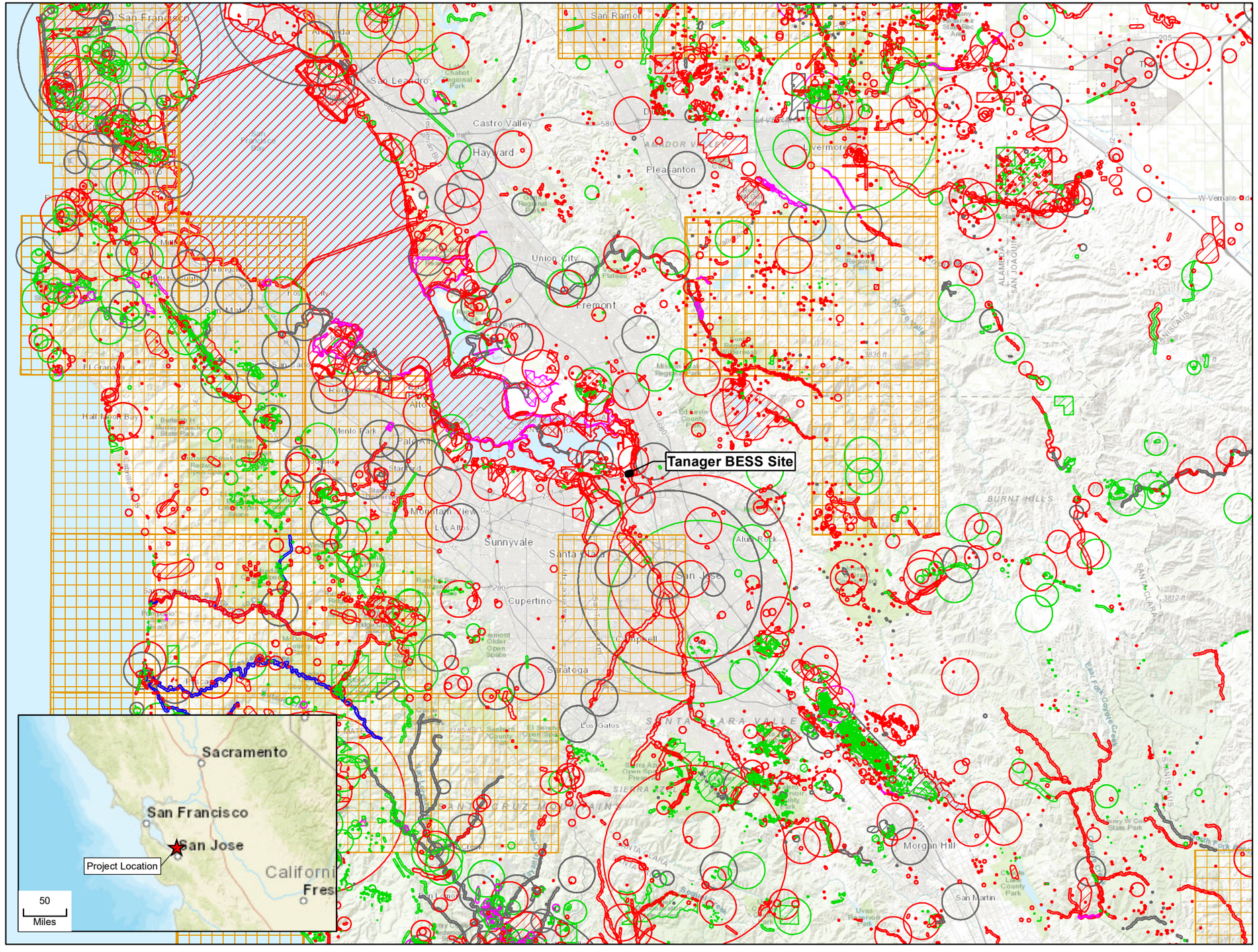

Source: Calpine, 2024; CDFW CNDDB, March 2024
Note:
The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area.

Scale: 1:350,000

0 2.5 5 10

Miles

N

Figure BIO-5:
CNDDB Special Status
Tanager BESS Project
San Jose, California

Jacobs

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[Figure BIO-6 Golden Eagle Location has been provided under confidentiality]

Attachment 2. Species Potential to Occur Tables

Table A 2--1. Wildlife Potential to Occur

Scientific Name	Common Name	FESA	CESA	CDFW	Habitat	Probability to Occur
Insects						
Bombus crotchii	Crotch's Bumble bee		Candidate Endangered		Grassland and scrub habitats. Nesting occurs underground. Common nectar plants include *Asclepias, Chaenactis, Lupinus, Medicago, Phacelia,* and *Salvia.*	**Low**. The BSA is dominated by European annual grasslands, however suitable nectar plants were observed to be limited in the BSA. There is one CNDDB record within five miles of the Project footprint from 1903. This record notes the particular location of the observation is unknown and has a 5-mile radius centered on San Jose.
Bombus occidentalis	Western Bumble bee		Candidate Endangered		Open grassy areas, often nesting in abandoned rodent burrows. Uses a wide variety of nectar plants	**Low**. The BSA contains open grassland and rodent burrows which provide suitable nesting habitat for this species. There is one CNDDB record within five miles of the Project footprint from 1979. This record notes the particular location of the observation is unknown and has a 5-mile radius centered on San Jose. This species has undergone a precipitous decline since the mid-1990s and is thought to occur in Central California in extremely small numbers if at all (CDFW, 2023; Xerces, 2024; IUCN, 2015)
Danaus plexipus	Monarch Butterfly	Candidate			Variety of habitats with available milkweed and nectar plants	**Not Expected.** Milk weed was not observed in the BSA. There are no CNDDB records within five miles of the Project area, however this species is returned in the IPaC report for the area.

Scientific Name	Common Name	FESA	CESA	CDFW	Habitat	Probability to Occur
Crustaceans						
Branchinecta conservatio	Conservancy fairy shrimp	Endangered			Vernal pools	**Not Expected**. There are no CNDDB records for this species within five miles of the Project footprint, though this species is returned from USFWS IPaC. There is no suitable habitat for this species in the Project footprint.
Lepidurus packardi	Vernal pool tadpole shrimp	Endangered			Vernal pools	**Low.** Potential seasonal wetland habitat is present in the BSA; however it is highly disturbed. There is 1 CNDDB occurrence within 5 miles of the Project footprint located ~ 4.5 miles north from the seasonal wetland unit of Don Edwards National Wildlife Refuge in Alameda County. This species is not known from Santa Clara County, but the Project location is near the Alameda County line.
Fish						
Acipenser medirostrus	Green sturgeon	Threatened			Coastal waters, estuaries, deltas, and lower reaches of large rivers	**Not Expected**. There are no CNDDB records for this species within five miles of the Project footprint. Project activities are not anticipated to impact any stream, estuary, delta, or bay waters. The mouth of Coyote Creek and the southern San Francisco Bay are NMFS designated critical habitat for this species.

Scientific Name	Common Name	FESA	CESA	CDFW	Habitat	Probability to Occur
Oncorhynchus mykiss irideus pop. 8	Steelhead - central California DPS	Threatened			Streams with uninterrupted flow to the ocean. Gravels necessary component for breeding habitat	**Not Expected.** There is 1 CNDDB occurrence withing five miles of the Project footprint along Guadalupe River 1.6 miles to the southwest. Project activities are not anticipated to impact any stream or riparian habitat. Coyote creek and the southern San Francisco Bay are NMFS designated critical habitat for this species.
Spirinchus thaleichthys	Longfin smelt	Proposed Endangered	Threatened		Nearshore, estuary and delta, and lower freshwater stream habitats.	**Not Expected.** There is 1 CNDDB occurrence within five miles of the Project area comprising the entire southern San Francisco Bay. Bay margin, estuarine, and stream habitats are not anticipated to be impacted by Project activities.
Amphibians						
Ambystoma californiense pop. 1	California tiger salamander - central California DPS	Threatened	Threatened	WL	Ponds and seasonal wetlands with connectivity to open grassland habitat. Spends dry portions of the year in mammal burrows in upland habitats.	**Low**. There are 8 CNDDB records within five miles of the Project area. The nearest occurrence is 3.5 miles to the northeast from 1995 and is separated from the BSA by the city of Milpitas. Ground squirrel burrows are present on site providing potential upland refugia, and suitable breeding habitat is present nearby.

Scientific Name	Common Name	FESA	CESA	CDFW	Habitat	Probability to Occur
Rana boylii pop. 4	Foothill yellow-legged frog - centra coast DPS	Threatened	Endangered		Rocky streams and riparian habitats	**Low**. There is one CNDDB record within five miles of the Project footprint, approximately four miles to the southeast from 1905 collected from the stomach contents of a coast garter snake (Thamnophis elegans). This record is in a heavily urbanized portion of San Jose and is considered to be extirpated. Coyote creek may provide suitable movement and breeding habitat for this species.
Rana draytonii	California red-legged frog	Threatened		SSC	Streams, ponds, and a wide variety of nearby upland habitats	**Low.** There are two CNDDB records within five miles of the Project footprint, the closest four miles to the east from Baryessa Creek. Wet areas near by the Project footprint may be used as transitional habitat during the wet season facilitating movement between Coyote Creek and emergent wetlands south of state route 237.
Reptiles						
Anniella pulchra	Northern California legless lizard			SSC	Loose friable soil, typically sand and loams with leaf litter and other surface cover	**Low.** Soils in the area are potentially suitable being loam and silty loam textures, however annual grasses present in the Project area form thatch rather than the leaf litter this species more typically inhabits. There is one CNDDB record within five miles of the Project footprint from 1949. The record has a five-mile accuracy and is noted to be possibly extirpated as the majority of this area has been converted to urban development.

Scientific Name	Common Name	FESA	CESA	CDFW	Habitat	Probability to Occur
Emys marmorata	Western pond turtle	Proposed Threatened		SSC	Freshwater bodies and surrounding upland areas with breaks in vegetative cover to allow for sunlight to warm the soil.	**Low.** Coyote Creek and surrounding emergent wetlands are suitable for this species. Dense thatch from annual grasses in the Project footprint limit its utility as upland or nesting habitat. Disked areas with open vegetative cover and California ground squirrel activity in the adjacent parcel to the east between the Project footprint and Coyote Creek are more suitable for upland and nesting habitat. There are 10 CNDDB records for this species within five miles of the Project footprint, the nearest being a 1989 record from the lower reach of Coyote Creek which ranges from 490 feet east of the eastern gen-tie alignment and 875 feet east of the BESS footprint.
Birds						
Agelaius tricolor	Tricolored blackbird		Threatened	SSC	Grasslands and agricultural fields (alfalfa) for foraging and protective vegetation such as black berry thickets or flooded emergent vegetation for nesting.	**Moderate.** Annual grassland habitat present onsite is suitable for foraging, and emergent wetlands suitable for nesting are present nearby. There are five CNDDB records within five miles of the Project footprint including a 2021 record with 0.8-mile accuracy that overlaps with the Project footprint.

Scientific Name	Common Name	FESA	CESA	CDFW	Habitat	Probability to Occur
Aquila chrysaetos	Golden eagle			FP; WL	Rugged open habitats. Canyons and escarpments are most common nesting habitat, though large trees in open areas are also utilized. Requires large open areas for foraging its primary diet of ground squirrels and lagomorphs.	**High.** There is a known nest that has been in use since at least 2018 in a Canary Island date palm 0.9 miles west of the Project footprint.
Athene cunicularia	Burrowing owl		Candidate	SSC	Open grasslands and shrublands with suitable perches and ground squirrel burrows	**High.** Suitable habitat is present within the Project footprint, and burrowing owls were observed during the reconnaissance-level survey on April 17th approximately one mile west of the Project footprint nearby the Canary Island date palm stand.
Buteo swainsoni	Swainson's hawk		Threatened		Nests in open riparian habitat as well as large trees in open farmland and sparsely vegetated areas of low topography.	**Low.** Habitat on site is potentially suitable for this species, however the Project area lacks access to large agricultural fields, has proximity to noisy industrial land uses, and is at the very edge of the known range for this species. There is one CNDDB record for this species within five miles of the Project footprint from 1889. This record has poor locality information and is centered on the city of Santa Clara where nesting and foraging habitat has been eliminated by urban development. This record is noted to be possibly extirpated

Scientific Name	Common Name	FESA	CESA	CDFW	Habitat	Probability to Occur
Charadrius nivosus nivosus	Western snowy plover	Threatened		SSC	Sandy marine and estuarine shorelines. Salt pond levees	**Low.** There is no suitable habitat for this species in the Project footprint, however nearby salt ponds are highly suitable for this species. Both of the two CNDDB records within five miles of the Project footprint are located in salt ponds, the closest being along the San Francisco Bay margin in Alviso 1.1 miles to the northwest.
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	Threatened	Endangered		Dense riparian areas dominated by willows on slow moving waterways	**Low.** Coyote creek may provide suitable habitat for this species, however modifications to the riparian habitat and surrounding development have reduced the quality of this as nesting habitat for this species. There is one CNDDB record within five miles of the Project area from 1899 that is presumed to be extirpated due to urban development.
Coturnicops noveboracensis	Yellow rail			SSC	Densely vegetated marshes	**Not Expected.** Habitat is absent in the Project footprint, though suitable habitat exists in the marshes along the San Francisco Bay margin nearby. There are two CNDDB records for this species within five miles of the Project footprint. The closest of these is an observation from 2013 0.9 miles to the northwest noted to be from the Alviso Unit of Don Edwards National Wildlife Refuge.

Scientific Name	Common Name	FESA	CESA	CDFW	Habitat	Probability to Occur
Elanus leucurus	White-tailed kite			FP	Open areas with stands of trees with dense canopies for nesting and cover	**High.** There are two CNDDB occurrences within five miles of the Project footprint, the nearest being approximately 0.9 miles to the west. Power transmission towers and open grassland habitat present on site are suitable nesting and foraging habitat for this species.
Geothlypis trichas sinuosa	Saltmarsh common yellowthroat			SSC	Riparian woodland, emergent freshwater marsh, salt marsh along the San Francisco Bay margin and nearby Pacific coastline	**Not Expected.** There are four CNDDB records within five miles of the Project footprint. The closest of these is from the lower reaches of Coyote Creek 0.3 miles northeast from the Project footprint observed in 1998. The nearby coyote creek riparian habitat is suitable for this species, however there is no suitable habitat present within the Project footprint itself
Laterallus jamaicensis coturniculus	California black rail		Threatened	FP	Emergent wetlands ranging from saline to fresh water.	**Not Expected.** There are four CNDDB records within five miles of the Project footprint. The closest of these is an 1891 record with a one-mile accuracy adjacent to the Project footprint to the north, mapped based on historic wetlands along the southern San Francisco Bay Margin. Habitat within the Project footprint is not suitable for this species.
Melospiza melodia pusillula	Alameda song sparrow			SSC	Tidal salt marshes on the margins of the southern San Francisco Bay	**Not Expected.** There are three CNDDB records for this species within five miles of the Project footprint. The nearest of these is 1.3 miles to the southwest and noted to have been observed near the Guadalupe river in 1947. Habitat within the Project footprint is not suitable for this species.

Scientific Name	Common Name	FESA	CESA	CDFW	Habitat	Probability to Occur
Rallus obsoletus obsoletus	California Ridgway's rail	Endangered	Endangered	FP	Tidal and brackish marshes without modified water movement	**Not Expected.** There are three CNDDB records within five miles of the Project footprint. The nearest of these is three miles to the northwest from 1975 in marshes and sloughs bordering the coyote creek mouth. There is no suitable habitat for this species in the Project footprint.
Mammals						
Reithrodontomys raviventris	Saltmarsh harvest mouse	Endangered	Endangered	FP	Emergent saline wetlands along the San Francisco Bay margin and tributaries.	**Not Expected.** There are 13 CNDDB records within five miles of the Project footprint, all of which are located in saltmarshes and salt ponds on the southern San Francisco Bay margin. The closest of these if one mile to the northwest in the Alviso unity of Don Edwards National Wildlife refuge last observed in 1990. Habitat within the Project footprint is not suitable for this species.
Sorex vagrans halicoetes	Saltmarch wandering shrew			SSC	Pickleweed (*Salicornia sp.*) saltmarsh along the San Francisco Bay margin.	**Not Expected.** There are two CNDDB records within five miles of the Project footprint. The closest of these if one mile to the northwest in the Alviso unity of Don Edwards National wildlife refuge last observed in 1980. Habitat within the Project footprint is not suitable for this species.

Scientific Name	Common Name	FESA	CESA	CDFW	Habitat	Probability to Occur
Taxidea taxus	American Badger			SSC	Dry friable soils in open habitats.	**Not Expected.** There are two CNDDB records within five miles of the Project footprint. These are both located in undeveloped grasslands on the hills above Milpitas 4-5 miles to the east. Dense thatch and apparent inundation of western portions of the site make the Project area of low suitability for this species. The area is isolated from areas of more suitable habitat by the San Francisco Bay and surrounding urban development.

Table A2-2. Plant Species Potential to Occur

Scientific Name	Common Name	FESA	CESA	CNPS RPI	Blooming Period	Habitat	Probability to Occur
Astragalus tener var. tener	Alkali milk-vetch			1B.2	Mar-Jun	Alkaline flats and vernally moist clay soils in grasslands	**Not Expected.** There are three CNDDB records for this species within five miles of the Project area. The closest record is 0.4 miles to the east and is presumed extirpated due to urban development. The other two records are located in salt marsh habitats in Don Edwards National Wildlife Refuge. Edaphic habitat is not suitable on site for this species.
Atriplex depressa	Brittlescale			1B.2	Apr-Oct	Alkaline and clay soils in vernal pools, grasslands, and chenopod scrub	**Not Expected.** There is one CNDDB records within five miles of the Project footprint in vernal pool habitat on Don Edwards National Wildlife Refuge. Edaphic habitat is not suitable on site for this species.
Atriplex minuscula	Lesser saltscale			1B.1	May-Oct	Sandy alkaline soils in grasslands and chenopod scrub	**Low.** There is one CNDDB records within five miles of the Project footprint in vernal pool habitat on Don Edwards National Wildlife Refuge. Edaphic habitat is on site is not typical for this species.

Centromadia parryi ssp. congdonii	Congdon's Tar Plant			1B.1	(Apr) May-Oct (Nov)	Alkaline soils in grasslands	**Moderate.** There are six CNDDB records within five miles of the Project footprint, the nearest record being one mile to the west on Santa Clara Habitat Agency mitigation land. Campbell series soils and open grassland with interspersed wet areas are suitable for this species in the western portion of the Project footprint.
Chloropyron maritimum ssp. palustre	Point Reyes salty bird's-beak			1B.2	Jun-Oct	Coastal salt marshes	**Not Expected.** There is one extirpated CNDDB record for this species within five miles of the Project footprint. Habitat in the Project footprint are not suitable for this species.
Chorizanthe robusta var. robusta	Robust spineflower	Endangered		1B.1	Apr-Sep	Sand and gravel soils in dunes, scrub, and chaparral	**Not Expected.** There is one possibly extirpated CNDDB record for this species within five miles of the Project footprint. Habitat in the Project footprint are not suitable for this species.
Eleocharis parvula	Small spikerush			4.3	(Apr) Jun-Aug (Sep)	Coastal salt marshes	**Not Expected.** This record is from the CNPS Rare Plant Inventory at the 7.5" USGS quadrangle level. Suitable habitat is not present on site.
Eryngium aristulatum var. hooveri	Hoover's button-celery			1B.1	(Jun) Jul (Aug)	Vernal pools and seasonal wetlands	**Moderate.** There are four CNDDB records within five miles of the Project area. The closest of these is one mile to the northwest, but is thought to be potentially extirpated due to development. Campbell series soils and open grassland with interspersed wet areas are suitable for this

							species in the western portion of the Project footprint.
Extriplex joaquinana	San Joaquin spearscale			1B.2	Apr-Oct	Alkaline soils in seasonal wetlands, grasslands, and chenopod scrub.	**Low.** There are two CNDDB records within five miles of the Project footprint, the closest being approximately 4.5 miles north in vernal pool habitat on Don Edwards National Wildlife Refuge. Campbell series soils and open grassland with interspersed wet areas are marginally suitable for this species in the western portion of the Project footprint.
Lasthenia conjugens	Contra Costa goldfields	Endangered		1B.1	Mar-Jun	Vernal pools	**Not Expected.** There are two CNDDB records within five miles of the Project footprint, the closest being approximately 4.5 miles north in vernal pool habitat on Don Edwards National Wildlife Refuge. Suitable habitat is not present in the Project footprint.

Malacothamnus hallii	Hall's bush-mallow			1B.2	(Apr) May-Sep (Oct)	Chaparral and coastal scrub, particularly in areas that have burned.	**Not Expected.** There are two CNDDB records within five miles of the Project footprint. The closest record is a 1955 collection made near the south bay yacht club with the habitat noted as Pickleweed marsh. This is not typical habitat for this species. The other record is noted as being along Guadalupe Creek, but habitat disturbance has likely extirpated this record. Habitat in the Project footprint is not suitable for this species.
Navarretia prostrata	Prostrate vernal pool navarretia			1B.2	Apr-Jul	Vernal pools and alkaline wetlands	**Not Expected.** There are two CNDDB records for this species within five miles of the Project footprint, the closest being approximately 4.5 miles north in vernal pool habitat on Don Edwards National Wildlife Refuge. Vernal pool habitat is not present in the Project footprint.
Plagiobothrys glaber	hairless popcornflower			1A	Mar-May	Coastal salt marshes and alkaline wetlands	**Not Expected.** There is only one record for this species within five miles of the Project footprint. It is presumed to be extirpated due to urban development, and the species is considered to be extinct. Suitable habitat is not present in the Project footprint.
Puccinellia simplex	California alkali grass			1B.2	Mar-May	saline soils in seasonal wetlands, chenopod scrub, and annual grasslands	**Not Expected.** There is only one CNDDB record within five miles of the Project footprint located in vernal pool habitat on Don Edwards National Wildlife Refuge. in vernal pool habitat on Don Edwards National Wildlife Refuge. Vernal pool

							habitat is not present in the Project footprint.
Suaeda californica	California seablite	Endangered		1B.1	Jul-Oct	margins of coastal salt marshes	**Not Expected.** There is only one CNDDB record within five miles of the Project footprint located in vernal pool habitat on Don Edwards National Wildlife Refuge. in vernal pool habitat on Don Edwards National Wildlife Refuge. Vernal pool habitat is not present in the Project footprint.
Trifolium hydrophilum	Saline clover			1B.2	Apr-Jun	salt marshes and alkaline wetlands	**Not Expected.** There are two CNDDB records within five miles of the Project footprint, the closest being approximately one mile to the west in the Alviso unit of Don Edwards National Wildlife refuge. Suitable habitat is not present in the Project footprint.

Attachment 3. Plant Species Observed

Table A3-1. Plant Species Observed During the April 17, 2024 Survey

Family	Species	Common Name	Native or Naturalized	Cal-IPC Status
Gymnosperms				
Pinaceae	*Pinus canariensis*	Canary Pine	Naturalized	
Eudicots				
Anacardiaceae	*Schinus molle*	Peruvian Peppertree	Naturalized	Limited
Apiaceae	*Conium maculatum*	Poison Hemlock	Naturalized	Moderate
Apocynaceae	*Nerium oleander*	Oleander	Naturalized	
Araliaceae	*Hedera helix*	English Ivy	Naturalized	High
Asteraceae	*Baccharis pilularis*	Coyote Brush	Native	
	Cirsium vulgare	Bull Thistle	Naturalized	Moderate
	Crepis capillaris	Smooth hawksbeard	Naturalized	
	Dittrichia graveolens	Stinkwort	Naturalized	Moderate
	Helminthotheca echioides	Bristly Ox-tongue	Naturalized	Limited
	Pseudognaphalium sp.	Cudweed	Naturalized	
	Silybum marianum	Milk Thistle	Naturalized	Limited
	Sonchus asper	Sow Thistle	Naturalized	
Brassicaceae	*Brassica rapa*	Field Mustard	Naturalized	Limited
	Hirschfeldia incana	Short-pod mustard	Naturalized	Moderate
	Lepidium draba	White Top	Naturalized	Moderate
	Raphanus raphanistrum	Jointed charlock	Naturalized	
	Raphanus sativus	Radish	Naturalized	Limited
Casurinaceae	*Casuarina equisetifolia*	She-oak	Naturalized	Watch
Ericaceae	*Arctostaphylos sp.*	Manzanita	Native	
Fabaceae	*Acacia longifolia*	Sydney Golden Wattle	Naturalized	Watch
	Lotus corniculatus	Bird's-foot trefoil	Naturalized	
	Medicago polymorpha	Bur-clover	Naturalized	Limited
	Melilotus indica	Sweet-clover	Naturalized	
	Vicia sativa	Field Vetch	Naturalized	
Fagaceae	*Quercus agrifolia*	Coast Live Oak	Native	

Family	Species	Common Name	Native or Naturalized	Cal-IPC Status
Geraniaceae	*Erodium moschatum*	White-stem fillaree	Naturalized	
	Geranium dissectum	Dissected Leaf Geranium	Naturalized	Limited
	Geranium molle	Dove's-foot geranium	Naturalized	
Malvaceae	*Malva sp.*	Mallow	Naturalized	
Myrsinaceae	*Lysimachia arvensis*	Scarlet Pimpernel	Naturalized	
Myrtaceae	*Leptospermum laevigatium*	Australian tea tree	Naturalized	Watch
	Melaleuca quinquenervia	Paper Bark	Naturalized	
	Melaleuca viminalis	Bottlebrush	Naturalized	
Oleaceae	*Fraxinus excelsior*	European Ash	Naturalized	
Onograceae	*Epilobium brachycarpum*	Annual fireweed	Native	
Papaveraceae	*Fumaria capreolata*	White ramping fumitory	Naturalized	
Plantaginaceae	*Plantago lanceolata*	English Plantain	Naturalized	Limited
Platanaceae	*Platanus sp.*	Sycamore	Naturalized	
Polygonaceae	*Rumex crispus*	Curly Dock	Naturalized	Limited
Rosaceae	*Cotoneaster hodjingensis*	Cottoneaster	Naturalized	
	Cotoneaster lacteus	Cottoneaster	Naturalized	Moderate
	Heteromeles arbutifolia	Toyon	Native	
	Prunus sp.	Plum	Naturalized	
	Rubus ursinus	California Blackberry	Native	
Rubiaceae	*Gallium aperine*	Climbing bedstraw	Native	
Salicaceae	*Salix lasiolepis*	Arroyo Willow	Native	
Viburnaceae	*Sambucus mexicana*	Black Elderberry	Native	
Vitaceae	*Vitis vinifera*	European Grapes	Naturalized	
Monocots				
Arecaceae	*Washingtonia sp.*	Fan Palm	Naturalized	

Family	Species	Common Name	Native or Naturalized	Cal-IPC Status
Poaceae	*Avena barbata*	Bearded Oats	Naturalized	Moderate
	Avena fatua	Wild Oats	Naturalized	Moderate
	Bromus diandrus	Ripgut Brome	Naturalized	Moderate
	Bromus hordeaceous	Soft-chess Brome	Naturalized	Limited
	Cynodon dactylon	Bermuda grass	Naturalized	Moderate
	Festuca bromoides	Brome fescue	Naturalized	
	Festuca myuros	Rattail Fescue	Naturalized	Moderate
	Festuca perennis	Italian Wild Rye	Naturalized	Moderate
	Festuca sp.	Fescue	Naturalized	
	Hordeum marinum	Maritime Barley	Naturalized	Moderate
	Hordeum murinum	Medditerannean Barley	Naturalized	Moderate
	Hordeum vulgaris	Barley	Naturalized	
	Phalaris aquatica	Harding Grass	Naturalized	Moderate
	Polypogon monspeliensis	Rabbit's Foot Grass	Naturalized	Limited
	Stipa milleacea	Smilo Grass	Naturalized	Limited

Attachment 4. Representative Site Photographs

Picture A4-1. View of the BESS Footprint from the Northeast Corner Looking Southwest

Photo taken on April 17, 2024

Picture A4-2. Gen-Tie Alignment from the Midpoint within the Existing Power Generation Facility Looking South

Photo taken on April 17, 2024

Picture A4-3. Gen-Tie Alignment from the Midpoint within the Existing Power Generation Facility Looking North

Photo taken on April 17, 2024

Picture A4-4. Gen-Tie Alignment Where It Would Exit Existing Power Generation Facility
Photo taken looking north on April 17, 2024

APPENDIX D:

AQUATIC RESOURCES DELINEATION REPORT

Aquatic Resources Delineation Report

Version: Final

Calpine Corporation

Tanager BESS Project
San Jose, California
January 15, 2025

Aquatic Resources Delineation Report

Client name:	Calpine Corporation		
Project name:	Tanager BESS Project San Jose, California		
Version:	Final	**Project manager:**	Joe Aguirre/Jacobs
Date:	January 15, 2025	**Prepared by:**	Sam Young/Jacobs

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Summary

Los Esteros Critical Energy Facility, LLC (LECEF), on behalf of Tanager Power, LLC proposes to construct and operate the Tanager Battery Energy Storage System (BESS) Project (Project) at the former laydown and construction parking area for the LECEF. The Project consists of the installation of a nominal 200-megawatt/1600 megawatt hour lithium-ion BESS, interconnection, and communication system. The Tanager BESS Project will provide grid support and reliability services to the Bay Area Local Reliability Area.

This report presents the methods and results of an aquatic resources delineation for a 49.8-acre study area that encompasses a 250ft buffer around the Project footprint and all ancillary features. This delineation was conducted in accordance with the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008). The study area contained 0.139 acre of non-wetland waters and no wetlands. A 0.239-acre wetland adjacent to an existing paved road that provides access to the site was observed and mapped outside of the study area. The wetland feature will be avoided and thus, not potentially impacted by the project.

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Acronyms and Abbreviations

BESS	battery energy storage system
HUC	Hydrologic Unit Code
LECEF	Los Esteros Critical Energy Facility, LLC
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
Project	Tanager Battery Energy Storage System Project
study area	49.8-acre aquatic resource study area
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey

1. Introduction

Los Esteros Critical Energy Facility, LLC (LECEF), on behalf of Tanager Power, LLC proposes to construct and operate the Tanager Battery Energy Storage System (BESS) Project (Project) at the former laydown and construction parking area for the LECEF. The Project consists of the installation of a nominal 200-megawatt/1600 megawatt hour lithium-ion BESS, interconnection, and communication system. The Project will provide grid support and reliability services to the Bay Area Local Reliability Area.

This report presents the methods and results of an aquatic resource delineation conducted for a 49.8-acre aquatic resource study area (study area) (Figure 1). The study area includes areas where Project infrastructure may be located and where construction may occur, as well as a buffer around these areas to accommodate minor changes in design and execution. An overview of the Project is provided in this chapter. The environmental setting is provided in Chapter 2. Survey methods and results are provided in Chapters 3 and 4, respectively. References are provided in Chapter 5.

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1.1 Project Location

Location information for the study area is shown in Table 1.

Table 1. Location Information

Main Waterbodies	None
Tributary to and Downstream Waterbody	Coyote Creek, San Francisco Bay
Watershed HUC and Name	San Jose State University – Frontal San Francisco Bay Estuaries (180500030305)
Central Latitude and Longitude (DD)	37.4233, -121.9313
Township, Range, Section	Township 6S, Range 1W, Rancho Rincon de Los Esteros
USGS Quadrangles	Milpitas
County Assessor Parcel Numbers	015-31-070, 015-31-071, 015-31-72

Table 1. Location Information

Street Address	Los Esteros Energy Center 800 Thomas Foon Chew Way, San Jose, CA 95134
Directions	From the USACE San Francisco District office, take US 101 southbound for approximately 43 miles. Merge on to CA-237 eastbound for 5.5 miles. Exit at Zanker Road and head north to Thomas Foon Chew Way. Please contact Los Esteros Critical Energy Facility control office for access.

HUC = Hydrologic Unit Code
USACE = U.S. Army Corps of Engineers
USGS = U.S. Geological Survey

1.2 Project Overview

The Project proposes the installation of a nominal 200-MW/1600 megawatt hour lithium-ion BESS on an approximately 12.8-acre area located immediately south of the existing LECEF. The Project will be located on the same parcel as the LECEF. A gen-tie interconnection will tie the BESS into the existing Los Esteros Substation, which is owned and operated by the Pacific Gas and Electric Company (PG&E) and located north of the LECEF. In addition, a communication system would be installed within the 12.8-acre area. The Project will provide grid support and reliability services to the Bay Area Local Reliability Area. Existing paved roadways from Zanker Road will provide access to the approximately 12.8-acre BESS footprint, which is currently vegetated by European annual grasses and ornamental woody plants around the LECEF perimeter.

2. Environmental Setting

2.1 Regional Setting

The study area is within the Bay Flats subsection of the Central California Coast (261Ab) Section on the margin of the southern San Francisco Bay. The area is characterized by quaternary bay fill within 10 feet of the mean tide level. The area was primarily flat, low elevation delta and estuarine habitats, often inundated during high tides before the construction of artificial barriers and deposition of fill material (Miles and Goudey 1997).

2.2 Study Area Setting

The following sections describe the topography, climate, hydrology, soils, and habitat types associated with the study area.

2.2.1 Topography

The study area as a whole is mostly flat with a gentle, natural gradient sloping downward from southwest to northeast. Elevations in the study area are between 10 and 20 feet above sea level.

2.2.2 Climate

Climate within the study area has low variability due to heavy maritime influence. Average annual temperatures range from 54 to 60 degrees Fahrenheit (Miles and Goudey 1997). Annual precipitation averages vary from 15 to 25 inches, primarily falling in the winter months.

2.2.3 Hydrology

The study area is located within the San Jose State University-Frontal San Francisco Bay Estuaries sub watershed (Hydrologic Unit Code [HUC] 180500030305) within the overall Coyote Subbasin watershed (USGS 2024a). Nearby surface water features include Coyote Creek, Guadalupe River, Saratoga/San Thomas Aquino Creek, and the San Francisco Bay. Construction of levees, bay fill, and channel modification is prevalent and has significantly changed hydrologic processes in the region since western colonization.

Field work for the aquatic resource delineation was conducted on July 3, 2024. USACE's Antecedent Precipitation Tool (2024) was used to define precipitation conditions over the time preceding the survey. The wetness condition in the months preceding the July 2024 surveys was "normal." The complete results of the Antecedent Precipitation Tool query is provided in Appendix A.

2.2.4 Soils

Soils in the study area have been mapped by the Natural Resources Conservation Service (NRCS) and are described in the Soil Survey of Santa Clara Area Western Part (ca641), California (NRCS 2024a). Soil series mapped within the study area are summarized in Table 3 and shown on Figure 2.

Table 2. Soil Series Mapped Within the Study Area

Type/ Series	Texture	Landscape Position and Parent Material	Drainage and Permeability	NRCS Hydric Rating
Campbell	Silt loam	On floodplains and alluvial fans derived from alluvium of mixed parent material	Moderately well drained	Yes
Elder	Fine sandy loam	Derived from alluvium of mixed parent material	Well drained	No

Sources: NRCS 2024a, 2024b

2.2.5 National Wetlands Inventory

Figure 3 shows aquatic resources in the study area identified by the National Wetlands Inventory (NWI) (USFWS 2024) and the National Hydrography Dataset (USGS 2024a). The NWI identifies wetlands south of CA-237 in the Coyote Creek riparian corridor mapped as Palustrine, emergent, persistent, seasonally flooded, excavated (PEM1Cx). These intersect the southern boundary of the study area with approximately 700 square feet (0.016 acre) located within the study area boundary. As CA-237 forms a barrier between the Project footprint and these features, field data were not collected at this location. Outside of the study area, these wetlands surround the margin palustrine, permanently flooded, excavated ponds (PUBHx) within the Coyote Creek Flood Plain and riparian zone. The Coyote Creek Channel is adjacent to the east and is mapped as Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded, Excavated (R2UBHx). There are no mapped aquatic features in the study area.

2.2.6 Land Cover/Vegetation Communities

Vegetation in the study area has historically been associated with periodic inundation and tidal influence. Intertidal zones are often dominated by pickleweed (*Salicornia sp.*) and upland margins of tidal marshes dominated by salt grass (*Distichilis spicata*). Inland, emergent wetlands were historically prevalent (Miles and Goudey 1997). Agricultural development replaced many of the natural vegetation types in the area, and more recently residential and technology facility development has taken place enabled by the fill of historic tidal and emergent wetlands in the previous century. The majority of the study area is developed, non-native horticultural plantings, and European annual grassland, defined by native and non-native annual forb/grass vegetation growing within the California Mediterranean climate (Sikes et al. 2023). There are no mapped aquatic and riparian vegetation communities within the study area.

2.2.6.1 Terrestrial Communities

California Annual and Perennial Grasslands Macrogroup

The key for vegetation types in the Santa Clara and Santa Cruz Counties Fine Scale Vegetation Map (Sikes et al. 2023) defines the California Annual and Perennial Grasslands Macrogroup as follows:

"Native and non-native annual forb/grass vegetation AND native perennial grasslands growing within the California Mediterranean climate. Stands are generally found in relatively drier sites than those in the Vancouverian Macrogroups, which is more common near the coast. Includes vegetation characterized by,

but not limited to *Amsinckia, Avena, Brassica, Bromus, Centaurea, Cynosurus, Elymus glaucus, Eschscholzia, Lasthenia californica, Lolium, Lupinus, Melica, Nassella, Plagiobothrys nothofulvus, Plantago erecta, Pteridium aquilinum and Vulpia microstachys.*"

Onsite grassland habitats were observed to be dominated by European annual grasses indicating that locally, vegetation fits within the Californian Ruderal Grassland, Meadow & Scrub Group within the Macrogroup. Dominant genera onsite in this habitat type included *Avena, Bromus, Hordeum,* and *Festuca*.

Non-native Forest

Non-native forests are defined as woodland and forest vegetation that is dominated by non-native, ornamental or land scaping trees (Sikes et al. 2023). Onsite native and non-native ornamental tree and shrub plantings were observed to be restricted to the outside perimeter of the existing power generation facility. These included *Acacia longifolia, Arctostaphylos sp., Casuarina equisetifolia*, *Cotoneaster hodjingensis, C. lacteus, Fraxinus excelcior, Heteromeles arbutifolia, Leptospermum laevigatum, Melaleuca quinquenervia, M. viminalis, Pinus canariensis, Prunus sp., Quercus agrifolia,* and *Vitis vinifera.*

Coast Live Oak Woodland Alliance

The key to vegetation types for the Santa Clara and Santa Cruz counties fine-scale vegetation map defines Coast Live Oak Woodland Alliance as *Quercus agrifolia* being dominant or co-dominant with *Arbutus menziesii* in the canopy in an upland setting. The understory is often an herbaceous layer of mixed native and non-native herbs, grasses, and shrubs (Sikes et al. 2023). This vegetation type is restricted to a small area in the southwest corner of the study area south of State Route 237.

3. Methods

A routine aquatic resources delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008).

3.1 Desktop Review

Resources relevant to site conditions and aquatic resources were collected and reviewed as part of the delineation. The following materials were included in this data review:

- NRCS soil maps and descriptions (NRCS 2024a)
- National Hydrography Dataset maps (USGS 2024a)
- NWI maps (USFWS 2024)
- USGS topographic maps from multiple years (USGS 2024b)

3.2 Field Data Collection

The field data collection was conducted July 3, 2024, by Jacobs biologists Sam Young and Greg Davis. Locations with evidence of surficial wetland hydrology and hydrophytic vegetation observed during an April 17, 2024, reconnaissance-level biological survey were focused on. Representative points in apparently upland areas of the BESS area were taken for comparison to data points collected in potential wetland features. At sample points, vegetation species within a 1-meter radius of the sample point were identified by stratum. Wetland indicator statuses for plants were taken from the *National Wetland Plant List, Version 3.5* (USACE 2020). The soil profile was examined to a depth of approximately 12 inches. Soils were characterized by evaluating texture and color within each distinct layer of the profile. Soil color was described using a Munsell Soil Color Chart (Munsell 2009). The vicinity of each sampling location was examined for evidence of wetland hydrology.

The locations of sample points and representative boundaries of aquatic resources were mapped in ArcGIS Field Maps using an Android device paired with a Juniper Geode GNSS receiver that provided 30-centimeter horizontal accuracy or better.

3.3 Desktop Analysis

Field data were imported into ESRI ArcGIS software for developing aquatic resource maps. High-resolution aerial photographs and topographic data were used to refine the boundaries of aquatic resources in conjunction with the field-collected data.

3.4 Limitations to Survey Accuracy

The survey was conducted during the dry season when some plant species may not have been observable.

4. Results

This chapter presents the results of the aquatic resource delineation. Figure 4 shows the aquatic resource delineated in the study area, and Table 3 lists the aquatic resource. Delineation data forms are provided in Appendix B. Representative photographs are provided in Appendix C. Data forms are included in Appendix B.

Table 3. Aquatic Resources in the Study Area

Aquatic Resource ID	Cowardin Code[a]	Latitude	Longitude	Area (Acres)	Length (Linear Feet)
Wetlands					
W-1	PEM1C	37.423065	-121.934827	0.239	168
Other Waters					
Ditch					
D-1	R2UB	37.424023	-121.931648	0.086	850
D-2	R2UB	37.425198	-121.930837	0.039	553
D-3	R2UB	37.426320	-121.931954	0.014	125
Total Ditches				**0.139**	**1528**

[a] Cowardin et al. 1979

4.1 Wetlands

4.1.1 Wetland (W)

A single wetland feature was identified along the access route to the Project area immediately north of the Thomas Foon Chew Way pavement (Figure 4). This feature is a seasonal depression dominated by spikerush (*Eleocharis macrostachya*) and is a total of 0.239 acre in size from the road shoulder to approximately 168 feet north of the roadway which will be used for access to the Project footprint. The Cowardin classification assigned to this feature is Palustrine Emergent, persistent, seasonally flooded (PEM1C) (Cowardin et al. 1979).

4.2 Other Waters

4.2.1 Ditch (D)

Three ditches, D-1 through D-3, were delineated within the existing LECEF (Figure 4). These function to capture and divert storm water to LECEF facilities and do not discharge to any of the surrounding waterways. A total of 0.139 acre of other waters were delineated in these canals (Table 4). The Cowardin classification assigned to these waters is Riverine, Lower Perennial, Unconsolidated Bottom (R2UB) (Cowardin et al. 1979).

4.3 Other Areas Investigated

Other areas investigated that were determined not to be aquatic resources included the following:

- Sample Points SP-1A and SP-2A were established in a graveled depression identified as a potential aquatic feature during an April 17 reconnaissance-level survey where surface water was observed. This feature had hydrophytic vegetation and indicators of wetland hydrology but lacked hydric soils. Facultative species may indicate seasonal saturation, though many of these species also are prevalent in compacted soils where lack of pore space restricts available oxygen in the rooting environment. The feature likely retains water following precipitation events due to lack of drainage and due to soil compaction and artificial topographic barriers created by graveled access roads.
- Sample Point SP-3A was established at a low point of topography within the Project footprint to identify reference conditions. This was at the toe slope of a berm which retained some green grass compared to other portions the project footprint which annual grasses were already brown in senescence. This point lacked hydrophytic vegetation, indicators of wetland hydrology, and indicators of hydric soils.
- Sample Point SP-4A was established in an area dominated by rabbit's-foot grass (*Polypogon monspeliensis;* FACW) due to the indicator status of that species. This was at a low point near the base of a berm next to a storm drain which diverts water into the ditches inside the LECEF facility to capture stormwater for onsite use. No evidence of wetland hydrology or hydric soils was observed.

5. References

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31. Washington, D.C.

Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y 87-1. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Mississippi.

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

Munsell Soil-Color Charts (Munsell). 2009. Munsell Soil Color Charts. Year 2009 Revised Edition. Grand Rapids, Michigan.

Natural Resources Conservation Service (NRCS). 2024a. Web Soil Survey 2.0 National Cooperative Soil Survey. Accessed July 2, 2024. http://websoilsurvey.nrcs.usda.gov/app/.

Natural Resources Conservation Service (NRCS). 2024b. State Soil Data Access (SDA) Hydric Soils List. Accessed July 2, 2024. https://www.nrcs.usda.gov/publications/query-by-state.html.

Sikes, K., J. Buck-Diaz, S. Vu, & J.M. Evens. 2023. Vegetation classification of alliances and associations in Santa Cruz and Santa Clara Counties, California. Report to the Santa Cruz Mountains Stewardship Network. California Native Plant Society, Vegetation Program, Sacramento, CA.

U.S. Army Corps of Engineers (USACE). 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. Vicksburg, MS: U.S. Army Engineer Research and Development Center ERDC/EL TR-08-28.

U.S. Army Corps of Engineers (USACE). 2020. *National Wetland Plant List, Version 3.5.* U.S. Army Corps of Engineers Engineer Research and Development Center Cold Regions Research and Engineering Laboratory, Hanover, NH. http://wetland-plants.usace.army.mil/.

U.S. Army Corps of Engineers (USACE). 2024. The Antecedent Precipitation Tool. Version 2.0. https://github.com/erdc/Antecedent-Precipitation-Tool.

U.S. Fish and Wildlife Service (USFWS). 2024. National Wetlands Inventory Map. Accessed February 14, 2024. http://www.fws.gov/wetlands/Data/Mapper.html.

U.S. Geological Survey (USGS). 2024a. National Hydrography Dataset. Accessed February 14, 2024. https://www.usgs.gov/core-science-systems/ngp/national-hydrography.

U.S. Geological Survey (USGS). 2024b. Topoview. United States Department of the Interior. Accessed February 14, 2024. https://ngmdb.usgs.gov/topoview/viewer/#4/40.01/-100.06.

Figures

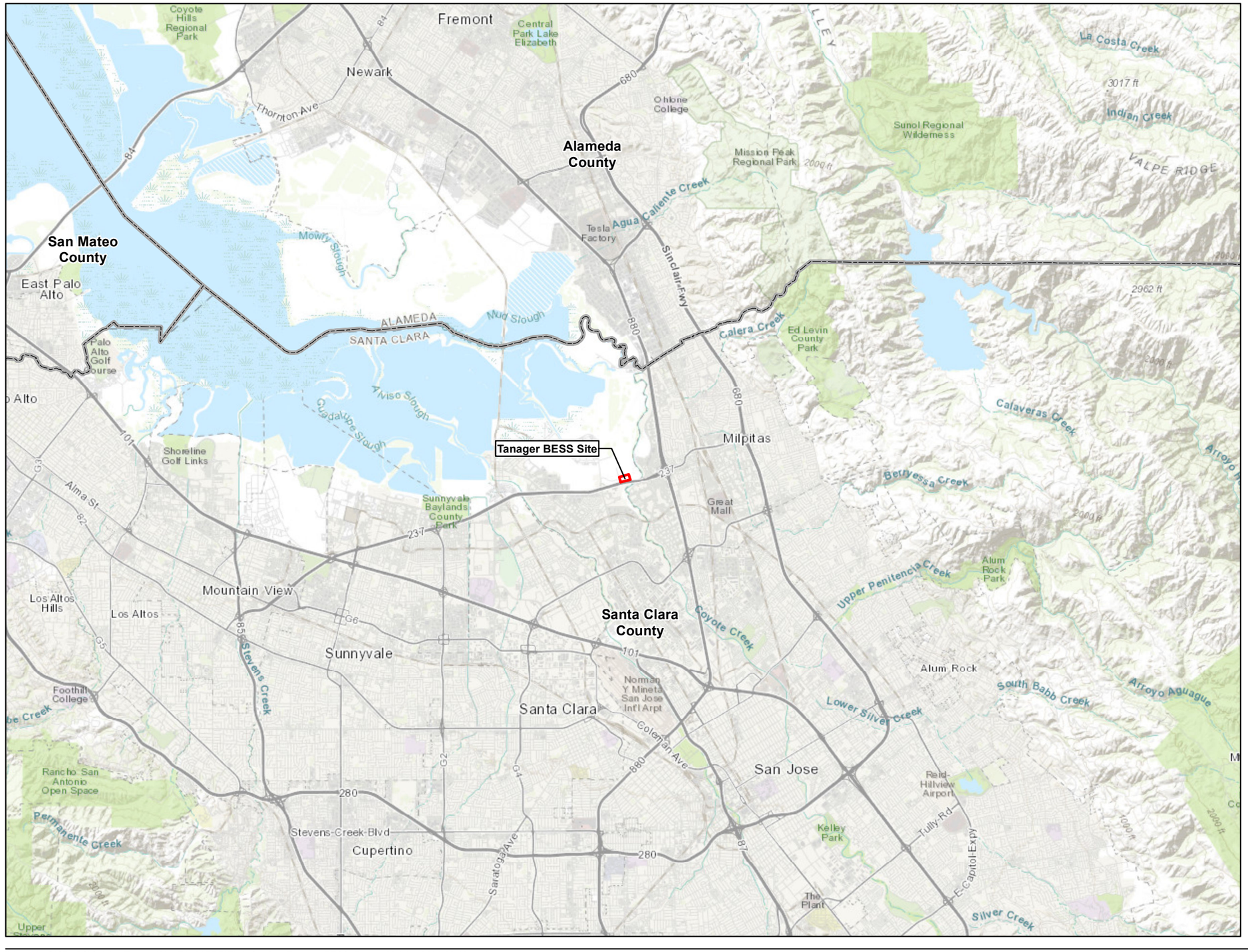

Figure 1
Project Vicinity
Calpine Tanager
Aquatic Resources Delineation Report
San Jose, California

Jacobs

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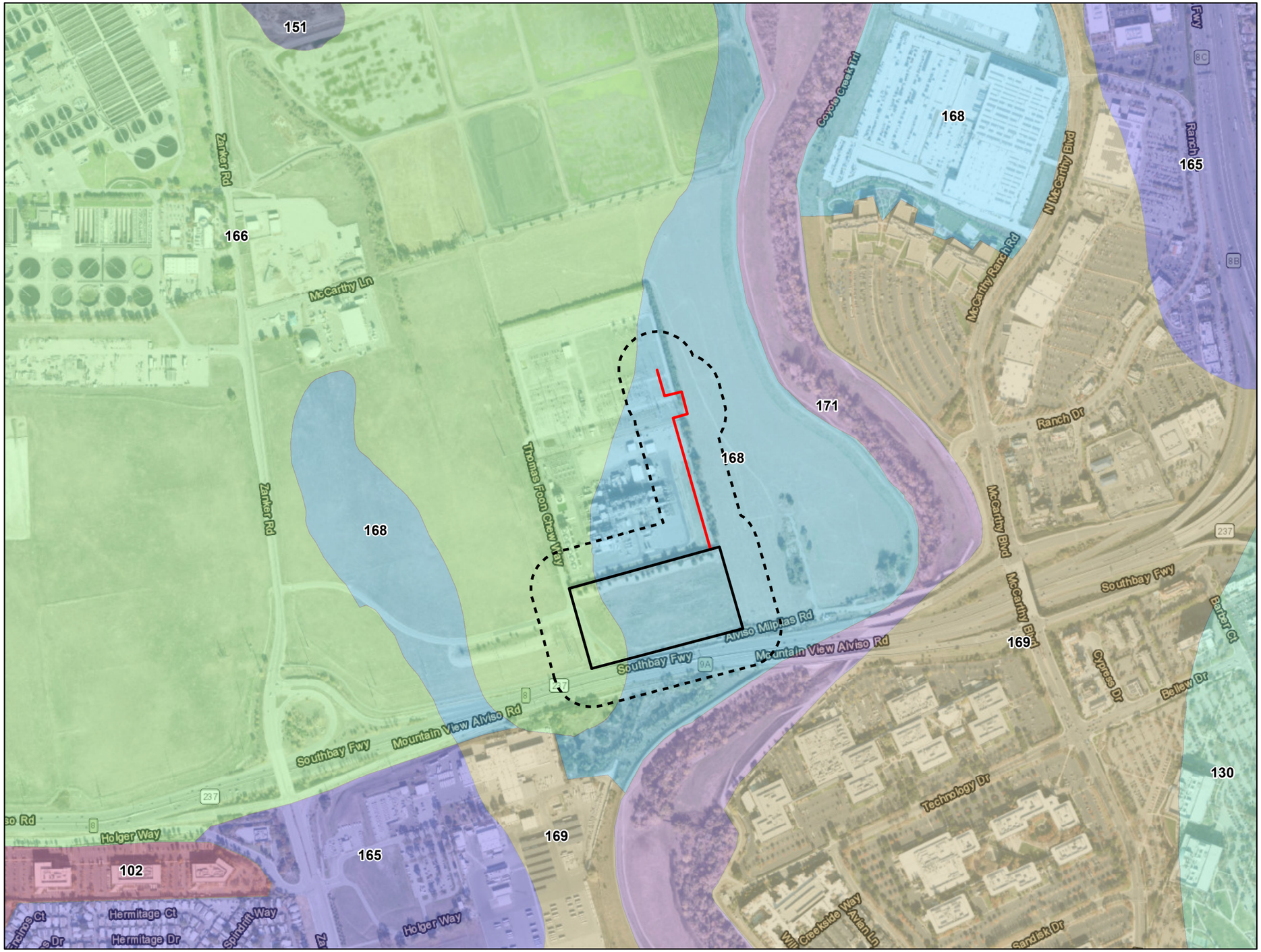


Legend

- Tanager BESS Site Area
- Eastern Gen-Tie Option
- Biological Study Area (250 ft Buffer)

USDA NRCS Soils

- 102 - Urban land, 0 to 2 percent slopes, alluvial fans
- 130 - Urban land-Still complex, 0 to 2 percent slopes
- 151 - Embarcadero silty clay loam, drained, 0 to 2 percent slopes
- 165 - Urbanland-Campbell complex, 0 to 2 percent slopes, protected
- 166 - Campbell silt loam, 0 to 2 percent slopes, protected
- 168 - Elder fine sandy loam, protected, 0 to 2 percent slopes
- 169 - Urbanland-Elder complex, 0 to 2 percent slopes, protected
- 171 - Elder fine sandy loam, 0 to 2 percent slopes, rarely flooded

N

0 250 500 1,000
Feet

Figure 2
Soils
Calpine Tanager
Aquatic Resources Delineation Report
San Jose, California

Jacobs

\\dc1vs01\GISProj\C\Calpine\Tanager\MapFiles\ARDR\Fig2_Calpine_Tanager_BESS_Soils_2024-08-12.mxd

Legend

- Tanager BESS Site Area
- Eastern Gen-Tie Option
- Biological Study Area (250 ft Buffer)
- USGS NHD Flowline

USGS Waterbody

- Lake/Pond
- Reservoir

USFWS NWI

- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

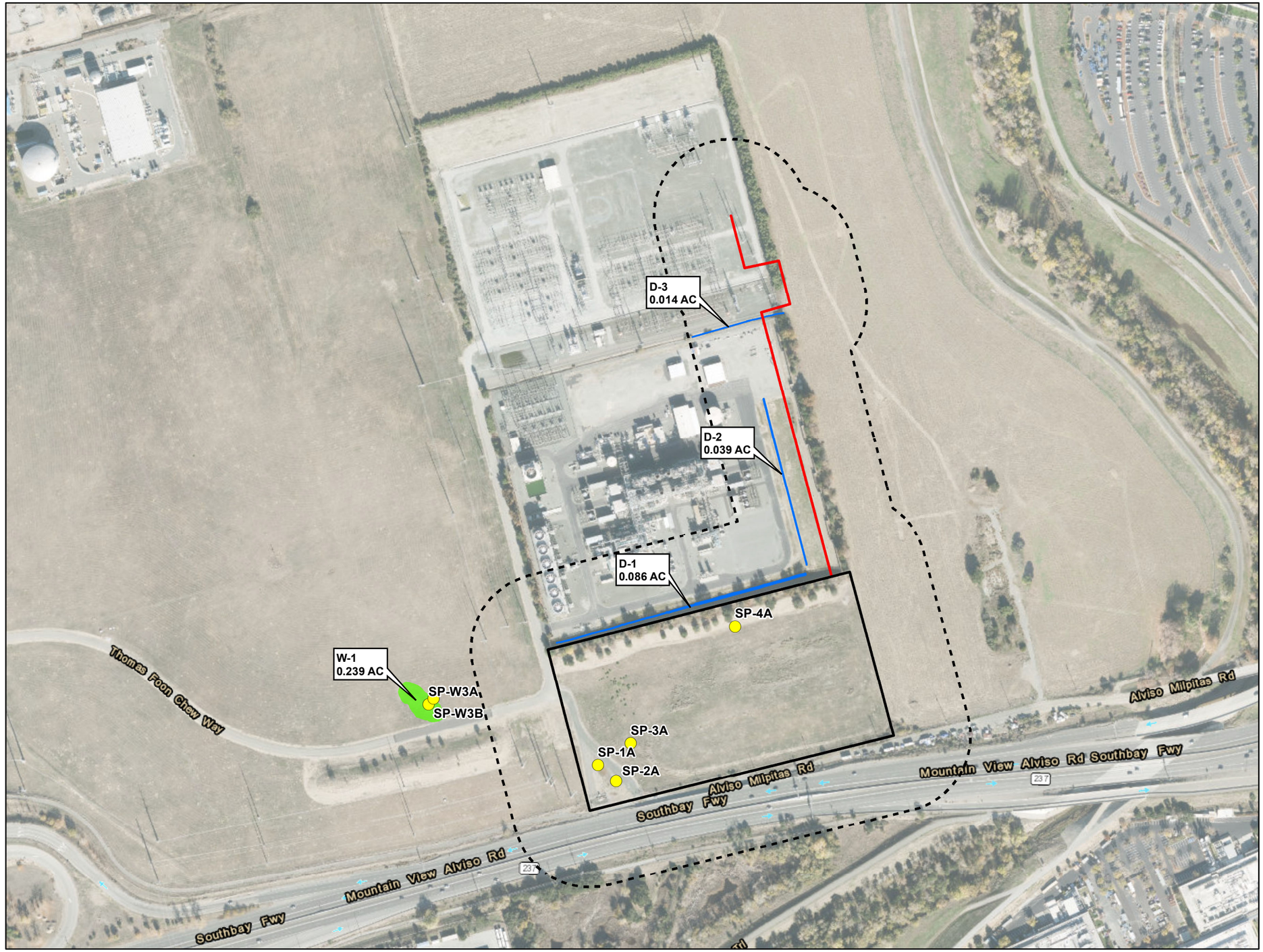
N

0 250 500 1,000
Feet

Figure 3
National Hydrography Dataset and National Wetlands Inventory
Calpine Tanager
Aquatic Resources Delineation Report
San Jose, California

Jacobs

\\dc1vs01\GISProj\C\Calpine\Tanager\MapFiles\ARDR\Fig3_Calpine_Tanager_BESS_NHD_NWI_2024-08-12.mxd



Legend

- Tanager BESS Site Area
- Eastern Gen-Tie Option
- Biological Study Area (250 ft Buffer)

Aquatic Resources

- Other Waters (0.913 AC)
- Wetland (0.239 AC)

AC= Acres

N

0 100 200 400
Feet

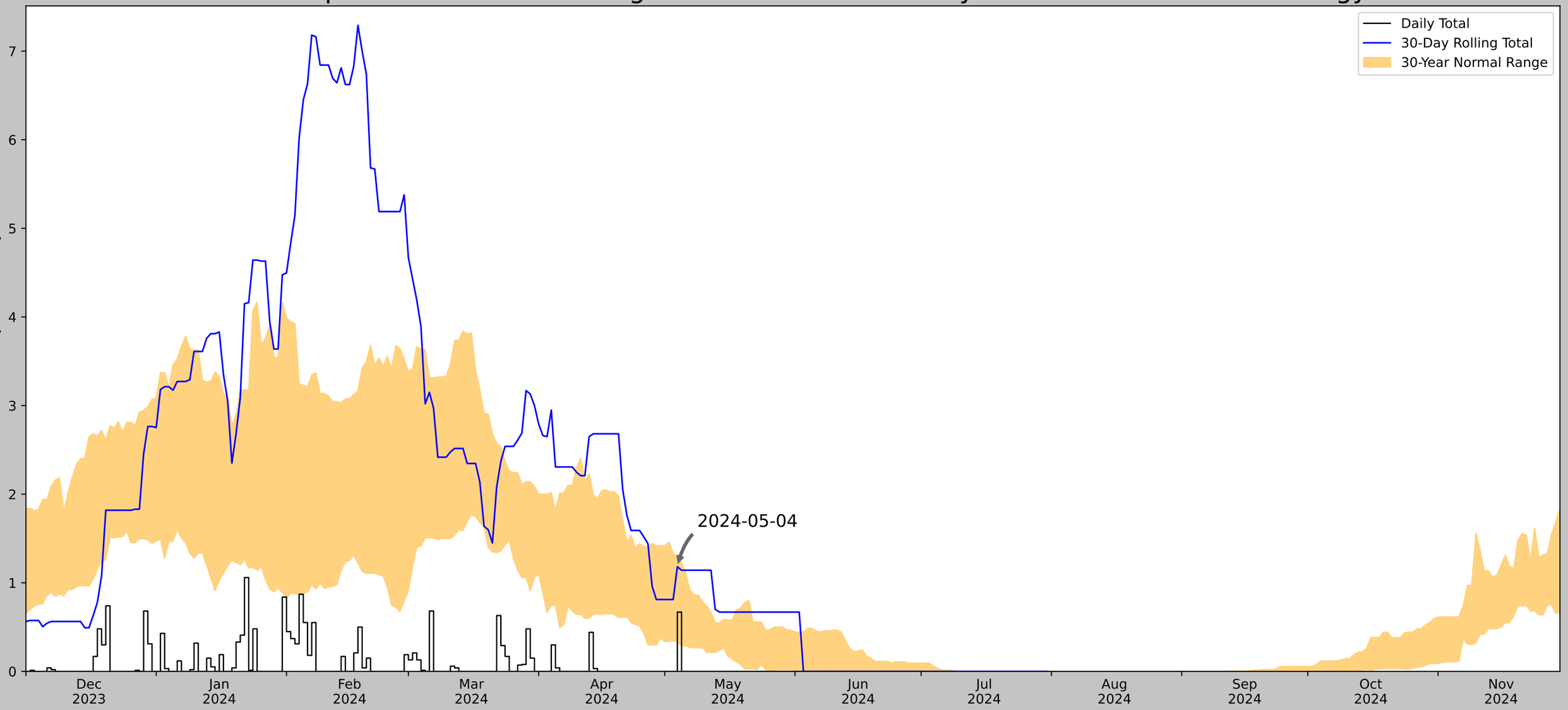
Figure 4
Aquatic Resources Delineation Map
Calpine Tanager
Aquatic Resources Delineation Report
San Jose, California

Jacobs

\\dc1vs01\GISProj\C\Calpine\Tanager\MapFiles\ARDR\Fig4_Calpine_Tanager_BESS_ARDR_2024-08-15.mxd

Appendix A
Antecedent Precipitation Tool Results

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	37.425463, -121.932998
Observation Date	2024-07-03
Elevation (ft)	16.293
Drought Index (PDSI)	Moderate wetness (2024-06)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-07-03	0.0	0.092913	0.0	Normal	2	3	6
2024-06-03	0.008268	0.444488	0.0	Dry	1	2	2
2024-05-04	0.331102	1.281496	1.181102	Normal	2	1	2
Result							Normal Conditions - 10

US Army Corps of Engineers

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

ERDC

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
SAN JOSE	37.3594, -121.9244	48.885	4.589	32.592	2.215	9217	90
SAN JOSE 3.7 NW	37.3456, -121.8935	76.115	1.947	27.23	0.929	1	0
MOFFETT FED AIRFIELD	37.4058, -122.0481	39.042	7.51	9.843	3.453	670	0
NEWARK	37.5147, -122.0325	9.843	12.26	39.042	5.996	1464	0

Appendix B
Delineation Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Calpine Tanager BESS Project City/County: San Jose, Santa Clara Sampling Date: 7/3/2024

Applicant/Owner: Calpine Corporation State: CA Sampling Point: SP-1A

Investigator(s): G.Davis, S.Young Section, Township, Range: Land Grants, Civil Colonies, Rincon de los Esteros-Berreyesa

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR): C Lat: 37.422548 Long: -121.932836 Datum: WGS84

Soil Map Unit Name: 166 - Campbell silt loam, 0-2% slopes, protected NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Sampling location is situated in a compacted basin adjacent to a gravel access road. Area ponds temporarily during the wet season but lacks hydric soils.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: -)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: -)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1 x 1 m)			
1. Juncus bufonius	25	Y	FACW
2. Polypogon monspeliensis	10	Y	FACW
3. Dittrichia graveolens	5	N	NI
4. Pseudognaphalium luteoalbum	3	N	FAC
5. Polygonum aviculare	3	N	FAC
6. Lythrum hyssopifolia	2	N	OBL
7. Crypsis schoenoides	2	N	FACW
8. Tribulus terrestris	<1	N	NI
	50 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Sample location is along margin of compacted depression/basin where vegetation is present. The compacted basin itself is mostly barren with scattered individuals of Crypsis schoenoides.

SOIL

Sampling Point: SP-1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	100	-	-	-	-	CL	gravelly
6-	REFUSAL							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Gravel

Depth (inches): 6

Hydric Soil Present? Yes ____ No ✔

Remarks:

Feature contains angular road rock consistent with what is present on access road.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✔ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✔ Depth (inches): ____

Water Table Present? Yes ____ No ✔ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ✔ Depth (inches): ____

Wetland Hydrology Present? Yes ✔ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Feature was completely dry at the time of the survey, but had some standing water on April 17 during a previous survey.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Calpine Tanager BESS Project City/County: San Jose, Santa Clara Sampling Date: 7/3/2024

Applicant/Owner: Calpine Corporation State: CA Sampling Point: SP-2A

Investigator(s): G.Davis, S.Young Section, Township, Range: Land Grants, Civil Colonies, Rincon de los Esteros-Berreyesa

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR): C Lat: 37.422406 Long: -121.932632 Datum: WGS84

Soil Map Unit Name: 166 - Campbell silt loam, 0-2% slopes, protected NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Sampling location is situated in a compacted basin adjacent to a gravel access road. Area ponds temporarily during the wet season but lacks hydric soils/hydrophytic vegetation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: -)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: -)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1 x 1 m)			
1. Dittrichia graveolens	25	Y	NI
2. Polypogon monspeliensis	5	N	FACW
3. Polygonum aviculare	<1	N	FAC
4. Festuca perennis	<1	N	FAC
5.			
6.			
7.			
8.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Sample location is within compacted depression/basin.

SOIL

Sampling Point: SP-2A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1	100	-	-	-	-	L	very gravelly
4-	REFUSAL							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Gravel

Depth (inches): 4

Hydric Soil Present? Yes _____ No ✔

Remarks:

Feature contains angular road rock consistent with what is present on access road.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Feature was completely dry at the time of the survey. This portion of the feature is less deep of a depression compared to SP-1A.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Calpine Tanager BESS Project City/County: San Jose, Santa Clara Sampling Date: 7/3/2024

Applicant/Owner: Calpine Corporation State: CA Sampling Point: SP-3A

Investigator(s): G.Davis, S.Young Section, Township, Range: Land Grants, Civil Colonies, Rincon de los Esteros-Berreyesa

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR): C Lat: 37.422747 Long: -121.932471 Datum: WGS84

Soil Map Unit Name: 166 - Campbell silt loam, 0-2% slopes, protected NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Swale like feature/low point in field that is situated at the toe of a fill slope.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: -)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: -)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1 x 1 m)			
1. Hordeum marinum	75	Y	FAC
2. Bromus hordeaceus	20	Y	FACU
3. Festuca perennis	5	N	FAC
4. Avena barbata	<1	N	NI
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	100 (A)		320 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: SP-3A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	100	-	-	-	-	SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

no hydric soils were detected at sampling location

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

no wetland hydrology indicators were detected at sampling location.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Calpine Tanager BESS Project City/County: San Jose, Santa Clara Sampling Date: 7/3/2024

Applicant/Owner: Calpine Corporation State: CA Sampling Point: SP-4A

Investigator(s): G.Davis, S.Young Section, Township, Range: Land Grants, Civil Colonies, Rincon de los Esteros-Berreyesa

Landform (hillslope, terrace, etc.): Toe of slope/ditch Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR): C Lat: 37.423808 Long: -121.931322 Datum: WGS84

Soil Map Unit Name: 168 - Elder fine sandy loam, protected, 0-2% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Sampling location is situated at the toe of a fill slope that functions as a ditch/drain for surface runoff within the field. Multiple culvert inlets are present at the toe of the fill slope that convey water into a series of ditches that continue within the substation to the north.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: -)			
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: -)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1 x 1 m)			
1. Polypogon monspeliensis	65	Y	FACW
2. Festuca myorus	10	N	FACU
3. Dittrichia graveolens	10	N	NI
4.			
5.			
6.			
7.			
8.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-4A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	100	-	-	-	-	SiCL	
8-	REFUSAL							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: clay/rock

Depth (inches): 8

Hydric Soil Present? Yes _____ No ✔

Remarks:

no hydric soils were detected at sampling location

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

only one secondary wetland hydrology indicator was detected at this sampling location.

Appendix C
Representative Photographs

Photo 1. BESS project area as viewed from the northeast corner looking southwest. Photo taken on July 3, 2024.

Photo 2. Graveled depression where sample points SP-1A and SP-2A were located. Photo taken looking south on July 3, 2024.

Photo 3. Sample Point SP-3A viewed looking south. Photo taken on July 3, 2024.

Photo 4. Sample point SP-4A viewed looking west. Photo taken on July 3, 2024.

Photo 5. Ditch D-1 as viewed looking west from its eastern end. Drain leads to storm water capture system in the Los Esteros Critical Energy Facility. Photo taken on July 3, 2024.

Photo 6. Ditch D-2 as viewed from the northern end looking south. Drains to storm water capture system in the Los Esteros Critical Energy Facility. Photo taken on July 3, 2024.

Photo 7. Ditch D-3 as viewed from the gen-tie alignment looking east. Drains to storm water capture system in the Los Esteros Critical Energy Facility. Photo taken on July 3, 2024.

Photo 8. Gen-tie alignment as viewed from ditch D-3 looking north. Photo taken on July 3, 2024.

Photo 9. Sample point W3A at wetland W-1 adjacent to the north of Thomas Foon Chew Way as viewed looking west. Photo taken on July 3, 2024.

APPENDIX E:

CULTURAL RESOURCES ASSESSMENT

(Full report containing confidential information submitted separately under an application for confidential designation.)

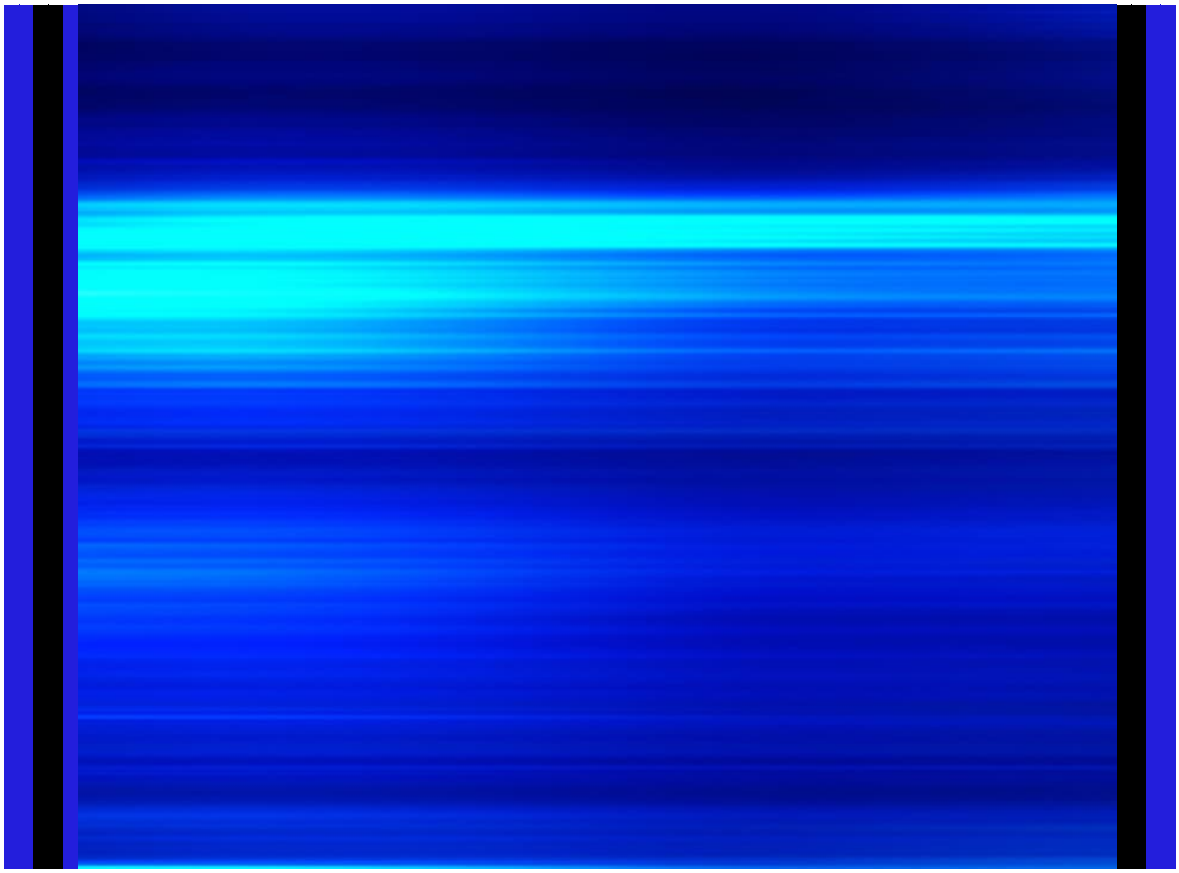
Cultural Resources Assessment

Version: Draft Rev 3

Calpine Corporation

Tanager BESS Project
San Jose, California

December 2024



Cultural Resources Assessment

Client Name: Calpine Corporation

Project Name: Tanager BESS Project
San Jose, California

Version: Draft Rev 3

Project Manager: Joe Aguirre

Date: December 2024

Prepared By: Gloriella Cardenas, M.A., RPA

Document History and Status

Version	Date	Description	Author	Checked	Reviewed	Approved
DraftRev0	6/9/24	Admin Draft	G. Cardenas	N. Lawson	S. Madams	J. Aguirre
DraftRev1	8/15/24	Admin Draft	N. Lawson	N. Lawson	M. Bowen	J. Aguirre
DraftRev2	8/27/24	Admin Draft	J. Aguirre	N/A	N/A	J. Aguirre
DraftRev3	12/17/24	Admin Draft	J. Aguirre	M. Steinkamp	N. Lawson	J. Aguirre

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Cultural Resources Assessment
Tanager BESS Project
Santa Clara County, California

Prepared by: Gloriella Cardenas, M.A., RPA
Jacobs Engineering Group Inc.
2600 Michelson Dr., Suite 500
Irvine, CA 92612

Date: December 2024

Type of Study:	Literature Search and Cultural Resources Assessment
Field Dates:	May 22, 2024
Sites Present:	None
Isolates Present:	None
USGS Quadrangles:	Milpitas, California
Approximate Acreage:	21
Level of Investigation:	CEQA
Key Words:	San Jose, Santa Clara County, California, CEQA, Negative Survey

Contents

Appendices

Tables

Acronyms and Abbreviations

°F	degrees Fahrenheit
AB 52	California Assembly Bill 52
APN	Assessor's Parcel Number
ARMR	Archaeological Resource Management Report
BCE	before common era
BESS	Battery Energy Storage System
BLM	Bureau of Land Management
cal BP	calibrated before present
CE	common era
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
gen-tie	generation tie-line
GLO	General Land Office
LECEF	Los Esteros Critical Energy Facility
MLD	most likely descendant
MLT	middle/late transition
MW	megawatt
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
OHP	Office of Historic Preservation
PG&E	Pacific Gas and Electric Company
PRC	Public Resources Code
RPA	Register of Professional Archaeologists

USGS	U.S. Geological Survey

1. Summary/Abstract

Jacobs completed a cultural resources assessment in support of the Tanager Battery Energy Storage System (BESS) Project (Project) proposed by Tanager Power, LLC. Tanager Power, LLC proposes to construct and operate the Project at the former laydown and construction parking area for the Los Esteros Critical Energy Facility (LECEF).

The Project consists of the installation of a nominal 200-megawatt (MW) lithium-ion BESS, an interconnection generation tie-line (gen-tie), and a communication system. The Project will provide grid support and reliability services to the Bay Area Local Reliability Area. The Project occupies approximately 16.2 acres immediately south of the LECEF at 800 Thomas Foon Chew Way, San Jose, Santa Clara County, California.

This cultural resources technical report covers the cultural resources assessment necessary to file a Petition to Amend with the California Energy Commission (CEC). The cultural resources inventory was conducted in compliance with Section 5024.1 of the California Public Resources Code (PRC) to identify archaeological, historical, or tribal resources in the Project Area. Cultural resources and tribal cultural resources together comprise objects, buildings, structures, sites, features, areas, places, records, sacred places, cultural landscapes, or manuscripts, all of which may have significance according to criteria outlined in Sections 21074 and 21084.2 of the PRC. This assessment includes a review of previous studies, historic-era maps and aerials, and geological soil surveys, as well as the results of a systematic pedestrian surface survey, and an intensive standing structures survey.

Jacobs completed a systematic pedestrian cultural resource survey and standing structures survey on May 22, 2024. No archaeological resources were encountered during the cultural resources survey. A single architectural resource identified from the archival search, the United Incorporated Property at 1515 Alviso Milpitas Road (P-43-003605), was not relocated during the survey.

A high level of ground disturbance was observed during the cultural resources survey, both from decades of agricultural activities, and from grading of the BESS Project site during construction of the LECEF for the use of laydown and construction parking. The potential to encounter significant subsurface archaeological resources within the plow zone, specifically the upper 16 to 18 inches, is low; however, the archival review indicates deeper soils within the Project have moderate potential to impact significant subsurface archaeological resources.

Cultural Conditions of Certification from the LECEF Final Decision, CUL-3 CUL-4, and CUL-6, describe the procedures required of all onsite personnel if an unanticipated cultural resources discovery occurs. CUL-3 includes specific direction for work curtailment procedures to be used by all personnel in the event of unexpected cultural resource discoveries during project construction. CUL-4 and CUL-6 provide direction to employees that the Cultural Resource Specialist or their designee have the authority to halt or redirect construction if previously unknown cultural resources are encountered during project construction-related work.

If human remains are encountered, the California State Health and Safety Code Section 7050.5 states that the County Coroner must be notified of the find immediately and no further disturbance will occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be Native American, the County Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a most likely descendant (MLD). With the permission of the landowner or their authorized representative, the MLD may inspect the site of the discovery. The MLD will complete the inspection within 48 hours of notification by the NAHC. The MLD

may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

A copy of this report will be filed with the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) located at Sonoma State University.

2. Introduction

Jacobs completed a cultural resources assessment in support of California Environmental Quality Act (CEQA) documentation for the Tanager BESS Project on behalf of Tanager Power, LLC. Tanager Power, LLC proposes to construct and operate the Tanager BESS Project at the former laydown and construction parking area for the LECEF. The cultural resources assessment was completed in compliance with Section 5024.1 of the California PRC to identify archaeological, historical, or tribal resources in the Project Area. Cultural resources and tribal cultural resources together comprise objects, buildings, structures, sites, features, areas, places, records, sacred places, cultural landscapes, or manuscripts, all of which may have significance according to criteria outlined in Sections 21074 and 21084.2 of the PRC.

The Project consists of the installation of a nominal 200-MW lithium-ion BESS, interconnection gen-tie, and a communication system. The Project will provide grid support and reliability services to the Bay Area Local Reliability Area.

The study scope was developed according to the CEC's cultural resources guidelines and complies with *Rulemaking to Amend Regulations for Small Power Plant Exemptions* (CEC 2023) and the cultural resources technical report covers the cultural resources assessment necessary to file a Petition to Amend with the CEC. The format of this report also follows the *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* prepared by the Office of Historic Preservation (OHP) (1990).

2.1 Project Location

The Project site is located at 800 Thomas Foon Chew Way (Assessor's Parcel Number [APN] 015-31-072), San Jose, Santa Clara County, California on the same parcel as the LECEF. Specifically, it is located in Sections 11 and 12 of Township 6 South, Range 1 West on the U.S. Geological Survey (USGS) Milpitas, California 7.5-minute topographic quadrangle, Mount Diablo Meridian (Appendix A, Figure 1). The Project is located within an agricultural field; however, the surrounding area is urban with freeways, industrial facilities, businesses, and residences.

2.2 Project Description

The Project proposes the installation of a nominal 200-MW lithium-ion BESS on an approximately 12.8-acre area located immediately south of the existing LECEF. The Project will be located on the same parcel as the LECEF. A gen-tie interconnection will tie the BESS into the existing Los Esteros Substation, which is owned and operated by the Pacific Gas and Electric Company (PG&E) and located north of the LECEF. In addition, a communication system would be installed within the primary 12.8-acre BESS area. The Project will provide grid support and reliability services to the Bay Area Local Reliability Area.

The project would include:

- A nominal 200-MW lithium-ion BESS comprised of approximately 125 battery containers, which would be:
  - Approximately 25 feet high (dependent on the technology selection)
  - Placed on either concrete foundations or elevated from grade on pile foundations. Concrete foundations would require excavations of approximately 5 feet below grade. Elevating the batteries from grade on piles would require driving piles to an estimated 15 feet.

- A new 0.5-mile gen-tie from the Tanager BESS Project to the PG&E 230kV bus at the Los Esteros Substation, primarily traversing south to north along the east boundary the Los Esteros Critical Energy Facility site.
  - Excavation depths for gen-tie poles are estimated to be 60 feet
- A new and separate revenue meter for monitoring battery charging and discharging activity.
- Security and operational lighting. Lighting would be restricted to areas needed for safety and operation. To minimize stray light or glare, exterior lights would be hooded and directed onsite. Non-glare fixtures would be specified. Lighting would be activated daily by timers.

2.3 Project Construction

Project construction is slated to begin in March 2026, and will last approximately 12 months. Laydown will occur within the proposed BESS site or on paved roads. Access will be via paved roads, and no additions to the Project Area are required for access.

2.4 Project Area and Study Area

The Project Area includes the survey areas for both archaeological and architectural resources. The archaeological survey area includes the BESS site, which totals approximately 12.8 acres, as well as a 200-foot buffer around the BESS site, which totals 30.1 acres; the gen-tie corridor, which totals 3.4 acres, plus a 50-foot buffer on either side of the corridor, which totals 3.6 acres. The total acreage of ground disturbance is 16.2 acres within the overall 33.7 acres. Two potential methods have been identified for battery installation: concrete foundations or elevated on piles from grade. Proposed excavation depths for concrete foundations would be approximately 5 feet below grade. Pile driving would be to an estimated 15 feet below grade, but would not create observable soils. Excavations for the installation of the gen-tie poles are estimated to be up to 60 feet deep. The architectural survey area includes the BESS site and the gen-tie corridor, and as the Project is in an urban setting, a buffer around these locations consisting of at least one additional parcel on all sides. These parcels are: 015-31-072, the BESS site parcel; 015-31-063, 015-31-070, 015-31-071, 015-31-054, adjacent parcels, and the Highway 237, South Bay Freeway right-of-way. Maximum heights of the BESS will be approximately 25 feet.

The Study Area for the Project is the BESS site, plus a 1-mile buffer, and the gen-tie corridor, plus a 0.25-mile buffer. This assessment includes a literature search of CHRIS at the NWIC, a review of previous studies, historic-era maps and aerials, and geological soil surveys, as well as the results of a systematic pedestrian surface survey, and an intensive standing structures survey. (Appendix A, Figures 1 and 2).

2.5 Standards of Significance

Standards of significance for the proposed project were determined from adopted standards from the following sources:

- CEQA Guidelines Appendix G (2002)
- OHP (1995)

Adopted standards of significance that are applicable to cultural resources are provided in the CEQA Guidelines Appendix G (2002). Significance criteria considered for the cultural resources impact analysis are provided in this section.

Adverse effects on cultural resources can occur if the significance of the resource would be materially impaired through the following: physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's significance; or introducing visual or audible elements that are out of character with the property or that alter its setting.

2.5.1 California Environmental Quality Act

This assessment was completed pursuant to the CEQA Guidelines (California Code of Regulations [CCR] Title 14, Sections 15000–15387) and PRC Chapter 2.6, Section 21083.2 and 21084.1.

According to the CEQA Guidelines, impacts on cultural resources may be considered potentially significant if the project would result in any of the following:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.
- Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5.
- Disturb any human remains, including those interred outside of formal cemeteries.

Under CEQA, a historical resource as a cultural resource listed in, or determined to be eligible for listing in, the CRHR, included in a local register of historical resources, or deemed significant pursuant to criteria set forth in PRC Section 5024.1 pursuant to substantial evidence in light of the whole record. The fact that a resource is not listed in, or determined to be eligible for listing in, the CRHR, not included in a local register, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, does not preclude a lead agency from determining whether the resource may be a historical resource.

A cultural resource is considered to be historically significant if it meets the criteria for listing in the CRHR (PRC Section 5024.1, Title 14 CCR, Section 4852), which includes the following:

- Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States; or
- Associated with the lives of persons important to local, California, or national history; or
- Embodies the distinctive characteristics of a type, period, region, or method of construction; or represents the work of an important creative individual; or possesses high artistic values; or
- Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

Similar to the federal regulations, resources that are listed in or eligible for listing in the CRHR must also possess sufficient historic integrity to be considered significant. The evaluation of a resource's integrity includes consideration of the survival of characteristics that existed during the resource's period of significance, including retention of location, design, setting, materials, workmanship, feeling, and association.

CEQA Guidelines also provide that a significant impact on archaeological and historical resources can occur if a project may cause a substantial adverse change in the significance of a historical resource. A "substantial adverse change in the significance of a resource" may occur if there is "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the

significance of a historical resource would be materially impaired." The significance of a resource is "materially impaired" when:

- Demolition, or material alteration in an adverse manner, those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR, a local register, as defined in Section 15064.5.

2.5.1.1 Applicable Standards

Pursuant to Section 15064.5 of the CEQA Guidelines, a resource will be considered historically significant if it meets the criteria for listing on the CRHR (PRC Section 5024.1, Title 14 CCR, Section 4852), including the following:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California of the United States (Criterion 1)
- It is associated with the lives of persons important to local, California, or national history (Criterion 2)
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values (Criterion 3)
- Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation (Criterion 4)

In addition to these criteria, a resource must retain integrity to be considered historically significant. Integrity is the authenticity of the physical identity that is evidenced by the survival of characteristics that existed during the resource's period of significance. Historical resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Rehabilitation or restoration does not necessarily discount a resource from eligibility. Integrity must also be evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR, if it maintains the potential to yield significant scientific or historical information or specific data.

An adverse effect on a cultural resource is defined as follows:

- Substantial adverse change in the significance of a historical resource by physical demolition, destruction, relocation, or alteration of the resource of its immediate surroundings
- Demolishes or materially alters those physical characteristics of a historical resource that convey its significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR, or inclusion in a local register

Section 7052 of the California Health and Safety Code establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives. Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historical or archaeological interest location on public or private lands, but specifically excludes the landowner. PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands.

2.5.2 California Register of Historical Resources

As provided in California PRC Section 5020.4, the California Legislature established the CRHR in 1992. The CRHR is used as a guide by state and local agencies, private groups, and citizens to identify the state

historical resources and to include which properties are to be protected, to the extent prudent and feasible, from substantial adverse change. The CRHR, as instituted by the California PRC, automatically includes all California properties already listed in the National Register of Historic Places (NRHP). It also includes those formally determined to be eligible for listing in the NRHP (Categories 1 and 2 in the State Inventory of Historical Resources), as well as specific listings of State Historical Landmarks and State Points of Historical Interest. The CRHR may also include various other types of historical resources that meet the criteria for eligibility, including the following:

- Individual historic resources
- Resources that contribute to a historic district
- Resources identified as significant in historic resource surveys
- Resources with a significance rating of Category 3 through Category 5 in the State Inventory (Categories 3 and 4 refer to potential eligibility for the NRHP; Category 5 indicates a property with local significance)

The CRHR follows the lead of the NRHP in utilizing the 50-year threshold. A resource is usually considered for its historical significance after it reaches the age of 50 years. This threshold is not absolute, but was selected as a reasonable span of time after which a professional evaluation of historical value/importance can be made.

2.5.3 Local Policies

2.5.3.1 Santa Clara County General Plan

The County of Santa Clara's Department of Planning and Development contains a Historic Preservation Program that is responsible for the stewardship of historic resources; and the preservation of these is the focus of the program (County of Santa Clara 2024).

Santa Clara County's General Plan recognizes the importance of historic resources and outlines a general approach to their treatment, as follows:

- Inventory and evaluation;
- Prevention or minimization of adverse impacts; and
- Restoration, enhancement and commemoration.

These three basic strategies serve as the foundation for Santa Clara County's Historic Preservation Program and the work of the Historical Heritage Commission.

2.5.3.2 City of San Jose General Plan

San Jose's General Plan (City of San Jose 2024) recognizes the importance of cultural resources on lands over which it has jurisdiction and outlines goals, policies, and procedures for managing these resources. The General Plan's Environmental Resources' "Archaeology and Paleontology" section states that the City's human history provides a significant contribution to San Jose and the regions identity. The City's goals are to preserve and conserve archaeological resources. The goals outline the City's policies and actions regarding archaeology were developed with specific requirements for the protection of cultural resources and mitigation of potential impacts to such resources. The City's requirements are usually effected by placing conditions on a project during the environmental review process (City of San Jose 2024).

2.5.4 Mitigation of Adverse Impacts

Mitigation of adverse impacts is required if a proposed project will cause substantial adverse change to a historical resource (14 CCR Section 15064.5[b]). Mitigation measures must be enforceable through permit conditions, agreements, or other legal means and are proportional to the expected impacts. The measures seek to reduce impacts entirely or to a level considered not significant (14 CCR Section15126.4). As such, the examples of mitigation measures provided may not satisfy CEQA requirements in every circumstance. Mitigation measures for historical resources may include but are not limited to the following:

- Altering a proposed project to avoid damaging effects on any historical resource in a significant manner, such as by not taking a certain action or parts of an action.
- Rectifying impacts through maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation, or reconstruction of the historical resource in a manner consistent with the Secretary of Interior's Standards for the Treatment of Historic Properties.
- Documentation of the historical resource, by way of historic narrative and photographs or architectural drawings meeting California OHP recommendations prior to demolition.
- Deeding the site into a permanent conservation easement.
- Abandonment of the proposed project.

CEQA Section 15064.5(b)(3) states that a project that follows the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (*SOI Standards*) will be considered as mitigated to a level of less than a significant impact on the historical resource.

2.5.5 Assembly Bill 52

Signed into law in September 2014, California Assembly Bill 52 (AB 52) created a new class of resources—tribal cultural resources—for consideration under CEQA. Tribal cultural resources may include sites, features, places, cultural landscapes, sacred places, or objects with cultural value to a California Native American tribe that are listed or determined to be eligible for listing on the CRHR, included in a local register of historical resources, or a resource determined by the lead CEQA agency, in its discretion and supported by substantial evidence, to be significant and eligible for listing on the CRHR. AB 52 requires that the lead CEQA agency consult with California Native American tribes that have requested consultation for projects that may affect tribal cultural resources. The lead CEQA agency shall begin consultation with participating Native American tribes prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report. Under AB 52, a project that has potential to cause a substantial adverse change to a tribal cultural resource constitutes a significant effect on the environment unless mitigation reduces such effects to a less than significant level.

2.6 Project Personnel

This cultural resources assessment report was prepared by Gloriella Cardenas, M.A., RPA. Ms. Cardenas has 20 years of experience specifically in cultural resource management with investigations in support of Section 106 of the National Historic Preservation Act, National Environmental Policy Act, and CEQA. Ms. Cardenas has conducted projects involving renewable energy (solar and wind), gas and electric, utilities, private developers, and military installations in cooperation with agencies such as Bureau of Land Management (BLM), CEC, U.S. Army Corps of Engineers, U.S. Forest Service, Federal Emergency Management Agency, California OHP, Tribal Historic Preservation Office, National Aeronautics and Space Administration, U.S. Air Force, U.S. Army, and the U.S. Department of Defense.

The intensive pedestrian survey was conducted by Jacob's archaeologist Jenna Tanner, B.A. Ms. Tanner has more than 12 years of professional experience conducting archaeological investigations in California including research, fieldwork, analysis, and reporting. Her experience includes conducting and leading all phases of fieldwork, which includes archaeological monitoring, archaeological survey, faunal and human skeletal remains identification, and paleontological vertebrate and invertebrate identification. She has supported reconstruction of utility infrastructure, vegetation management, and debris cleanup following catastrophic wildfire disaster events and aided with all phases of projects.

Senior review of this assessment was completed by Mark Bowen, M.A., who is Secretary of the Interior qualified in Architectural History, and Natalie Lawson, M.A., RPA, who is Secretary of the Interior qualified in Archaeology.

Additional background information on cultural resources staff is included in Appendix C of this report.

3. Setting

3.1 Natural Setting

The diverse geographic region of the southern San Francisco Bay Area can be divided into various natural settings with unique environmental flora and fauna. Within what is now northern Santa Clara Valley, three distinct environmental zones are noted. Generally, these three zones include the marshlands, the grassland prairie, and the oak woodland savanna (Ballard and Reese 2013). Traversing these zones, riparian corridors with their unique havens for flora and fauna flow from the Santa Cruz Mountains toward the northeast and northward into the tidal marshes and then the bay. Each of these zones provided a rich and varied array of resources for the ancestral Ohlone people.

The Project is located at an elevation of an approximate 20 feet above mean sea level in the City of San Jose (City). The City is situated within the Santa Clara Valley between the Santa Cruz and Gavilan Mountains on the west and the Diablo Range on the east. The Santa Clara Valley is a structural valley created by the uplifting of the mountains (NPS 2007; SFEI 2010). The climate in the Study Area is defined by warm, dry summers with average highs of 85 degrees Fahrenheit (°F) and mild winters with average temperatures in the high 40s°F. Rainfall averages 14 inches annually (U.S. Climate Data 2024). Precipitation usually occurs in the form of winter rain.

3.1.1 Geology and Soils

The sediments in the Project Area primarily originate from both marine and nonmarine deposits dating to the Holocene and Pleistocene geological periods. The general description of these sediments consists of alluvium, lake, playa, and terrace deposits that are unconsolidated and semi-consolidated (California Department of Conservation 2015).

Within the Project Area, soils are described as Elder fine sandy loam, which is found in areas with a 0 to 2% slope. The parent material for Elder fine sandy loam sediments is the alluvium originating from metamorphic and sedimentary rocks or from metavolcanics. The Elder series consists of deep well-drained soils formed in the alluvial material derived from the above-described mixed rock sources. These soils are Holocene alluvium sediments with the potential for supporting buried archaeological deposits. (USDA-NRCS 2024)

3.1.2 Flora and Fauna

The flora and fauna in California today does not reflect either precontact or early historic-era flora and fauna. As a result of land and resource exploitation by early non-native settlers, the California landscape was altered, both inadvertently by early ranching and herding and intentionally to accommodate marketable goods that make the most of the soil and landform (Cooper 1926). Prior to land alterations, the precontact vegetation of the Study Area would likely have consisted of wild artichokes (*Cynara scolymus*), wild oats (*Avena fatua*), California bay laurel (*Umbellularia californica*), Valley Oak (*Quercus lobata*), California buckeye (*Aesculus californica*), Big Leaf Maple (*Acer macrophyllum*), California Box Elder (*Acer negundo californium)*, western columbine (*Aquilegia Formosa*), madron (*Arbutus menziesii)*, marsh baccharis (*Baccharis douglasii)*, wood strawberry (*fragaria californica*), coffee berry (*Rhamnus californica*), and other vegetation found within marshland (Las Pilitas Nursery 2024). Precontact fauna that would have been an important resource to Native Americans would have included mule deer, rabbit, ground squirrels, vultures, gophers, tule elk, pronghorn, antelope, grizzly bear, raccoon, red tailed hawks, geese, quail, trout, steelhead, and other fish and waterfowl.

Early settlers recognized flora types and their correlation with soils that produced profitable yields in crops or livestock grazing. Cooper outlines that land was divided into hierarchies of profitability, based on whether the land could yield financial gain. Early settlers sought wheat lands over cattle lands and avoided, for the most part, chaparral lands until those lands were found to yield a financial gain (Cooper 1926). In the past, the foothills were characterized by chaparral where extensive thickets of mixed hardwood, greasewood, toyon, chemise, and coyote bush ribboned along the foothills between mountains to the west and the valley oak woodland zones to the east and northeast (Cooper 1926; Ballard and Reese 2013). These valley oak woodlands gave way to the grassland prairie zones and, eventually, the bay marshlands (Ballard and Reese 2013).

3.2 Current Land Use

The land has been used historically for agriculture since the 1870s. From 2002 through 2003, LECEF Phase 1 was constructed. In 2006, CEC approved a petition to convert the simple-cycle Phase 1 facility to the Phase 2, 320-MW combined-cycle facility. The area for the proposed BESS was graded and graveled for construction laydown and parking purposes for both Phase 1 and Phase 2 and revegetated following construction. The land is not in agricultural use currently and has been left vacant. To the north of the Project site are the LECEF, PG&E substation, and the San Jose/Santa Clara Regional Wastewater Treatment Plant sludge drying beds; to the south is Alviso Milpitas Road and Highway 237; and to the east is vacant land and Coyote Creek.

3.3 Cultural Setting

3.3.1 Prehistoric Setting

In the San Francisco Bay Area, which includes the Study Area, numerous chronological sequences have been used to define precontact periods. The earliest proposed sequences were based on stylistic and technological variations in artifacts primarily from burials. The current sequence uses date ranges based on radiocarbon dating that reflect distinct cultural traditions (Byrd et al. 2017). The current chronological scheme is Scheme D, and it is presented by Groza et al. (2011) and employs a three-part sequence with transitional periods. Scheme D is rooted in the stylistic temporal variations of widely traded and well-dated shell bead types, most from the Late Holocene sequence (post 4,200 calibrated before present [cal BP]) (Byrd et al. 2017). Scheme D uses the following chronological sequences.

Numerous authors have summarized and organized earlier periods of human occupation in the Americas that predate the chronological sequence of Scheme D. These time periods are organized by geologic segments and include the Terminal Pleistocene (13,500 to 11,700 cal BP), Early Holocene (11,700 to 8,200 cal BP), Middle Holocene (8,200 to 4,200 cal BP), and the Late Holocene that unfolds into the periods of Scheme D (4,200 cal BP) as presented in Table 3-1 (Byrd et al. 2017). Although sites within the Study Area have not been designated exact temporal periods, numerous Native American precontact sites spanning various periods described in the following subsections are found that consist of intensive habitation, burials, midden, and other (Table 3-1).

Table 3-1. Chronological Sequence to cal BP Concordance

Period	cal BP
Early	+4,050–2,550
Early/Middle Transition	2,550–2,150
Middle 1–4	2,150–930

Period	cal BP
Middle/Late Transition (MLT)	930–685
Late 1–2	685–180
Historic/Mission	180–115

3.3.1.1 Terminal Pleistocene (13,500 to 11,700 cal BP)

In brief, the Terminal Pleistocene is considered contemporaneous with the Clovis and Folsom periods of the Great Plains and Southwest, where hunters and gatherers exploited large game and were highly mobile (Byrd et al. 2017). The Terminal Pleistocene occupation in California is poorly understood because of infrequently encountered material culture, often represented by isolated fluted points, and is considered contemporary with Clovis and Folsom hunters and gatherers. The archaeological evidence that is available for this period is characterized primarily by basally thinned, fluted projectile points that are morphologically similar to well-dated Clovis or Folsom points found elsewhere in North America.

No archaeological deposits or fluted points that date to the Terminal Pleistocene have been documented within the San Francisco Bay Area, which includes San Jose and Santa Clara County (Byrd et al. 2017).

3.3.1.2 Early Holocene (11,700 to 8,200 cal BP)

The Early Holocene is characterized by semi-mobile hunter-gatherers that exploited numerous plant and animal resources from various ecological contexts, including terrestrial, marine, and lacustrine environments (Byrd et al. 2017). Meyer and Rosenthal (2004) note that artifact assemblages in the four Early Holocene San Francisco Bay Area/San Jose sites are marked by handstones and millingslabs but not mortars and pestles.

Excavations at Early Holocene sites have yielded abundant remains of terrestrial fauna (deer, tule elk, pronghorn, and rabbits) and fish (sturgeon, salmon, and smaller fishes). Projectile points with a triangular blade and contracting stems are common at Early Holocene sites. A variety of fishing implements such as angling hooks, composite bone hooks, spears, and baked clay artifacts, which may have been used as net or line sinkers, are also relatively common. The points are classified within the Sierra Contracting Stem and Houx Contracting Stem series (Justice 2002). The presence of milling implements, including grinding slabs, handstones, and mortar fragments, indicates that acorns or seeds were an important part of the Middle Archaic diet (Moratto 2004; Rosenthal et al. 2007).

The variety of artifacts recovered from Early Holocene sites includes shell beads, ground and polished charmstones, and bone tools, as well as impressions of twined basketry. Baked clay items include pipes, discoids, and cooking stones as well as the net sinkers. Burials in cemetery areas, which were separate from habitation areas, were accompanied by a variety of grave goods. The presence of an established trade network is indicated by the recovery of *Olivella* shell beads, obsidian tools, and quartz crystals. Obsidian sources during the Middle Archaic included quarries in the North Coast Ranges, the eastern Sierra Mountains, and the Cascades (Rosenthal et al. 2007).

3.3.1.3 Late Holocene (4,200 to 180 cal BP)

The Late Holocene is divided into five time periods: Early (4,200 to 2,550 cal BP), Early/Middle Transition (2,550 to 2,150 cal BP), Middle (2,150 to 930 cal BP), MLT (930 to 685 cal BP), and Late (685 to 180 cal BP). Groza et al. identify that the Middle and Late Periods are subdivided into four and two subdivisions based on the serration of specific types of shell beads (2011).

The Early Period (4,050 to 2,550 cal BP) is marked by the expansion or establishment of numerous large shell mounds in the current San Francisco Bay Area, including San Jose. Material culture typical of Early Period mounds includes, but is not limited to, broad-leaf projectile points, square-based knife blades, both unshaped and cylindrical mortars, both short and sturdy cylindrical pestles, perforated charmstones, bone awls, and rectangular and spire-lopped *Olivella* beads, as well as rectangular *Haliotis spp*. beads and pendant types (Byrd et al. 2017).

The Middle Period (2,130 to 930 cal BP) is characterized by greater settlement permanence as a result of sedentary or multi-season occupation. Changes in artifact assemblages from the Middle Period include barbless and single-barbed bone fishing spears, large shaped mortars with correspondingly large pestles, and varied forms of *Haliotis* and *Olivella* ornaments and beads (Byrd et al. 2017). A characteristic of burials from the Middle Period is the use of thousands of shell beads as grave goods. Food remains from Middle Period sites demonstrate higher exploitation of terrestrial resources based on food remains and isotopic analysis of human bone (Byrd et al. 2017).

The Late Period (685 to 180 cal BP) is characterized by sedentary villages, larger precontact populations, and varied artifact assemblages. The Late Period is the most documented and includes an explosion of artifact types; including, flanged steatite pipes, chevron-etched bone whistles and tubes, clamshell disk beads, unique *Haliotis* pendants, basket making tools and projectile point types associated with the bow and arrow (Byrd et al. 2017). Burials of the Late Period are characterized by occasional cremations and flexed interments with intentionally broken grave offerings (Byrd et al. 2017). Within the City of San Jose, intensive habitation sites dating from this period include CA-SCI-5 through 7, 268, 276, 359 and –492 (Bard 1983). Site CA-SCL-125, an Ohlone mortuary complex site, has returned several dates through analysis; one of the oldest burials dating to approximately nearly 200 before common era (BCE) (SJSU 2013).

Extensive cemeteries within San Jose, Santa Clara Valley, and San Francisco Bay Area margin contain sites with loose to tightly flexed burials with grave offerings are also a hallmark of the Late Holocene (Byrd et al. 2017). These burial presentations and their grave goods are a pattern unique to the area and are contrasted by the burial presentations of the East Bay and San Joaquin Valley where extended burials are common among flexed burials (Byrd et al. 2017). Within the San Francisco Bay Area that includes the Study Area, a more precise chronological sequence, developed by Groza et al., uses diagnostic *Olivella spp*. bead types for site dating. Refer to Table 3-2, which is based on the Late Holocene Scheme D Chronological Sequence for the San Francisco Bay–Delta Area (Byrd et al. 2017).

The artifact assemblage in Late Holocene sites demonstrates that populations continued to exploit a variety of natural resources. In addition to seeds and acorns, hunting persisted as an important aspect of food procurement (Fredrickson 1973). Large, mounded villages that developed around 2,700 years ago in the Delta region included accumulations of habitation debris and features, such as hearths, house floors, rock-lined ovens, and burials (Rosenthal et al. 2007). The remains of a variety of aquatic resources in the large shell midden/mounds that developed near salt or fresh water indicate exploitation of shellfish was relatively intensive.

Late Holocene artifact assemblages are also characterized by *Olivella* shell beads, *Haliotis* ornaments, and a variety of bone tool types. Mortuary practices continue to be dominated by interment, although a few cremations have been discovered at sites dating to this period. Trade networks brought obsidian toolstone to the Central Valley from the North Coast Ranges and the east side of the Sierra Nevada Range.

Table 3-2. Late Holocene Scheme D Chronological Sequence for the San Francisco Bay – Delta Area

Cal BP	Extent (years)	Calendar Years	Dating Scheme D (Groza et al. 2011)		Cultural Pattern[c]
			Temporal Periods[a]	Array of Diagnostic *Olivella* Bead Types[b]	
180–115	65	AD 1770–1835	Historic/Mission (H)	Needle drilled (H)	NA
430–180	250	AD 1520–1770	Late 2 (L2)	Lipped (Class E)	Augustine
685–430	255	AD 1265–1520	Late 1 (L1)	Normal sequin (M1a) Pendant (M2) Callus cupped (K1) End-ground (B2)	
930–685	245	AD 1020–1265	MLT	Normal sequin (M1a) Split drilled/oval (C2/3) Split punched (Class D) Split amorphous (C7) Tiny saucer (G1) Wide sequin, occasional (M1d)	
1200–930	270	AD 750–1020	Middle 4 (M4)	Normal narrow saddle (F3a) Rectanguloid/oval saddle-smooth edges (F4c/d) Full saddle-smooth edges (F4a/b)	Upper Berkeley
1365–1200	165	AD 585–750	Middle 3 (M3)	Small narrow saddle (F3b) Normal narrow saddle (F3a) Irregular saucer (occasional; G5)	
1530–1365	165	AD 420–585	Middle 2 (M2)[c]	Normal narrow saddle (F3a) Rectanguloid/oval saddle-chipped edges (F2c/d) Full/Round saddle-chipped edges (F2a/b) Full saddle-smooth edges (F4)	
2150–1530	620	200 BC–AD 420	Middle 1 (M1)	Saucer (Class G) Split drilled/oval (C2/3) Oval saddle (F1)	

Cal BP	Extent (years)	Calendar Years	Dating Scheme D (Groza et al. 2011)		Cultural Pattern[c]
			Temporal Periods[a]	Array of Diagnostic *Olivella* Bead Types[b]	
2550–2150	400	600–200 BC	Early/Middle Transition (EMT)	Split beveled – no wall beads (C1)	Upper Berkeley
+4050–2550	1,500+	+2100–600 BC	Early the	Thick rectangle (Class L)	Lower Berkeley

Source: Byrd et al. 2017.

[a] Periods are based on temporal duration of diagnostic shell bead styles; abbreviations in parentheses

[b] Listed by relative predominance

[c] Bennyhoff et al. (1994)

Table based on Late Holocene Scheme D Chronological Sequence for the San Francisco Bay – Delta Area.

AD = Anno Domini
BC = Before Christ
NA = not available

3.3.1.4 Precontact and Ethnohistory (180 cal BP 1100–Historic Contact)

The comprehensive archaeological record for the precontact period shows an increase in the number of archaeological sites associated with the period in the Project region, as well as an increase in the number and diversity of artifacts. The precontact period was shaped by a number of cultural innovations, such as the bow and arrow and more elaborate and diverse fishing technology, as well as an elaborate social and ceremonial organization. Dart and atlatl technology was effectively replaced by the introduction of the bow and arrow. Additionally, the cultural patterns typical of this time fame, as viewed from the archaeological record, are reflected in the cultural traditions known from historic-period Native American groups (Moratto 2004; Rosenthal et al. 2007).

The faunal and botanical remains recovered at precontact archaeological sites indicate the occupants relied on a diverse assortment of mammals, fish, and plant parts, including acorns and pine nuts. Hopper mortars, shaped mortars and pestles, and bone awls used to produce coiled baskets are among the variety of artifacts recovered from sites. The toolkit during this period also included bone fishhooks, harpoons, and gorge hooks for fishing, as well as the bow and arrow for hunting. Small, Gunther barbed series projectile points have been found at sites dating to the early part of the period, while Desert-side notched points appear later in the period. The appearance of ceramics during this period is likely a direct improvement on the prior baked clay industry (Rosenthal et al. 2007).

During the precontact period, numerous villages, ranging in size from small to large, were established along the valley floor sloughs and river channels and along the foothills side streams. House floors or other structural remains have been preserved at some sites dating to this period. The increase in sedentism and population growth led to the development of social stratification, with an elaborate social and ceremonial organization. Examples of items associated with rituals and ceremonials include flanged tubular pipes and baked clay effigies representing animals and humans. Mortuary practices changed to include flexed burials, cremation of high-status individuals, and pre-interment burning of offerings in a burial pit. Currency, in the form of clamshell disk beads, also developed during this period together with extensive exchange networks (Fredrickson 1973; Moratto 2004; Rosenthal et al. 2007).

3.3.2 Ethnohistoric Setting

The Study Area is located within the ethnographic territory of the Ohlone, and an ethnographic summary of the Ohlone is provided in the following section.

3.3.2.1 Ohlone

The Ohlone lived in an area from the Carquinez Strait in the north to the drainage for the Carmel, Sur, and Salinas Rivers in the south. The basic political unit was the tribelet, which was the type of political structure thought to be the dominant type in California prehistory (Kroeber 1925). Each tribelet consisted of one or more villages and several camps within a given territory (Levy 1978). At the time of contact with Europeans, Ohlone society was composed of 39 tribelets, each with a membership of around 100 individuals. Estimates for Ohlone populations at contact in 1776 range from 7,000 to 10,200. Each tribelet had a chief and an elder council; however, the leaders were only able to exert authority over individuals during extreme emergencies such as warfare or fire. The Ohlone had no unified political organization. (Kroeber 1925; Levy 1978)

Although the tribelets shared a similar political structure, the peoples known collectively as Ohlone were not politically affiliated. Trade was carried out with other tribelets as well as the Coast and Plains Miwok and the Yokuts. Obsidian for tools and pinyon nuts were some of the items they traded for. In return they

traded salt, *Olivella* beads, ochre, and other exotics. The Ohlone spoke in eight distinct languages, all derived from Hokan, accepting some loan words from neighboring tribes. These languages were thought to have died out by 1935 (Levy 1978). Kroeber (1925) states that cremation was the primary mode of funerary treatment, which was carried out in or near the village. The Ohlone were hunter/gatherers and migrated along a seasonal round, which originated at a winter village. As the seasons changed, a tribelet would split up into smaller groups to take advantage of available resources. Tidal marshes provided access to many different resources. Tules were gathered and used for boats. Reeds were used to make clothing, cordage, and housing.

A variety of animals could be obtained from the bay and tidal mudflats as well as the sloughs and brackish marshland. Mollusks such as California Horn snail (*Cerithidia californica*), bay mussel (*Mytilus edulis*), oyster (*Ostrea lurida*), and clams (*Macoma nasuta, Macoma secta*) were collected. Many species of geese and ducks (*Anseriformes sp.*) were exploited as well. Fish species included in local archaeofaunal collections include sturgeon (*Acipenser sp.*), sharks (*Triakis sp.*), rays (*Myliobatis sp.*) and others. Marine and terrestrial mammals were also abundant in the tidal marshes. Species include elk (*Cervus sp.*), deer (*Odocoileus hemoionus*), sea otters (*Enhydra lutris*), and sea lion (*Phoca vitulina*). (Hylkema 2002)

The Project Area is located within the territory of the Tamien, an Ohlone tribelet. The Tamien tribelet inhabited an area encompassing the central Santa Clara Valley along the banks of the Guadalupe River from Agnew Asylum to present-day downtown San Jose, as well as the flatlands westward to Stevens Creek and present-day Cupertino. While living within the mission system, the Tamien and other Ohlone tribelets commingled with other groups, including Esselen, Yokuts, Miwok, and Patwin (Milliken 1995).

3.3.2.2 Archaeology in the Southern San Francisco Bay Area Including San Jose

The southern San Francisco Bay Area may be described as encompassing three main environments: tidal marshland, grassland prairie, and oak woodland. Estuaries, bayshore, riparian corridors, and oaks provided numerous resources, including shellfish, fish, waterfowl, terrestrial mammals, seeds, and acorns. These resource base habitats supported large populations of people. Long-term residential use resulted in the accumulation of shellfish, soil, and other debris, resulting in the creation of large mounds along the tidal marsh and bay shore (Lightfoot and Luby 2002). The grassland prairie and oak woodland aspect of the Project vicinity is essentially a long-sloping oak and grassland terrace that extends to the wetlands at the bay margin. This habitat supported many perennial shrubs and grasses as well as deer, elk, and migratory fowl (Hylkema 2002).

The grassland prairie surrounding the edges of the tidal marsh areas offered higher elevations that provided protection from the flooding and high tides at the bayshore. These lush areas were seasonally burned to increase the productivity of seed-bearing grasses and provide denser forage for elk and deer. As the grassland prairie rose to meet the surrounding foothills, the environment gave way to savanna woodland of oak and laurel trees with an understory of bunch grasses. The majority of sites within the southern San Francisco Bay Area occur within this ecological zone. Site types include villages, satellite work areas for gathering or processing resources, and cemeteries. The woodland oak environment lent itself to acorn-based subsistence methods. The grassland prairie and oak savanna were crossed by riparian corridors that offered a great diversity of plant and animal resources.

Hylkema (2002) suggested that the prehistoric cultural chronology of the Northern Santa Clara Valley and Southern San Francisco Bay region is far more complex than archaeologists have previously thought. The author described four temporal periods: the Early, Middle, MLT, and Late periods. The Early Period began approximately 4050 BCE and continued until 500 years BCE.

The Middle Period (500 BCE to 1050 Common Era [CE]) saw an increase in sedentism among native populations in the San Francisco Bay Area that coincided with a widening in the scope of their resource base. The MLT Period (1050 to 1250 CE) saw an increase in social stratification based on economic factors, but little change in artifact type.

The Late Period Phase I (1050 to 1776 CE) is described as "when many Middle Period traits gave way to social characteristics consistent with the ethnographic record" (Bennyhoff et al. 1994; Hylkema 2002). During the Late Period Phase II (1250 CE to Contact), cultural complexity of San Francisco Bay Area peoples was on the rise. A more sedentary lifestyle, an acorn-based economy, and evidence of status ascription mark the end of the Middle Period and the onset of the Augustine pattern in the region. This pattern is typified by new *Olivella* bead types, *Haliotis* pendant types, and fully dressed show mortars as well as the introduction of the bow and arrow and banjo effigy ornaments. Mortuary practices during this period suggest an increase in social stratification based on the appearance or reappearance of cremation and the increase in the array of wealth items in some high-status burials (Milliken et al. 2007).

According to Milliken et al. (2007), there are four types of cemetery complexes common to the San Francisco Bay Area. These include the following:

- A non-cemetery pattern where individuals are interred in an informal way within or immediately adjacent to a village
- Compact cemeteries with a midden component adjacent to villages
- Cemeteries away from villages in sterile or near sterile sediments
- Cemetery mounds with formal burials and dietary remains from mortuary feasting

The non-cemetery pattern appears to be the most common in the San Francisco Bay Area, but both this and the compact mortuary were well known to archaeologists before the 1980s. As modern development increased in the region, all of these cemetery types have been observed throughout the San Francisco Bay Area.

3.3.3 Historic Setting

The arrival of the Spanish in 1769 heralded great change for native peoples in the San Francisco Bay Area. At the time of Spanish contact, there were many small distinct tribal groups from San Rafael to Carmel. With the establishment of the missions in the 1770s, the collapse of tribal life accelerated. By the early 1800s, Missionization—with its endemic and epidemic disease and forced adoption of European culture—resulted in the near total collapse of tribal culture in the San Francisco Bay Area (Milliken 1995). Recorded history in the Study Area includes early settlement, the development of irrigation and flood control, the development of transportation, and the evolution of local agricultural industry.

3.3.3.1 California History

In 1542, Juan Sebastian Cabrillo was the first of the Europeans explorers to sail along the California coast. The goal of this expedition was to explore the new territory and to find worthy locations for establishing Franciscan missions. Along the way, they rediscovered the Bay of Monterey, described by sailors 100 years earlier. Several accounts of this expedition exist including those of Fray Juan Crespi (Bolton 1927), Miguel Costansó (Browning 1992), and Pedro Fages (Priestley 1937). The expedition of Juan Bautista de Anza and Fray Pedro Font in 1776 traveled across portions of northwestern Santa Clara County. On March 25, they camped at place that they called San Joseph de Cupertino, a name that is preserved today in the City of Cupertino to the east. From here, Font and Anza remarked that they could see the San Francisco Bay.

3.3.3.2 Mission Period (1769 to 1822 CE)

The arrival of the Spanish and the subsequent establishment of the missions was the beginning of the end of tribal life in the Sacramento-San Joaquin Delta and San Francisco Bay Area. The destruction of native culture was caused by the alteration of the landscape due to the introduction of European plants and animals, the destruction of social systems by new mission life ways, and European diseases. The missions of the San Francisco Bay Area were established as follows: Mission Dolores in 1776, Mission Santa Clara in 1777, and Mission San Jose in 1797. The missions depended heavily on Native Americans for labor (Milliken 1995). The missions of the San Francisco Bay Area were established as follows: Mission Dolores in 1776, Mission Santa Clara in 1777, and Mission San Jose (in the modern city of Fremont) in 1797. Mission lands were primarily used for cultivating beans, corn, flax, hemp, linseed, peas, and wheat and for raising cattle, horses, sheep, pigs, goats, and mules. The missions also had vegetable gardens and fruit trees, such as peaches, apricots, apples, pears, and figs. The purpose of the missions was to convert the people who lived here into Catholic citizens of Spain. In the charter of the Alta California Missions was a stipulation that 10 years after the establishment of a mission, it should be given over to the Indians for their benefit. This never came to pass (Lightfoot 2002).

3.3.3.3 Rancho Period

In 1821, Mexico declared independence from Spain. In 1822, California became a Mexican territory. Following the secularization of the missions in 1834, representatives of the Mexican government distributed very large land grants to various individuals. Native Americans continued to be laborers for new landowners (Beck and Haase 1988). The land use pattern of Alta California during this period expanded to include cattle ranches primarily for the hide and tallow trade. Working in adobe workshops, both Native American neophytes and immigrant artisans engaged in the manufacture of such items as "leather, soap, saddles, harnesses, blankets, shoes, and wagons" (Marschner 2002). After California's transition into Mexican territory and following the secularization of the missions in 1834, representatives of the Mexican government distributed large land grants to various individuals. In 1848, California was officially annexed to the United States (Kyle et al. 1990). Some of the neophytes found work on local ranchos as vaqueros, running cattle and sheep in the hills of the former Mission San Jose lands.

3.3.3.4 American Period (1850 CE to Present)

California officially became a state in September 1850. The courts immediately reviewed Spanish and Mexican land grants, which were either confirmed or denied. Cattle ranching, agriculture, and orchard production rose in the twentieth century and continues today. The discovery of gold in the Sierra Nevada by Euro Americans ignited a major population increase in the northern half of California, as immigrants poured into the territory seeking gold or the opportunities it presented. The significant influx of people had a major impact on the environment and the remaining indigenous populations. Beginning in 1849, the Gold Rush created a shortage of ranch workers who rushed off to seek their fortunes. This loss of a ranch workforce, along with a huge increase in Euro Americans squatting on these lands, would later contribute to the disintegration of the Mexican land grants and eventual division and sale of land grant property (Robinson 1979).

3.3.3.5 San Jose

San Jose was founded in 1777 by Jose Joaquin Moraga as the Pueblo de San Jose de Guadalupe. It was the first secular municipality in Northern California that was not directly tied to military or mission systems (Perez 1982). The original pueblo of San Jose was founded in a slightly different location, and it was moved in 1797 to what is today's downtown area. San Jose was initially a farming community that

supplied goods to military posts in San Francisco and Monterey (Britannica 2024). The approximate population of the pueblo in 1835 was 700, 900 by 1845, and by 1849 it was the first capital for the newly created State of California (San Jose Public Library 2024). In 1850 San Jose was formally incorporated by the United States government and was by this time, an important hub for gold prospector and settlers (Britannica 2024). With established railroads from San Francisco into San Jose and other regions in 1864, San Jose was able to export agricultural goods more broadly and consequently became a big producer of fruits (Britannica 2024).

For the nearly a hundred years, San Jose's agricultural activities dominated the land use of the region; this would change during World War II. Aerospace and equipment manufacturers settled into the area and with this entry, San Jose changed its focus from agriculture to manufacturing of durable goods, machinery, and electrical equipment (Britannica 2024). This led to a population boom and the beginnings of what would be Silicon Valley enterprises. From the 1960s through the early 2000s, San Jose's size greatly increased and during this period, its population quadrupled (Britannica 2024).

3.3.3.6 Study Area History

The Project Area was a part of the 6,353-acre Rincon de los Esteros (Berryessa) land grant issued to Ignacio Alviso, a member of the De Anza Spanish Expedition, in 1838 by Governor Juan Bautista Alvarado. The 1834 hand-drawn diseño map of the Rincon Los Esteros depicts a structure labeled "Casa de D Igua Alvisa" west of a road labeled "(Camino?) para la Mission de S. Jose", both outside the Project Area, indicating occupation of the Study Area early in the historic period.

Following secession by Mexico in 1848, the United States government stated it would honor land grants. Three claims were made on the original Rincon de los Esteros and the original rancho lands were reallocated as follows: Rafael Nicanor Alviso received a patent for 2,200 acres in 1872; Francisco Berryessa received a 1,844-acre patent in 1873; and the third patent was granted to Ellen E. White for 2,308 acres in 1862 (CSUM 1873). The 1866 BLM General Land Office (GLO) survey plat map for Township 6 South Range 1 West shows the Project Area located within the Rancho Rincon de los Esteros, deeded to F. (Francisco) Berreyesa, et al, Heirs of G. (Guadalupe) Berreyesa. There does not appear to have been occupation of the land at this time. The 1876 Santa Clara County Map shows the Project Area was occupied by the following landowners: Wm (William) Boots, Fred Gwin, and M. Bellow. Boots and Bellow each owned multiple parcels totaling several hundred acres in the Study Area.

The Study Area was historically used for agriculture. The first orchards depicted within the Study Area are on the 1936 BLM GLO survey plat map for Township 6 South, Range 1 West. Historic aerial photographs from 1948 show the Study Area dominated by orchards and agricultural fields with scattered residences and associated buildings. In the 1950s, William Cilker purchased 60 acres in south San Jose (Cilker Orchards Management Corp. 2023), and the use of the Project Area to grow and harvest trees expanded further. Cilker's purchase included the Project Area (CEC 2022).

The Study Area remains a rural area with agricultural fields until 1960 when aerials show extensive residential development visible east of the Study Area and east of Interstate 880. By 1980, multiple residential developments, improved roads and freeways, and industrial development surround the Project Area. By 1998, several large corporate facilities, primarily related to the tech industry have been constructed in the Study Area. Presently, although the Project Area is still banked on two sides with agricultural fields, the character of the Study Area has become urban.

Despite the urbanization of the Study Area, the Project Area remained used for agriculture throughout most of the twentieth century. In the 1970s, a Chinese flower grower and Cilker Orchards occupied the Project Area. In 2002, construction began on the LECEF. The plant began operation in 2003. In 2006, the

plant was converted from the simple-cycle facility to the current 320-MW combined-cycle facility. The Project Area, specifically, the archaeological survey area, was used for construction laydown and parking and revegetated following construction.

3.4 Methods

This section provides methods used by Jacobs to guide the records and archival search and subsequent fieldwork phase of the cultural resource inventory for the Project. The methods used both during the records and archival search and the fieldwork phase were planned to meet or exceed the CEC requirements (CEC 2023), as well as California ARMR reporting and CEQA requirements for analyzing potential impacts to historical resources.

The initial goal was to identify any cultural resources and tribal cultural resources (ethnographic, architectural, historical, and archaeological) located within the Project Area so that effects of the Project could be assessed. To accomplish this goal, background information was examined and assessed for the Project Area and the Study Area, and a field survey was completed to identify cultural remains. Reviews of the records search results, previous work in the Project Area and Study Area, and a historical aerial and map review indicated that cultural resources within the Project Area could include both precontact and historic-period resources. Precontact resources could include habitation sites with midden, lithic scatters, and resource processing sites. Historic-period resources could include privies, refuse dumps, and scatters, dating as early as the Spanish Period and into the mid-twentieth century. The Project Area was heavily used for decades for agriculture, and buried features such as walls or farmer's ditches, could also be identified.

The fundamental goals of survey are to identify and document previously unrecorded cultural resources and tribal cultural resources and analyze cultural materials, not only to better characterize potential project effects, but also to attempt to confirm or elaborate on our current understanding of the prehistory and history of the region. From a management perspective, the ability of specific resources to address research questions provides a basis to evaluate CRHR eligibility. Methods for conducting the field survey and inventory are described in Section 3.5.

3.4.1 Records Search

A CHRIS records search was conducted by the NWIC to determine whether precontact or historic cultural resources or tribal cultural resources have been previously recorded within the APE, the extent to which the Project Area has been previously surveyed, and the number and type of cultural resources within a 1-mile radius of the of BESS site and within a 0.25-mile radius of the gen-tie corridor. The results of the CHRIS search were returned on April 13, 2024. The archival search of the archaeological and historical records, national and state databases, and historic maps included the following sources:

- NRHP: listed properties
- CRHR: listed resources
- Historic Property Data File for Sutter County
- Archaeological Determinations of Eligibility
- Built Environment Resources Directory
- California Inventory of Historical Resources

Additional information on the results of the record search is provided in the following sections and in Appendix D.

3.4.2 Research Design for the Cultural Resources Inventory

3.4.2.1 Research Objective

This section provides the research design used by Jacobs to guide the records and archival search and subsequent fieldwork phase of the cultural resource inventory for the Project. Given identified themes for this Project, property types and survey expectations were defined. The methods used both during the records and archival search and the fieldwork phase were planned to meet or exceed the California ARMR and CEQA requirements for analyzing potential impacts to historical resources.

The initial goal was to identify any cultural resources and tribal cultural resources located within the Study Area so that effects of the Project could be assessed. To accomplish this goal, background information was examined and assessed, and a field survey was conducted to identify cultural remains. Reviews of the records search results, previous work in the Study Area and vicinity, and a historical map and aerial check indicated that cultural resources within the Study Area are likely to be a combination of precontact and historic-period sites. Precontact sites in the Study Area consist of intensive habitation, cemeteries with varying numbers of burials, and ceremonial, midden and other occupation/use sites. Historic-period sites consist of structures and buildings related to farming, agriculture, and residential activities.

The fundamental goals of an intensive pedestrian survey are to identify and document previously unrecorded cultural resources and tribal cultural resources and to analyze cultural materials, not only to better characterize potential Project effects, but also to attempt to confirm or elaborate on our current understanding of the prehistory and history of the region. From a management perspective, the ability of specific resources to address research questions provides a basis to evaluate CRHR eligibility. Methods for conducting the field survey and inventory are described in Section 3.4.6.

3.4.2.2 Research Questions

The literature review and search results suggest that the Study Area has a moderate archaeological sensitivity. The Study Area before the historic period was a floodplain grassland with riparian vegetation directly along Coyote Creek. Fresh waterways were preferred locations during the precontact era, and the variety of resources in these areas were heavily used. The area was historically used for agriculture and the Project Area was part of a tract of 650 acres owned by farmer William Boots, by the 1870s (CEC 2022). Additionally, the record search indicates the presence of residences by late 1800s in the Study Area. Three residences were identified within the Project Area by the early 1900s. A total of 27 previously recorded sites were identified in the Study Area consisting of precontact habitation sites, and historic-period structures and associated resources. These historic-period and architectural resources are primarily associated with agriculture and occupation, although travel and transportation are also important themes. Pertinent research questions that are applicable to the Project site are discussed as follows:

1. The Project Area is located in a floodplain, near Coyote Creek. Foothills, salt swamp, and the southern end of San Francisco Bay are very accessible. The variety of important resources each of these settings can provide indicates this area is excellent for precontact resource procurement and habitation. Additionally, previously recorded precontact sites, including midden sites, are known in the Study Area, and the nature of the changing waterway and occasional flooding of the Project Area would allow for site preservation. Finally, unlike most of the Study Area, the Project Area has not been developed in the historic or modern era.

   Research Question: Are there any remaining areas within the Project Area that remain intact enough to contain archaeological remains? Does the Project Area show any evidence of resource procurement or processing? Could such sites be related to larger habitation sites within the Study Area?

2. The historic-era map review indicates the Study Area was used during the Spanish Era. At least one residence was located in or near the Study Area, and one road crossed in or near the Study Area. It is possible that Spanish residents or travelers using the road crossed into the Project Area. The Project Area is situated within a Mexican land grant. Given that there was Spanish occupation in or near the Study Area, there may also have been use of the Study Area during the Mexican Era. Additionally, unlike most of the Study Area, the Project Area has not been developed in the modern era.

   Research Question: Are there any remaining areas within the Project Area that remain intact enough to contain archaeological remains? Is there any evidence of use within the Project Area that dates to the Spanish Era? The Mexican Era? Are there any historic features remaining in the Project Area that could potentially date before Mexican use and occupation of the area? During?

3. The Project Area has been subject to farming activities since the 1870s; however, unlike most of the Study Area, it has not been heavily developed in the historic or modern era. Historic-era maps from the 1800s indicate at least two different residences and a well were located in the Project Area. By the early 1900s, the Project Area, specifically, the eastern gen-tie corridor, was planted in orchards. In the mid-1900s, William Cilker expanded the orchards, building warehouses and other facilities in the Study Area. Farming activities continued in the Project Area for 100 years, and by the 1970s, the Project Area was part of a Chinese flower growing complex, in addition to the Cilker Orchards.

   Research Question: Do any extant buildings remain that are related to the farming activities that occurred in the Project Area? Is there any archaeological evidence of historic-era farming activities in the Project Area? If so, do any of these remains offer evidence of any different ethnic groups that may have occupied the area?

4. The results of the literature search indicate that there are (or were) three circa 1920s to 1930s residences within the Project Area. During the 1920s and 1930s, California saw a sizable boom in the construction of residential housing, particularly along rail lines, which allowed for the easy movement of the needed construction materials, such as redwood. The styles of these houses were often influenced by the popular art styles of the times, such as Art Deco. Craftsman-style homes were also very popular during the 1920s.

   Research Question: Are any of these previously recorded buildings still extant? Have they been modified? If so, do they represent any specific building style associated with architectural movements of the early 1900s? Are any of their original associated buildings still standing? If so, do any of those buildings exhibit any examples of specific building styles?

3.4.2.3 Survey Expectations

Based on the level of disturbance related to the construction of the LECEF and the century-long use of the land for agricultural activities, and the literature search, expectations of finding surficial archaeological resources within the survey area during the field survey were low.

Precontact archaeological sites that may be found in undisturbed or open areas of the Project Area and could include lithic scatters, resource procurement areas, burials, midden, thermal features, or habitation sites. Historic-period sites could include refuse scatters or dumps, walls, wells, foundations, privies, farmer's ditches, farming equipment and water control features.

The archaeological sensitivity of the Project Area is expected to be low. While the map review indicates that multiple historic buildings or features were once extant within the Project Area, a review of modern aerials and previous studies indicates the potential to encounter built resources is also low.

3.4.3 Other Sources

Jacobs staff reviewed the following additional historical maps and aerial photographs. The results of the review of these sources are incorporated in Section 3.3.3.6, Study Area History, as well as presented in Section 3.5.3, Historic Map Review.

- 1834 Diseño of the Rincon de los Esteros Rancho, California State Archives
- 1866 Original Survey BLM GLO survey plat map for Township 6 South Range 1 West
- 1876 Thompson and West Farm map number two (Santa Clara Co., California)
- 1889 San Jose 15-minute USGS topographic quadrangle map
- 1899 San Jose 15-minute USGS topographic quadrangle map
- 1932 Supplemental BLM GLO survey plat map for Township 6 South Range 1 West
- 1936 Original Survey BLM GLO survey plat map for Township 6 South Range 1 West
- 1943 San Jose 15-minute USGS topographic quadrangle map
- 1953 Milpitas 7.5-minute USGS topographic quadrangle map
- 1961 San Jose 15-minute USGS topographic quadrangle map
- 1948, 1960, 1980, and 1998 aerials
- Google Earth 2024 Imagery

3.4.4 Native American Consultation and Public Outreach

Jacobs contacted the NAHC requesting a search of their Sacred Lands File for traditional cultural resources within or near the Study Area, as well as an up-to-date contact list for Native American groups and individuals associated with the Project Area.

3.4.5 Historical Societies

On April 10, 2024, Jacobs contacted the following institutions to request information about cultural resources in the Study Area.

- History San José
- Santa Clara County Historical & Genealogical Society
- La Raza Historical Society
- California Pioneers
- Portuguese Historical Museum

3.4.6 Archaeological and Architectural Survey

A cultural resources survey was completed on May 22, 2024.

3.4.6.1 Methods

According to the latest *Rulemaking to Amend Regulations for Small Power Plant Exemptions* (CEC 2023), archaeological resources surveys must be inclusive of the Project site and Project linear facility routes, extending to no less than 200 feet around the Project site, substations and staging areas, and to no less than 50 feet to either side of the right-of-way of Project linear facility routes. New cultural resource and tribal cultural resource surveys will be completed if survey records of the Project Area are more than 5 years old. The survey methodology for precontact and historic archaeological resources used linear pedestrian transects spaced at 15-meter intervals throughout the entire survey area. The architectural survey was inclusive of the Project site, extending no less than one parcel's distance from the plant site boundaries, according to the Rulemaking to Amend Regulations for Small Power Plant Exemptions (CEC

2023) for historic architecture field surveys in urban and suburban areas. All parcels included in the architectural survey area were reviewed before the survey for structures older than 45 years of age.

The architectural survey area includes APN 015-31-072, which includes all proposed ground disturbance, and APNs 015-31-070, -071, the northern 1-parcel buffer; APN 015-31-054, the eastern 1-parcel buffer, and 015-31-063, the western parcel buffer. APN 015-31-072 is directly adjacent to the Highway 237 right-of-way, which was considered a sufficient buffer for the Project.

Navigation was conducted using Field Maps and Survey 123. Photographs of the survey area are included in Appendix B. Based the archival research completed for the APE, which indicates a high level of disturbance to the entire survey area, expectations of finding surface archaeological resources within the APE during the field survey were low.

The OHP Instructions for Recording Historical Resources (1995) defines a site as the location of a prehistoric or historic occupation or activity. A district is defined as possessing a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development. The term "structure" is used to distinguish from buildings that are functional constructions made usually for purposes other than creating human shelter.

All cultural resources and tribal cultural resources identified or relocated would be plotted on Field Maps or plotted on a USGS 7.5′ topographic map and recorded on the California Department of Parks and Recreation forms. All cultural resources identified during the survey, if found, would have been evaluated for eligibility for listing in the CRHR/NRHP.

3.5 Results

3.5.1 Previously Recorded Cultural Resources

The records search results showed that a total of 27 cultural resources have been previously recorded within the Study Area. Three of these resources were identified within the Project Area.

One cultural resource identified from the records search is located in both within the archaeological and architectural survey areas: the United Incorporated Property at 1515 Alviso Milpitas Road (P-43-003605). Two additional resources were identified in the architectural survey area in the records search: 1598 Alviso Milpitas Road (P-43-003578) and 1625 Alviso Milpitas Road (P-43-003579). These resources are discussed in further detail later in this section.

The remaining resources recorded in the Study Area include both precontact sites and historic-period resources. Precontact resource include habitation sites, burials, and associated middens and thermal features. All historic-period resources identified from the record search are built structures or the remains of built structures. Additional information on known cultural resources within the Study Area is provided in Table 3-3. Copies of the resource records are included in Appendix C.

Table 3-3. Previously Recorded Cultural Resources within Study Area

Resource Number (P-43-)	Resource Type	Resource Description	Evaluation/Year
Within the Project Area			

Resource Number (P-43-)	Resource Type	Resource Description	Evaluation/Year
003605	Historic era – architectural	United Incorporated Property	Not eligible for NRHP/1985; not evaluated for CRHR
003578	Historic era – architectural	Residence 1598 Alviso Milpitas Road	Not eligible for listing in the NRHP/1984
003579	Historic era – architectural	Residence 1625 Alviso Milpitas Road	Not eligible for listing in the NRHP/1984
Within the 1.0 and 0.25-Mile-Radius Study Area			
000529	Precontact	Shell Midden, fire cracked rock, baked clay, lithics, ground stone, burial	Unevaluated
000623	Precontact	Midden, thermal feature, charmstone	Unevaluated
000624	Precontact	Shell, faunal bone, lithics, human bone, burial	Unevaluated
001060	Precontact	Burials, faunal remains, one flake, bone tool, groundstone fragments	Unevaluated
002687	Historic era – architectural	Shaughnessy-Murphy Ranch 1500 Barber Lane	Unevaluated
003504	Historic era – architectural	Early twentieth-century agricultural complex Magnolia Drive	Unevaluated
003537	Historic era – architectural	Quonset Hut, agricultural outbuilding Barber Lane	Unevaluated
003538	Historic era – architectural	One-story shed Barber Lane	Unevaluated
003548	Historic era – architectural	Previously, the Santa Clara County Almshouse, now Elmwood Rehabilitation Center 701 S. Abel Street	Not eligible for listing in the NRHP/1984
003582	Historic era – architectural	A & T Farms 783 Alviso Milpitas Road	Not eligible for listing in the NRHP/1985
003585	Historic era – architectural	Residence 1657 Alviso Milpitas Road	Not eligible for listing in the NRHP/1984
003587	Historic era – architectural	Commercial building, fruit stand Alviso Milpitas Road	Not eligible for listing in the NRHP/1985

Resource Number (P-43-)	Resource Type	Resource Description	Evaluation/Year
003590	Historic era – architectural	Milpitas Terminal Station Alviso Milpitas Road	Not eligible for listing in the NRHP/1985
003594	Historic era – architectural	Residence East end of Alviso Milpitas Road	Not eligible for listing in the NRHP/1985
003595	Historic era – architectural	Residence East end of Alviso Milpitas Road	Not eligible for listing in the NRHP/1985
003596	Historic era – architectural	Residence East end of Alviso Milpitas Road	Not eligible for listing in the NRHP/1985
003600	Historic era – architectural	Santa Clara County Transit Operations 3990 Zanaker Road	Not eligible for listing in the NRHP/1985
003601	Historic era – architectural	Shell Service Station Hwy 237, near Barber Lane	Not eligible for listing in the NRHP/1985
003606	Historic era – architectural	House foundations, ancillary buildings Alviso Milpitas Road	Not eligible for listing in the NRHP/1985
003723	Historic era – architectural	Barber Lane Fire Station 775 Barber Lane	Not eligible for listing in the NRHP/1989
003724	Historic era – architectural	Agnew Buildings 352B and 352C Boots Road	Not eligible for listing in the NRHP/1989
003725	Historic era – architectural	William Erkson House/Maverne Farm 3544 N. First Street	Not eligible for listing in the NRHP/1997
003879	Historic era – architectural	San Jose-Santa Clara Regional Wastewater Facility Streamline Moderne Industrial Historic District 700 Los Esteros Road	3D, appears eligible for the NRHP as a contributor/2016
004055	Historic era – architectural	Bellew-McCarthy Ranch 3445 Barber Lane	Unevaluated

Source: CHRIS NWIC. Refer to Appendix C for full references.

3.5.1.1 United Incorporated Property, 1515 Alviso Milpitas Road (P-43-003605)

This resource is within the archaeological and architectural survey areas. It was originally recorded in 1985 and included the United Incorporated farmers' residences and greenhouses, which were estimated as constructed in 1980. The farmer's residences were described as constructed of corrugated sheet metal with sliding aluminum windows, and the greenhouses were described as constructed with wood frames and plastic and plexi-glass shells (King 1985). The resource was evaluated in 1985 as not eligible for the NRHP, as the structures at that time were less than 50 years old (King 1985).

A review of Google Earth aerials from 1985 to the present shows the buildings, which are a part of this resource, are standing in 2002, and by 2004, all buildings within the boundary of this recorded resource have been removed. The Commission Decision report prepared by the CEC for San Jose City Backup Generating Facility, which included information for a cultural resources assessment for the aforementioned proposed project, reported that this resource was no longer extant in 2019 (CEC 2022).

3.5.1.2 1598 Alviso Milpitas Road (P-43-003578)

This resource is located within the architectural survey area. It was originally recorded in 1984 as a 1.5-story residence with an associated warehouse and storage yard. The residence was described as a wood frame construction that was built around 1920. The house had a gable roof, boxed eaves, overlapping clapboard, double-hung sash windows, a four-panel door, and a raised wooden porch. Alterations to the residence included an aluminum screen door and a corrugated metal sheet roof. The warehouse was noted as modern in 1984 and the storage yard contained modern machinery (King 1984a). This resource was recommended as not eligible for the NRHP, the CRHR, or the San Jose Historic Resources Inventory under any criteria with CEC concurrence in 2020 by other consultants (CEC 2022).

A review of Google Earth aerials from 1985 to the present shows the buildings, which are a part of this resource, standing in February 2021. By September 2021, all buildings within the boundary of this resource are gone, leaving a scatter of mature trees. This resource, including the house and the warehouse, was demolished in 2021 after a fire damaged one of the buildings on the parcel to the east of the APE (CEC 2022).

3.5.1.3 1625 Alviso Milpitas Road (P-43-003579)

This resource is located within the architectural survey area. It was originally recorded in 1984 as a one-story residence described as a wood frame construction that was built around 1930. The house had a low pitched, front-gabled roof, double-hung sash windows, and a porch with a roof extension (King 1984b). This resource was recommended as not eligible for the NRHP, the CRHR, or the San Jose Historic Resources Inventory under any criteria with CEC concurrence in 2020 by other consultants (CEC 2022).

A review of Google Earth aerials from 1985 to the present shows the 1930 residence and additional outbuildings standing in February 2021. By September 2021, all buildings within the boundary of this resource are gone, leaving a scatter of mature trees. This resource was demolished in 2021 after a fire damaged one of the buildings on the parcel to the east of the APE (CEC 2022).

3.5.2 Previously Conducted Cultural Resources Investigations

The records search also indicates that a total of 45 previous studies have been completed within the Study Area. Of these, 31 are general history or ethnographic studies that do not include archaeological or architectural surveys, archaeological test excavations, or archaeological monitoring and are not further discussed in this assessment. Although five intensive pedestrian surveys have been completed that include portions of the Project Area, all of these studies are more than 5 years old. An additional nine studies were completed within the Study Area. All of these studies were completed more than 5 years ago.

A summary of the previously conducted cultural resources investigations within the Project and Study Area is presented in Table 3-4. General studies and ethnographic studies are not included in this summary.

Table 3-4. Past Cultural Resources Investigations within Study Area

Report No. (NWIC-)	Report Title	Author & Date
Within Project Area		
007995	*Historic Properties Survey Report for the Proposed Upgrading of Route 237 to Freeway Standards With Bicycle Route Alternatives, Santa Clara County, 4-SCL-237 3.2/9.5, 04215-117000*	Gross Robert L. 1986
008626	*Cultural Resources Investigation, Second Expansion of Rincon De Los Esteros Redevelopment Project*	Theodoratus, Dorthea J. 1980
014230	*Evaluation of Archaeological Resources for the San Jose/Santa Clara Nonpotable Water Reclamation Project*	Archaeological Resource Management 1992
019072	*Historic Properties Treatment Plan, South Bay Water Recycling Program*	Busby, Colin I., Donna M. Garaventa, Melody E. Tannam, Stuart Guedon 1996
019424	*Cultural Resources Survey for the Los Esteros Project, Santa Clara County*	Holson, John 1997
051253	*Phase I Cultural Resources Evaluation for the Digested Sludge Dewatering Facility Project, San Jose-Santa Clara Regional Wastewater Facility*	Unknown
Within the Study Area		
008258	*Architectural and Historical Assessment of the Bellew-McCarthy Ranch Milpitas, California*	Corbett 1986
021390	*Cultural Resources Survey for PG&E's Proposed Northeast San Jose Transmission Reinforcement Project*	Unknown
023382	*Cultural Resources Assessment, Historic Properties Affected or Potentially Affected by the South Bay Water Recycling Program Phase 2 Facilities, Modifications to Existing Segments SJ-1, SJ-2, SC-2, SC-5, M-1 and New Segments SJ-3, SJ-4, SJ-5, SJ-6, and SJ-7*	Unknown
025031	*Cultural Resources Assessment Bay Trail Master Plan Project, City of San Jose, Santa Clara County, California*	Basin Research Associates, Inc. 2001
024981	*Cultural Resources Assessment Coyote Creek Trail Project, Cities of Milpitas and San Jose, Santa Clara County, California*	Basin Research Associates, Inc. 2000
025157	*Archaeological Investigations for the 3990 Zanker Road Wireless Communications Site, CA 2472A*	Nadolski and St. Clair 2002

Report No. (NWIC-)	Report Title	Author & Date
027960	*Cultural Resource Evaluation of Sprint Telecommunications Facility Candidate SF33XC400D (VTA/Nextel), 3900 Zanker Road, San Jose, Santa Clarita, California*	Dice 2003
048562	*6970 - Fiber Optic Connection, San Jose / Santa Clara Regional Wastewater Facility, Archaeologically Sensitive Area and Cultural Resources Monitoring*	Koenig 2015
050902	*Prehistoric Archaeological Sensitivity Assessment of 26 Transit-oriented Development Parcels in Santa Clara County, California*	Unknown

3.5.3 Historic Map Review

The 1834 hand-drawn diseño map of the Rincon Los Esteros depicts a structure labeled "Casa de D Igua Alvisa" west of a road labeled "(Camino?) para la Mission de S. Jose", both outside the Project Area.

The 1866 BLM GLO survey plat map for Township 6 South Range 1 West shows the Project Area located within the Rancho Rincon de los Esteros, deeded to F. (Francisco) Berreyesa, et al, Heirs of G. (Guadalupe) Berreyesa. No buildings or development are visible on this map in the Project Area. The road from Alviso to San Jose runs northwest-southeast and is depicted west of the Project Area in Section 10. This map also depicts a large salt marsh northwest of the Project Area, and within the Study Area. The 1876 Santa Clara County Map shows the Project Area was occupied by the following landowners: Wm (William) Boots, Fred Gwin, and M. Bellow. Boots and Bellow each owned multiple parcels totaling several hundred acres in the Study Area. One building is depicted within the Project Area on this map where the LECEF is now located. A well is shown on the southern end of the William Boots property, within the archaeological survey area. Alviso Milpitas Road is shown crossing the Project Area on the southern end in a corridor located slightly north of the modern road.

The 1889 San Jose 15-minute USGS topographic quadrangle map shows the Study Area within the historic-period Rincon de los Esteros (Berryessa) land grant. This map also shows unnamed roads traverse the Study Area. Residences are depicted on this map, sparsely distributed with large land tracts in between, likely agricultural fields. One residence with a short, paved access road is depicted within the Project Area on this map. This building and the access road are not visible on any subsequent maps. Approximately 2 miles south of the Project Area, the Agnew Asylum is depicted; the Southern Pacific Railroad Santa Cruz Division is 2.3 miles to the west; the Southern Pacific Railroad San Jose Branch Livermore Line is 1.2 miles to the east; the Santa Clara Alms House is 1.3 miles to the southeast. Alviso, the nearest population center, approximately 2 miles northeast of the Project Area, is shown with streets, residences, and businesses. The 1899 USGS San Jose 15-minute topographical quadrangle shows only minor changes to the Study Area in the form of additional residential structures. Immediate adjacent roads remain unnamed.

The first orchards depicted within the Study Area are on the 1936 BLM GLO survey plat map for Township 6 South, Range 1 West. This map also depicts an 18-inch gas line that runs north-south outside of the Project Area but within the Study Area. Limited development is visible on this map and includes scattered rural residences with associated barns. A telephone line is shown running adjacent to the Southern Pacific Railroad, approximately 2 miles west of the Project Area.

Historic aerial photographs from 1948 show the Study Area dominated by orchards and agricultural fields with scattered residences and associated buildings. There are three residences with associated buildings and landscaped trees located in the Project Area, specifically the architectural survey area. One of the residences is also located within the archaeological survey area. There are paved roads and dirt farm roads. The area is very rural.

The 1953 Milpitas 7.5-minute USGS topographic quadrangle map depicts small changes to the immediate Study Area. Roads have been removed or realigned and there are fewer residences shown. The 1961 San Jose 15-minute map USGS topographic quadrangle map shows no changes or new developments within the Study Area. The Study Area remains rural with scattered residences and agricultural fields and orchards until 1960 when extensive residential development is visible east of the Study Area and east of Interstate 880 on aerials. By 1980, multiple residential developments, improved roads and freeways, and industrial development are visible. By 1998, several large corporate facilities are visible in the Study Area.

3.5.4 Historical Societies

No responses have been received from any of the societies contacted to date.

3.5.5 Survey Results

3.5.5.1 Archaeological Survey

An archaeological survey was completed on May 22, 2024.

Three areas of the Project Area were not accessible. These inaccessible areas included the northern quarter of the gen-tie corridor, specifically, the portion of the corridor within the PG&E Los Esteros Substation; the eastern 200-foot buffer area, outside of the proposed ground disturbance footprint, which was blocked by large walls and barbed wire fence; and a small portion of the southern 200-foot buffer area, also outside of the proposed ground disturbance footprint.

The archaeological survey area was situated within a marshland ecosystem. Soils observed were alluvium, gravelly silty loam with subrounded, subangular and angular clasts. The terrain was relatively flat with less than 5% slope. Observed disturbances included off-road vehicle tracks, evidence of agricultural activities, bioturbation, alluvial actions, and the current occupation of a small portion of the southern 200-foot buffer area by a small, unhoused population. Additionally, a human-made berm was located directly adjacent to the southern wall of the LECEF. Aerials and maps show that this berm was created between 1999 and 2003, while the LECEF was under construction.

Visibility of the survey area was generally poor because of tall annual grasses. The eastern 200-foot buffer, which could not be accessed, had no visibility because of the thick grasses. Small pockets of fair visibility were found in the northwestern area. The area appeared to have been previously flooded as evidenced by the presence of cracked mud. Visibility within the ground disturbance footprint was fair.

3.5.5.2 Architectural Survey

Based on the review of the assessor's information, historic maps and aerials, and the literature search, no parcels in the architectural survey area were identified as containing properties that were either more than 45 years old or exceptionally significant. The architectural survey area is largely comprised of agricultural fields which have been in use more than a century, and although no built resources were identified from the above review, there was a moderate potential for the identification of features not visible on maps or

aerials related to agricultural activities. The archaeological surveyor completed a reconnaissance survey of all parcels in the architectural survey area on May 22, 2024.

Table 3-5. Architectural Survey Area

APN	Address	Built Structures on Parcel	Build Date
Parcel with Ground Disturbance Footprint			
015-31-072	800 Thomas Foon Chew Way	Los Esteros Critical Energy Facility	2003
1-Parcel Buffer			
015-31-070, -071		PG&E's Los Esteros Substation	2003
015-31-054	N/A	No built structures	N/A
015-31-063	4160 Zanker Road	Silicon Valley Advanced Water Purification Center	2014

Source: Santa Clara County Assessor's Website.

Two adjacent parcels were not accessible. These inaccessible areas included APNs 015-31-070, -071, the PG&E Los Esteros Substation, and APN 015-31-054, the eastern 1-parcel buffer, which was blocked by large walls and barbed wire fence. However, the surveyor was able to observe through the fence of both parcels.

No cultural resources or tribal cultural resources were identified during the survey.

3.6 Potential for Buried Archaeological Deposits

Background research suggests that there is a moderate potential for the discovery of buried archaeological deposits within the Project Area. As noted above, the Project Area is underlain by Holocene-aged (10,000 to present) alluvium and basin deposits (Q) with soils of the Elder fine sandy loam Series (USDA-NRCS 2024). Because these materials formed after the first human occupation of the area, they are generally regarded as sensitive for subgrade archaeological remains where soils are native and undisturbed.

Discovery of buried sites depends on a number of site-specific variables, not just the age of the underlying landform. These variables include distance from watercourses, micro-topographic variations (such as the presence of buried stream channels, former sloughs, springs, or natural levees), proximity to known archaeological sites, and the extent of past disturbances of the area. The Study Area contains numerous precontact sites, has permanent water resources, including Coyote Creek located 0.20 mile to the east. Additionally, the Guadalupe River is approximately 2 miles to the west, and numerous tributaries and arteries for these two permanent watercourses would have meandered in and around the Study Area, changing course over time, and moving sediment. These variables mean the potential for intact Holocene-era deposits is moderate to moderately high.

The Sacred Lands File search conducted for the Project also returned positive results for tribal resources in the Study Area.

Background research finds that the entire Study Area has been intensively used for agricultural purposes since at least 1889, with native vegetation removal, plowing and tilling, agricultural production including a complex of greenhouses, and levee, farm, road, and railroad construction all taking place. These activities

would have caused subgrade disturbance to depths of 1 foot or more; intact deposits would likely be found beyond the disturbance strata.

A review of previous excavations conducted in the Study Area was completed to determine the likelihood of buried intact cultural resources and tribal cultural resources in the Project Area. In 2015, an Extended Phase I survey was completed at Site P-43-00529, which is located approximately 500 meters northwest of the Project Area, and a total of 34 shovel test pits and auger samples were excavated to 50 centimeters below the surface. None of these excavations yielded subsurface cultural resources. One small shell fragment was found during the investigation (Koenig 2015). Three trenches were excavated up to 3.5 meters below the surface adjacent to this site in 2010 and resulted in the discovery of a 20 by 5 centimeter lens of reddish-brown clay with charcoal flecks, one small shell fragment, and scattered flecks of charcoal (Grant and Reynolds 2010). One trench was excavated at Site P-43-00623 in 1989, resulting in the identification of a midden deposit, fire baked clay and charcoal, and one charmstone (Cartier 1989). An Extended Phase I was completed at Site P-43-00624, which identified a jumbled deposit of Middle Period habitation debris and one fragment of human bone, and a human tooth, 50 to 140 centimeters below the surface (Kaijankoski 2015). A burial was found during subsurface work in 1995 at this site. Additional deposition was found with the burial at 50 centimeters below the surface and included shell fragments, baked clay, and charcoal flecks (Caruso 1995).

If the concrete foundation option is selected to install the batteries, these excavations will extend to 5 feet below grade and potentially into undisturbed native soil. Similarly, excavations for the gen-tie corridor will extend into undisturbed native soils, that may be sensitive for archaeological deposits.

Based on these site-specific variables—the age and underlying landform, gentle slope, distance from major freshwater sources, known archaeological sites in the Study Area, extent of past disturbance, and the above described depths of anticipated ground disturbance for the Project—the potential for the discovery of intact archaeological deposits, including buried archaeological deposits, materials, or features, by implementation of the Project is estimated to be moderate within the Project Area.

3.7 Discussion of Survey Expectations and Research Questions

The purpose of this section is to relate the findings of the investigation to the research questions posed earlier. No cultural resources or tribal cultural resources were identified as a result of the survey, and therefore, no discussion of any of the research questions posed can be completed.

4. Conclusions and Recommendations

No cultural resources or tribal cultural resources were identified as a result of this assessment. The Project Area is considered to have a moderate sensitivity for buried resources; however, the construction of the BESS and the associated gen-tie will not adversely impact historical resources if the Cultural Conditions of Certification from the LECEF Commission Decision are implemented.

If human remains are found during construction, Project officials are required by the California Health and Safety Code (Section 7050.5) to contact the Alameda San Bernardino County Coroner. If the coroner determines that the find is Native American, they must contact the NAHC. The NAHC, as required by PRC Section 5097.98, determines and notifies the MLD with a request to inspect the burial and make recommendations for treatment or disposal.

5. References

Ballard, Hannah, and Elena Reese. 2013. *Cultural Resources Existing Conditions Report for the Midpeninsula Regional Open Space District Vision Plan*. https://www.openspace.org/sites/default/files/VP_Appendix_E.pdf.

Bard, James C. 1983. *Cultural Resources Assessment of the North Zanker Development Parcel at the Junction of Highway 237 and Zanker Road, San Jose, California*. Basin Research and Associates, Inc. Hayward, California.

Beck, W. A., and Y. D. Haase. 1988. *Historical Atlas of California*. Norman: University of Oklahoma Press.

Bennyhoff, J. A., D. A. Fredrickson, and R. E. Hughes. 1994. *Toward a New Taxonomic Framework for Central California Archaeology: Essays by James A. Bennyhoff and David A. Fredrickson*. Berkeley: University of California, Archaeological Research Facility.

Bolton, H. E. 1927. *Fray Juan Crespi, Missionary Explorer on the Pacific Coast, 1769-1774*. Berkeley: University of California Press.

Britannica. 2024. "San Jose." Accessed June 5, 2024. https://www.britannica.com/place/San-Jose-California.

Browning, P., ed. 1992. *The Discovery of San Francisco Bay - The Portolá Expedition of 1769-1770: The Diary of Miguel Costansó*. Lafayette: Great West Books.

Byrd, B., A. Whitaker, P. Mikkelsen, and J. Rosenthal. 2017. *San Francisco Bay–Delta Regional Context and Research Design for Native American Archaeological Resources, District 4*. Oakland: California Department of Transportation.

California Department of Conservation. 2015. *Geological Map of California*. Accessed April 22, 2024. https://maps.conservation.ca.gov/cgs/gmc/.

California Energy Commission (CEC). 2023. *Rules of Practice and Procedure and Power Plant Site Certification Regulations*. California Energy Commission, Sacramento, California.

California State University Monterey (CSUM). 1873. WPA Abstract, GLO No 140, Expediente No. 114, Rincon de los Esteros (Berreyesa), Santa Clara. Accessed June 5, 2024. https://digitalcommons.csumb.edu/hornbeck_usa_4_a_scc/23/.

Cartier, Robert. 1989. Site Record for P-43-000623. Ms on file with Jacobs, Irvine, California.

Caruso, Glenn. 1995. Site Record for P-43-000624. Ms on file with Jacobs, Irvine, California.

Cilker Management Corporation (Corp.). 2023. Our History. Accessed August 1, 2024. https://www.cilker.com/history

City of San Jose. 2024. *Envision San Jose 2040 General Plan*. Adopted November 1, 2011. As Amended on January 31, 2024. https://www.sanjoseca.gov/your-government/departments-offices/planning-building-code-enforcement/planning-division/citywide-planning/envision-san-jos-2040-general-plan.

Cooper, W. S. 1926. "Vegetational development upon alluvial fans in the vicinity of Palo Alto, California." *Ecology*. Vol. 7, No. 1. pp. 1-30.

County Of Santa Clara. 2024. *Historic Preservation Program*. Department of Planning and Development. Accessed June 5, 2024. https://plandev.sccgov.org/policies-programs/historic-preservation#1849274314-1630626481.

Fredrickson, David A. 1973. *Early Cultures of the North Coast Ranges, California.* Ph.D. Dissertation, University of California Davis. 1974 Cultural Diversity in Early Central California: A View from the North Coast Ranges. *The Journal of California Anthropology* 1(1). April 1:41–53.

Grant, J. and A. Reynolds. 2010. Site Record for P-43-000529. Ms on file with Jacobs, Irvine, California.

Groza, Randall, Jeffrey Rosenthal, John Southon, and Randall Milliken. 2011. "A Refined Shell Bead Chronology for Late Holocene Central California." *Journal of California and Great Basin Anthropology*. Vol. 31, No. 2. pp. 13-32.

Hylkema, M. 2002. "Tidal Marsh, Oak Woodlands, and Cultural Florescence in the Southern San Francisco Bay Region." *Catalysts to Complexity: Late Holocene Societies of the California Coast*. *Perspectives in California Archaeology*. Vol. 6. Los Angeles: University of California, Institute of Archaeology. pp. 205–232.

Justice, Noel D. 2002. *Stone Age Spear and Arrow Points of California and the Great Basin*. Indiana University Press, Bloomington.

Kaijankoski, Phil. 2015. Site Record for P-43-000624 Update. Ms on file with Jacobs, Irvine, California.

King, Gregory. 1984a. Site Record for P-43-003578. Ms on file with Jacobs, Irvine, California.

King, Gregory. 1984b. Site Record for P-43-003579. Ms on file with Jacobs, Irvine, California.

King, Gregory. 1985. Site Record for P-43-003605. Ms on file with Jacobs, Irvine, California.

Kroeber, Alfred L. 1925. *Handbook of the Indians of California*. Smithsonian Institution Bureau of American Ethnology Bulletin 78. Government Printing Office, Washington. 1976 *Handbook of the Indians of California*. Dover Publications, New York.

Kyle, Douglas E., Mildred Brooke Hoover, Hero Eugene Rensch, Ethel Grace Rensch, and William N. Abeloe. Revised by Douglas E. Kyle. 1990. *Historic Spots in California*. Stanford: Stanford University Press.

Las Pilitas Nursery. 2024. Plants that were native in and around San Jose. Accessed June 6, 2024. https://www.laspilitas.com/nature-of-california/native-plants-san-jose.html.

Levy, R. 1978. "Costanoan." *Handbook of North American Indians Volume 8: California*. Smithsonian Institution, Washington, D.C.

Lightfoot, K. G., and E. M. Luby. 2002. "Chapter 14: Late Holocene in the San Francisco Bay Area." *Catalysts to Complexity: Late Holocene Societies of the California Coast*. *Perspectives in California Archaeology*. Vol. 6. Los Angeles: University of California, Cotsen Institute of Archaeology.

Marschner, J. 2002. *California 1850; A Snapshot in Time*. Sacramento: Coleman Ranch Press.

Meyer, Jack, and Jeffrey S. Rosenthal. 2004. *Landscape Evolution and the Archaeological Record: A Geoarchaeological Study of the Southern Santa Clara Valley and Surrounding Region*. Center for Archaeological Research at Davis Publication No. 14. University of California, Davis, Davis, CA.

Milliken, R. 1995. "A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area 1769–1810." Ballena Press Anthropological Papers No. 43, Menlo Park, California.

Milliken, Randall, Richard T. Fitzgerald, Mark G. Kylkema, Randy Groza, Tom Origer, David G. Bieling, Alan Leventhal, Randy S. Wiberg, Andrew Gottsfield, Donna Gillette, Viviana Bellifemine, Eric Strother, Robert Cartier, and David A. Fredrickson. 2007. "Punctuated Cultural Change in the San Francisco Bay Area." *California Prehistory: Colonization, Culture, and Complexity*. Altamira Press, New York.

Moratto, Michael J. 2004. *California Archaeology*. New world archaeological record. Coyote Press, Salinas, CA.

National Park Service (NPS). 2007. Santa Clara County: California's Historic Silicon Valley: Early History. Accessed January 31, 2018. No longer available. https://www.nps.gov/nr/travel/santaclara/history.htm.

Office of Historic Preservation (OHP). 1990. *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format*. Department of Parks and Recreation. Sacramento, CA.

Office of Historic Preservation (OHP). 1995. Instructions for Recording Historical Resources. Accessed December 4, 2023

Perez, Chris. 1982. *Grants of Land Made by Spanish of Mexican Authorities*. State Lands Commission, California.

Priestley, Herbert I. 1937. *A Historical, Political, and Natural Description of California by Pedro Fages*. Written for the Viceroy in 1775. Translated by Herbert Ingram Priestley. Berkeley: University of California Press.

Robinson, W. W. 1979. *Land in California: The Story of Mission Lands Ranchos, Squatters, Mining Claims, Railroad Grants, Land Scrip, Homesteads*. Berkeley, Los Angeles, and London: University of California Press.

Rosenthal, Jeffrey S., Gregory G. White, and Mark Q. Sutton. 2007. "The Central Valley: A View from the Catbird's Seat." *California Prehistory, Colonization, Culture, and Complexity*. AltaMira Press, Lanham. pp. 147–164.

San Francisco Estuary Institute (SFEI). 2010. *Historical Vegetation and Drainage Patterns of Western Santa Clara Valley: A technical memorandum describing landscape ecology in Lower Peninsula, West Valley, and Guadalupe Watershed Management Areas*. Historical Ecology Program, Contribution No. 622.

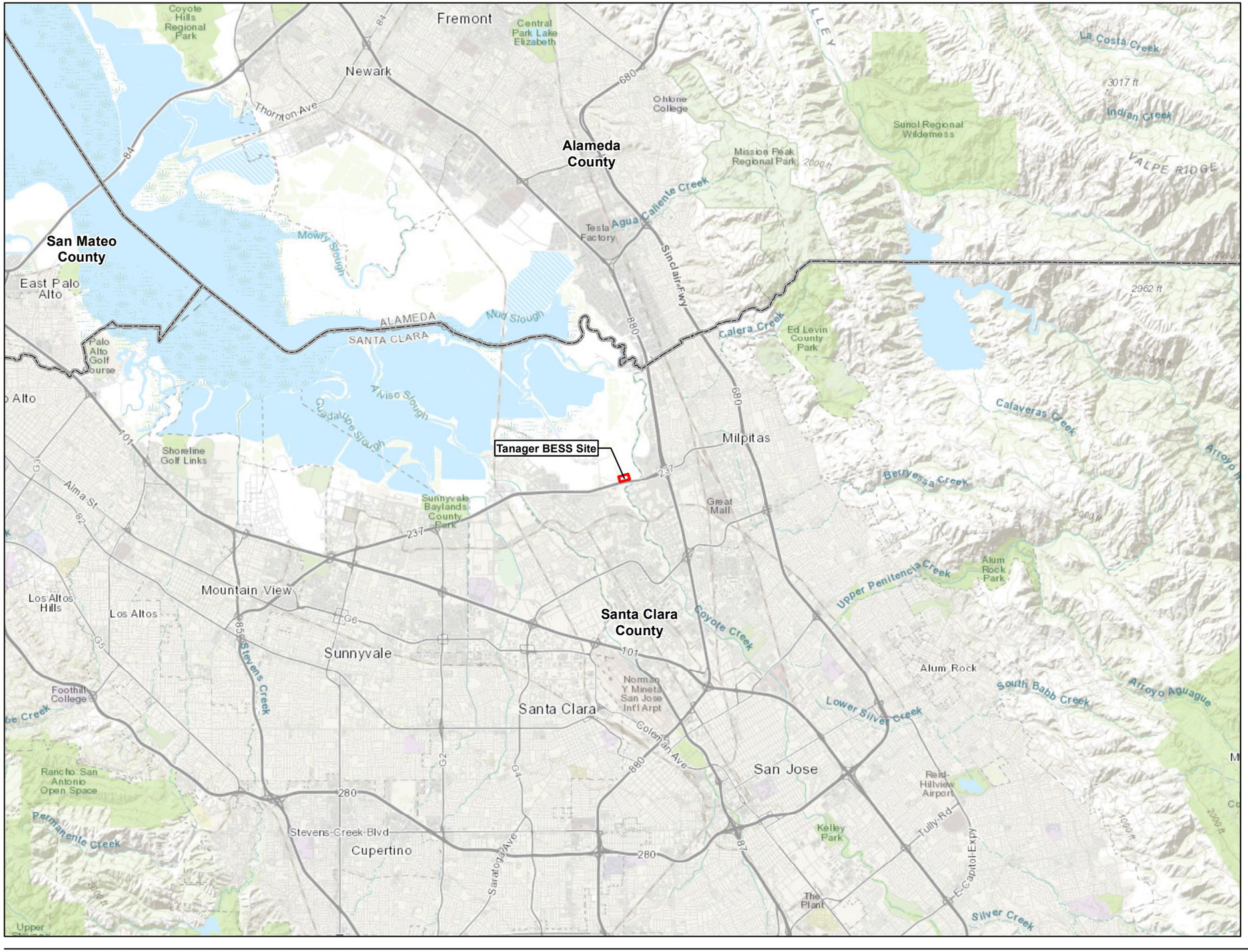
San Jose Public Library. 2024. Timeline of San Jose History. Accessed June 5, 2024. https://www.sjpl.org/sjhistory/.

San Jose State University (SJSU). 2013. *The Archaeological Analysis of Prehistoric Site CA-SCL-125*. Department of Anthropology.

U.S. Climate Data. 2024. Climate San Jose – California. Accessed April 22, 2024. https://www.usclimatedata.com/climate/san-jose/california/united-states/usca0993.

Unites States Department of Agriculture National Resources Conservation Services (USDA-NRCS). 2024. *Soil Map*. Accessed April 22, 2024. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

Appendix A
Project Maps



Legend

- Tanager BESS Site Area
- County Boundary

Source; Calpine, 2024

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Miles

Figure CULTURAL-1:
Project Vicinity
Tanager BESS Project
San Jose, California

Jacobs

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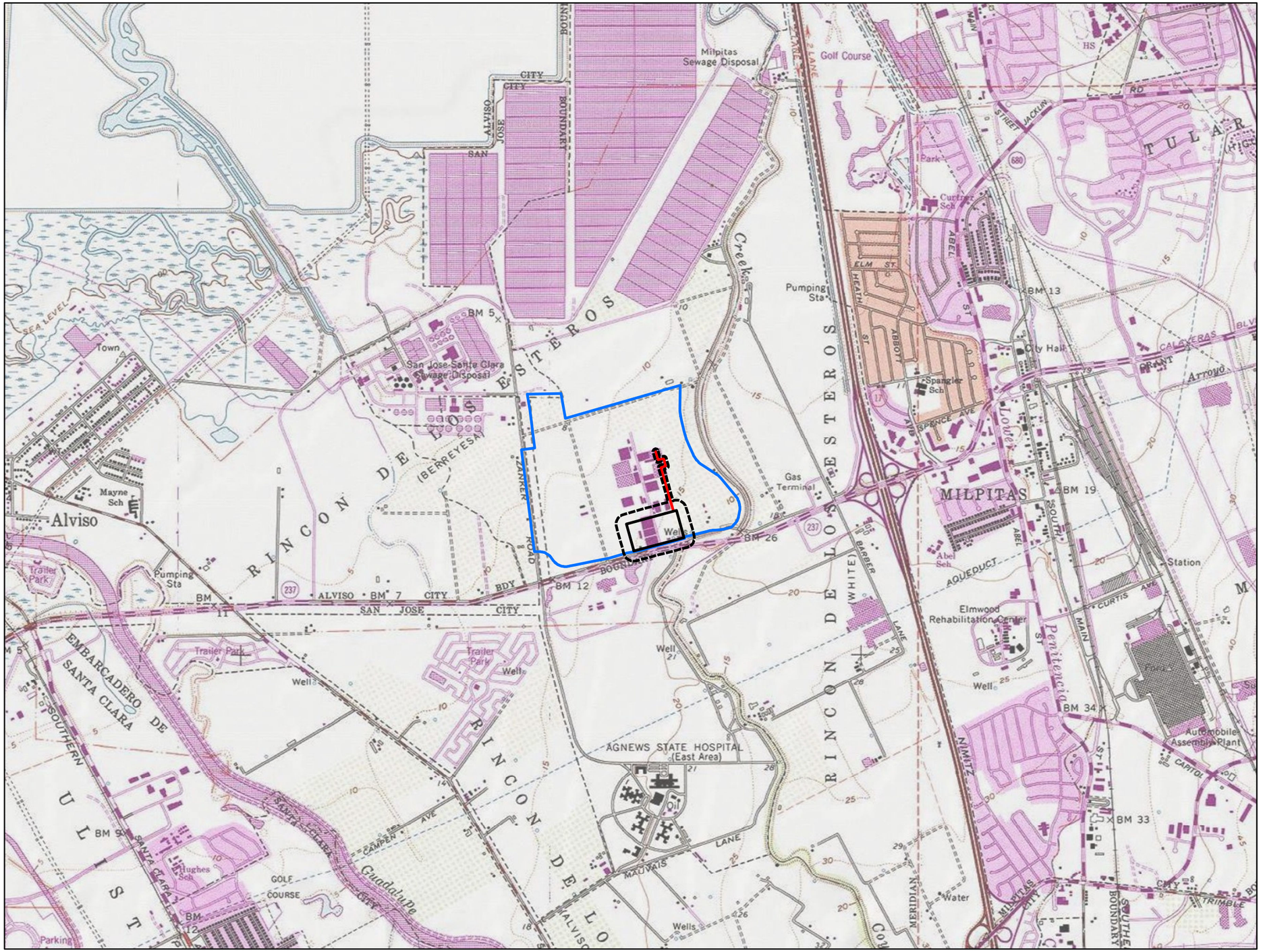

Legend

- Tanager BESS Site Area
- Gen-Tie Alignment
- Archaeological Survey Area
- Architectural Survey Area

USGS Quadrangle: Milpitas

Township 6 South, Range 1 West
Sections 11 and 12

Basemap Source: ESRI USA Topo Maps

Map Scale: 1:24,000

Figure 2
Project Area
Calpine Tanager
San Jose, California

Jacobs

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Legend

- Tanager BESS Site Area
- Gen-Tie Alignment
- Buffer of Tanager BESS SIte (200 ft) and Gen-tie line (50 ft)

USGS Quadrangle: Milpitas

Township 6 South, Range 1 West
Sections 11 and 12

Basemap Source: ESRI World Imagery

Figure 3
Area of Potential Effects and Survey Area
Calpine Tanager
San Jose, California

Jacobs

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Appendix B
Survey Photographs

Picture 1. Southwestern Corner of Study Area, just North of Alviso Milpitas Rd, Facing NE

Picture 2. Southeastern Corner of Study Area, just North of Alviso Milpitas Rd, Facing NW

Picture 3. Southeastern Portion of Study Area that was Not Surveyed, Facing SE

Picture 4. Berm Located just Outside of the Southern Wall of the Energy Center, Facing East

Picture 5. Southwestern Portion of Survey Area, Facing North

Picture 6. Northwestern Portion of Survey Area, Facing South

Picture 7. Section of Study Area Not Surveyed; PG&E and County Property with No Access, Facing North

Picture 8. Northeastern Corner within Energy Center, Facing South

Picture 9. Southeastern Corner within Energy Center, Facing West

Picture 10. Southwestern Corner within Energy Center, Facing East

Appendix C
Resumes

Gloriella Cardenas, M.A., RPA

Principal Investigator/Senior Archaeologist

Personal Details

Length of service in the profession: >20 years

Year joined Jacobs: 2024

Jacobs office location: Irvine, California

Summary Biography

Ms. Cardenas has over 20 years of archaeological experience. She completed her Master's degree in Anthropology at California State University, Fullerton with an archaeological thesis dealing with Southern California prehistoric architecture and the use of household space. Ms. Cardenas has 20 years of experience specifically in cultural resource management with investigations in support of Section 106 of the National Historic Preservation Act, National Environmental Policy Act, and California Environmental Quality Act. Ms. Cardenas has conducted projects involving renewable energies (solar and wind), gas and electric, utilities, private developers, and military installations in cooperation with agencies such as Bureau of Land Management, California Energy Commission, US Army Corps of Engineers, Unites States Forest Service, Federal Emergency Management Agency, State Historic Preservation Office, Tribal Historic Preservation Office, National Aeronautics and Space Administration, US Air Force, US Army, and the US Department of Defense. Cultural Resources investigations have primarily been conducted in California, Nevada, and Texas; additional studies have been conducted in Arizona, Minnesota, Wyoming and Colorado

Key Skills and Areas of Expertise

- Meets Secretary of Interior Professional Qualification Standards (36CFR61)
- Experienced in cultural resource management and Section 106 of the National Historic Preservation Act consultation
- Experienced in the National Environmental Policy Act (NEPA) and California Environmental Quality ACT analyses (CEQA)
- Listed on the California and Nevada BLM permits
- Approved CRS with the California Energy Commission
- >20 years of Cultural Resources Management experience
- Health and Safety Coordinator

Education and Qualifications

M.A., California State University, Fullerton, 2005
B.A., California State University, Los Angeles, 1999

Registrations and Certifications

Register of Professional Archaeologists (2005, No. 15777)
Riverside County Cultural Register (2006, No. 158)

Memberships and Affiliations

Society for American Archaeology
Society for California Archaeology
Nevada Archaeological Association
Texas Archaeological Society

Languages

- English
- Spanish

Employment History

- Principal Investigator/Archaeologist April 8, 2024 to present, Jacobs, Full time/Salaried
- Senior Consultant, Archaeologist 2022 - 2024, ERM – Full time/Salaried
- Senior Archaeologist/Project Manager 2018 to 2021, PaleoWest – Full time/Salaried
- Cultural Resources Specialist, 2008- 2018, CH2M/Jacobs – Full time/Salaried
- Stantec/Keith Companies, 2003 – 2008, Full time/Salaried
- Lead Archaeologist 2006 – 2008, Stantec
- Crew Chief, 2005-2006, Stantec formerly The Keith Companies
- Research Assistant/Field Technician, 2003-2005, The Keith Companies
- California State, Fullerton, Laboratory Intern, 2003-2004 – Intern/10 hours a week
- Naval Outlying Field San Nicolas Island, Intern and Field Technician, 1999-2000 – Intern/seasonal

Project Experience

With Jacobs

Pacific Gas & Electric. System Hardening, Undergrounding Projects. This work consisted of cultural resources management of PG&E SHUG Projects traversing all counties in California, with PG&E equipment. Agencies and regulatory context included, various memorandum of agreements, CEQA, Section 106, State Parks, Caltrans, Coastal Zones, and BLM. As an identified Cultural Resources Specialist, responsibilities included, but were not limited to conducting cultural reviews, overseeing intensive pedestrian surveys, monitoring for ground disturbing activities, senior reviewing deliverables, coordinating with subcontractors, tracking and scheduling work, and communications with PG&E subject matter experts. Work was begun in April 2024 and is ongoing.

AES Alamitos Energy, LLC Alamitos Energy Center (AEC) Entrance Remodel Project. Senior Archaeologist providing cultural resource services in support of the Alamitos Energy Center (AEC) Entrance Remodel Project. These services included review of past cultural resources work conducted at the AEC, preparation of a Cultural Resources Review memorandum, and cultural resource monitoring of construction, as needed, in compliance with the Cultural Resources Mitigation and Monitoring Plan (CRMMP) developed for the project. Work was conducted in May 2024.

Tanager Power, LLC Battery Energy Storage System (BESS) Project. Principal Investigator responsible for completing a cultural resources assessment in support of the Battery Energy Storage System (BESS) project referred to as the Tanager BESS Project (Project). Jacobs completed a cultural resources assessment in support of the Project. This report was completed in compliance with the California Environmental Quality Act (CEQA) Section 21083.2 of the statute and Section 15064.5 of the CEQA Guidelines. The report followed the Archaeological Resource Management Reports: Recommended Contents and Format prepared by the Office of Historic Preservation (1990) and the CEC's Rulemaking to Amend Regulations for Small Power Plant Exemptions. Work was conducted from April through June 2024.

With ERM

Pacific Gas & Electric. System Hardening, Undergrounding, and Remote Grid Fire Suppression Projects. This work consisted of cultural resources management of 97 completed PG&E SHUGRG Projects traversing all counties in California, with PG&E equipment. Agencies and regulatory context included, various memorandum of agreements, CEQA, Section 106, State Parks, Caltrans, Coastal Zones, and BLM. As an identified Cultural Resources Specialist, responsibilities included, but were not limited to conducting cultural reviews, overseeing intensive pedestrian surveys, monitoring for ground disturbing activities, senior reviewing deliverables, coordinating with subcontractors, tracking and scheduling work, and communications with PG&E subject matter experts. Work was begun in January 2023 and is ongoing.

Confidential Client. Archaeology and Cultural Heritage Assessments for various locations in Lyon and Storey

Counties, Nevada. This work involved assessing the potential for archaeology and cultural heritage (including built and architectural heritage) to influence the viability of CONFIDENTIAL CLIENT's development of a Site and its ability to connect to utilities and infrastructure. Completed desktop research, prepared mapping of known, identified, suspect or potential archaeological or cultural heritage resources. Identified areas of archaeological potential within the vicinity of the Site. Detailed recommendations on further investigations, including the timelines to complete and scheduling considerations. Work was conducted in January 2023.

Confidential Client. Archaeology and Cultural Heritage Assessments for various locations in Pima County, Arizona. This work involved assessing the potential for archaeology and cultural heritage (including built and architectural heritage) to influence the viability of CONFIDENTIAL CLIENT's development of a Site and its ability to connect to utilities and infrastructure. Completed desktop research, prepared mapping of known, identified, suspect or potential archaeological or cultural heritage resources. Identified areas of archaeological potential within the vicinity of the Site. Detailed recommendations on further investigations, including the timelines to complete and scheduling considerations. Work was conducted in January 2023.

With PaleoWest

EDF Renewables, Inc. Palen Solar Project, Riverside County, California. Project Manager/Senior Archaeologist for a solar photovoltaic energy-generating construction project on Bureau of Land Management public lands. Responsibilities included authoring a Monitoring and Discovery Plan, two Work Plans for managing historic properties in the project vicinity, management of the monitoring program, assisting in tribal consultation, coordination for Native American Monitoring participation, and weekly reporting to stakeholders. Other duties included overseeing the Health and Safety Management Program as a PaleoWest Safety Officer. Work was conducted from December 2018 through July 2021.

EDF Renewables, Inc. Desert Harvest Solar Project, Riverside County, California. Project Manager/Senior Archaeologist for a 150-megawatt nominal capacity, solar photovoltaic energy-generating construction project. Responsibilities included authoring the Monitoring and Discovery Plan under Bureau of Land Management review, management of the monitoring program, tribal consultation and coordination for Native American Monitoring participation and weekly reporting to stakeholders. Other duties included overseeing the Health and Safety Management Program as a PaleoWest Safety Officer. Work was conducted from December 2018 through July 2021.

Bureau of Land Management, Bakersfield. Sierra Nevada Fuels Reduction Class III Survey, Fresno, Tulare and Kern Counties. Field Lead responsible for conducting pedestrian Class III survey during one rotation of approximately 1,000 acres, in survey inventory areas within Kern County. The inventory areas were within both BLM property and private inholdings. This was an undertaking that required compliance with Section 106 of the National Historic Preservation Act. Additionally, authored several sections and senior reviewed other authors for the technical report. Work was conducted from November 2018 through April 2019.

Orion Renewable Energy Group and Cedar Springs Transmission, LLC. Class III Survey for Cedar Springs Wind Farm, Douglass County, Wyoming. Field Lead during two rotations, responsible for performing an intensive pedestrian survey of all project elements consisting of turbine locations, access roads, and electrical transmission lines; Ms. Cardenas rotations covered up to 2,000 acres out of the total 6,000 acres for the project. Responsibilities included overseeing staff, site recordation and recommendations for evaluations per Section 106 of NHPA. Work was conducted from October 2018 through May 2019.

Master Agreement for Zone 3 for the Federal Emergency Management Agency Public Assistance Program. Project Manager responsible for providing consulting services and overseeing qualified Archaeologists and Architectural Historians for deployment to areas recovering from major disasters or emergencies within Zone 3 (Regions 2, 7, 9 and 10), as declared by the U.S. President. Work was conducted from August 2018 – January 2021.

Stanton Energy Reliability Center, LLC. Stanton Energy Reliability Center, Stanton, Orange County, California. Project Manager and California Energy Commission (CEC) approved Cultural Resources Specialist for the monitoring program for paleontological and cultural resources in compliance with the CEC's Paleontological and Cultural Resources Conditions of Certification during construction of the SERC (16-AFC-1C). Other duties included overseeing the Health and Safety Management Program as a PaleoWest Safety Officer. Work was begun in August 2018 (with CH2M) and was completed in January 2021 (PaleoWest).

With CH2M/Jacobs

Freight Corridor Improvement Project Along Interstate 5, Los Angeles County, California, Caltrans District 7. Principal Investigator responsible for a Phase I cultural resource investigation for the proposed Freight Efficiency Improvements Project along segments of Interstate 5 in Los Angeles County, California. The Phase I investigation included a literature search, tribal and agency consultation, an intensive pedestrian survey, and technical report. This work was conducted in compliance with CEQA and Caltrans regulations, including the January 2014 First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federally-Aided Highway Program in California. Also served as Safety Coordinator responsible for overseeing the Health and Safety Program for the company for this project. Work was conducted June through September 2018.

Extended Phase I Proposal for CA-LAN-134, CA-LAN-201 and the LA-1 Storm Water Treatment Best Management Practices Project in Los Angeles County, Caltrans District 7. Principal Investigator for Prehistoric Archaeology. Designed and authored the Extended Phase I Proposal for CA-LAN-134, CA-LAN-201 and the LA-1 Storm Water Treatment Best Management Practices Project in Los Angeles County for California Department of Transportation, District 7. The document contains the proposal or plan for conducting the XPI work in compliance with the Caltrans Environmental Handbook on Cultural Resources, Chapter 5 (Exhibit 5.2) and with 36 Code of Federal Regulations (CFR) § 800.4(b) and Stipulation VIII B of the Section 106 Programmatic Agreement that governs Caltrans cultural resource actions on federally assisted state and local projects and similar requirements under the California Environmental Quality Act. Work was conducted from August through September 28, 2018.

Naval Air Weapons Station, China Lake, California. Remedial Investigations at Landfill Operable Unit Early Stage Sites. Cultural Resources Specialist and author of the Cultural Resources Survey Work Plan for the proposed project under Contract Task Order FZ05. The Plan was prepared for the Department of the Navy, Naval Facilities Engineering Command, Southwest. Under the NAVFAC CLEAN 9000 Program, Contract N62470-16-D-9000. Work was conducted in September 2018.

NextEra Energy Resources, LLC. Sky River Energy Facility Repowering Project, Kern County, California. Cultural Resources Specialist in conducting a cultural resources assessment to address potential effects on historic properties from implementation and construction of components for the Project. Pedestrian survey of 1124.9-acres was completed in compliance with Section 5024.1 of the California Public Resources Code to identify archaeological or historical resources in the APE, California Environmental Quality Act, and the National Register of Historic Properties (36 *Code of Federal Regulations* [CFR] 800.16[l][1]). Responsibilities included tribal consultation draft letters, literature search and review, directing the pedestrian survey, and authoring report and associated documents. Also served as Safety Coordinator responsible for overseeing the Health and Safety Program for the company during field activities for this project. Work was conducted from January through August 2018.

Siskiyou Telephone, Lower Airport and Danville Road Telecommunications Projects, Siskiyou County, California, Caltrans permits Sis-96-40.61 and 0218-6SV-0136. Cultural Resources Specialist who conducted a cultural resources assessment to address potential impacts on historic resources for the two projects. Cultural resources inventory was conducted in compliance with Section 5024.1 of the California Public Resources Code to identify archaeological or historical resources in the area of potential effect and the *Memorandum of Understanding*

Between the California Department of Transportation and the California State Historic Preservation Officer Regarding Compliance with Public Resources Code Section 5024 and Governor's Executive Order W-26-92. Work was conducted from February through June 2018.

The City of San Mateo, Clean Water Program, San Mateo County, California. Principal Investigator tasked to conduct several cultural resource assessments for various projects under the program. The studies included literature searches with the California Historical Information System and intensive pedestrian surveys which were completed pursuant to the California Environmental Quality Act; California Public Resources Code (PRC) Chapter 2.6, Sections 21083.2 and 21084.1; Title 14 of the CCR, Chapter 3, Article 5, Section 15064.5; Section 5024.1 of the PRC; and Section 106 of the National Historic Preservation Act to assess the potential to affect historical resources and historic properties. In addition, Ms. Cardenas authored the cultural resources section of the Draft Environmental Impact Report. Also served as Safety Coordinator responsible for overseeing the Health and Safety Program for the company for this project. Work was conducted from June 2017 through September 2018.

Global Privacy Policy

This template complies with Jacobs Global Privacy Policy.

Jenna Tanner

ARCHAEOLOGIST, B.A.

EDUCATION

Adams State University, Projected Graduation in 2026
Master of Arts, Cultural Resource Management

University of California, Santa Cruz, 2015
B.A. Anthropology and Earth Science. Concentrations in Archaeology, Biological Anthropology, and Environmental Geology, 2015.

Undergraduate Thesis: Climate Change and Dune Deflation Effects on Archaeological Sites at Año Nuevo State Park, San Mateo County, California. 2015

Teaching Assistant for Field Geology in Spring 2015, Fall 2015, and Spring 2016

Faunal Researcher for Professor Blackmore, 2013 - 2015

West Valley College, 2015
A.A. Anthropology, 2012
A.A Sociology, 2013
A.A. Geography, 2013
A.S. Geology, 2013
Certificate. Geographic Information Systems and Global Positioning Systems, 2015

Cabrillo College, 2012
Archaeology Field School, 2012

TECHNICAL SKILLS

Proficient in Windows, Mac OSX, and Linux Operating Systems

Microsoft Office (Word, Excel, and PowerPoint)

Adobe Photoshop

ArcGIS (Collector, Survey123, and Pathfinder for Trimble and

iPad Devices), Google Earth, Avenza, and ENVI for Remote Sensing

Jenna has over 12 years of professional experience conducting archaeological investigations in California including research, fieldwork, analysis, and reporting. Her experience includes conducing and leading all phases of fieldwork which includes archaeological monitoring, archaeological survey, faunal and human skeletal remains identification, and paleontological vertebrate and invertebrate identification. Jenna has extensive experience working with the Pacific Gas and Electric (PG&E) through their vegetation management program assisting in hazard tree removal and resource protection and with the SHURG program assisting in electrical system hardening, undergrounding, and remote griding. She has been involved in supporting reconstruction of utility infrastructure, vegetation management, and debris clean up following catastrophic wildfire disaster events and aided with all phases of projects. Additionally, Jenna has experience in archival research, environmental compliance, collections management, outdoor education, and is a Nationally Registered Emergency Medical Technician.

Little Egbert Multi-Benefit Project, Solano County, California (November 2023 - January 2024)

Client: Texas Department of Transportation
Role on project: Author
Scope/description: Technical report writing
Responsibilities: Jenna authored the Environmental Impact Report for the Little Egbert Multi-Benefit Project in Rio Vista, California. This included authoring both the cultural and tribal resources existing conditions report in accordance with the California Environmental Quality Act (CEQA). The review included an evaluation of known cultural and tribal resources and past studies and provided mitigation recommendations.

SH 105 from SH 326 to Sweetgum Road, Hardin County, Texas (October 2023)

Client: Texas Department of Transportation
Role on project: Author
Scope/description: Technical report writing
Responsibilities: Jenna authored the Archaeological Background Study for the widening of I-10 from Schulenburg to Weimar, Texas. This included a review of soil, flood hazard, and geologic data, a review of historic aerial and topographic maps, a review of the Texas Archaeological Sites ATLAS and Predictive Archaeological Liability maps and providing archaeological recommendations based on information from above resources.

IH10: FM 155 to FM 2434 Widening, Fayette and Colorado Counties, Texas (October 2023)

Client: Texas Department of Transportation
Role on project: Author
Scope/description: Technical report writing
Responsibilities: Jenna authored the Archaeological Background Study for the widening of I-10 from Schulenburg to Weimar, Texas. This included a review of soil, flood hazard, and geologic data, a review of historic aerial and topographic maps, a review of the Texas Archaeological Sites ATLAS and Predictive Archaeological Liability maps and providing archaeological recommendations based on information from above resources.

Milepost 458.78 Bridge Project, Modoc Subdivision, Modoc County, California (October 2023)

Client: Union Pacific Railroad
Role on project: Archaeologist
Scope/description: Archaeological survey and author

Jenna Tanner *ARCHAEOLOGIST, B.A.*

CERTIFICATIONS AND TRAININGS

Geographic Information Systems and Global Positioning Systems, 2015

Emergency Medical Technician NREMT Certified. 2011

First Aid/CPR Certified. 2020

Hazwoper, 40 Hour. 2022

Hazwoper, 8 Hour Refresher. 2023

AREAS OF EXPERTISE

Faunal and Human Skeletal Remains Analysis

GIS/GPS/Remote Sensing

Vertebrate and Invertebrate Paleontology

Coastal Geology

Fieldwork

OTHER

Total Years of Experience: 12

Office Location: San Jose, CA

Responsibilities: Jenna conducted a pre-activity survey and archaeological site update for the UPRR bridge replacement project. Jenna was responsible for site relocation and drafted DPR updates for the cultural resources assessment.

Supplemental Remedial Investigation Munitions Response Program Site UXO1 at Navel Weapons Station, Seal Beach Detachment Fallbrook, San Diego County, CA (October 2023)

Client: U.S. Department of Defense
Role on project: Archaeologist
Scope/description: Archaeological survey
Responsibilities: Jenna conducted a pre-activity survey and archaeological site relocation within Seal Beach Detachment Fallbrook Naval Weapons Station for vegetation clearance and drilling for monitoring wells. Jenna took survey notes, photographs, and relocated archaeological sites within the project area, and flagged archaeological sites for avoidance.

State Route 17 Corridor Congestion Relief Project, Santa Clara County, CA (August 2023)

Client: Santa Clara Valley Transportation Authority and California Department of Transportation, District 4
Role on project: Co-Author
Scope/description: Technical report writing
Responsibilities: Jenna assisted in writing the archaeological survey report for improvements on State Route 17 and upgrades to the SR-17/SR9 interchange in Santa Clara County.

Ferry Service & Parking Expansion Project Environmental Clearance and Preliminary Design Study, Marin County, CA (August 2023)

Client: Golden Gate Bridge, Highway and Transportation District of California
Role on project: Archaeologist
Scope/description: Archaeological monitoring and technical report writing.
Responsibilities: Jenna served as an archaeological monitor within the Larkspur Ferry terminal parking lot in Larkspur, California to ensure avoidance of known cultural resources during a geotechnical investigation. She also drafted a technical memorandum detailing the results of the bores and submitted GIS data.

Coyote Creek Trail, Mabury to Empire, Santa Clara County, CA (July-Present 2023)

Client: City of San Jose
Role on project: Archaeologist and Tribal Liaison
Scope/description: Archaeological monitoring
Responsibilities: Jenna served as an archaeological monitor during the construction of a 1-mile trail in San Jose, California to ensure avoidance of known cultural resources within construction zone. She also served as the main contact between Jacobs and the Tamien Nation.

Union Pacific Railroad Company North Fueling Facility, Dunsmuir Railyard, Siskiyou County, CA (June 2023 to October 2023)

Client: Union Pacific Railroad Company
Role on project: Lead Archaeologist
Scope/description: Archaeological monitoring at a railyard in Dunsmuir, California.
Responsibilities: Jenna serves as an archaeological monitor during the construction of removing hazardous soils to ensure avoidance of known cultural resources within construction zone. She drafted monitoring reports and recorded all artifacts discovered within the site.

PDX 194, Umatilla County, OR (June 2023)

Client: Amazon Web Services
Role on project: Archaeologist
Scope/description: Archaeological monitoring

Responsibilities: Jenna served as an archaeological monitor during the construction of a new Amazon Web Services Warehouse in Umatilla, Oregon to ensure avoidance of known cultural resources within construction zone.

Hartley 1101 System Hardening, Lake County, CA (May 2023)

Client: Pacific Gas and Electric Company
Role on project: Archaeologist
Scope/description: Pedestrian Survey and monitoring, drafting of cultural maps, and drafting a technical memorandum.
Responsibilities: Jenna conducted a pre-construction pedestrian survey of the project area which included taking survey notes, photographs, and recording archaeological sites within the project area. She also monitored a pole replacement. She drafted the after-survey report detailing the results of the survey.

Archway Solar, Lake County, OR (April 2023)

Client: Invenergy, Inc.
Role on project: Archaeologist
Scope/description: Pedestrian survey for the proposed Archway Solar facility, Christmas Valley, Oregon.
Responsibilities: Jenna served as a crew member for pedestrian survey, operated the Collector GPS unit, and assisted in recording sites and taking photographs.

Calpine Sutter Energy Center Decarbonization Project, Sutter County, CA (April 2023)

Client: Calpine Corporation
Role on project: Archaeologist
Scope/description: Co-Author
Responsibilities: Jenna assisted in writing the cultural resources inventory assessment for a carbine capture facility spanning 16-miles through multiple cities in Sutter County.

Potter Valley 1105 System Hardening, Mendocino County, CA (March 2023)

Client: Pacific Gas and Electric Company
Role on project: Archaeologist
Scope/description: Pedestrian Survey, drafting of cultural maps, and drafting a technical memorandum.
Responsibilities: Jenna conducted a pre-construction pedestrian survey of the project area which included taking survey notes, photographs, and recording archaeological sites within the project area. She drafted the after-survey report detailing the results of the survey and the DPR form for a site record update.

Cargill Pipeline Geotechnical Exploration, Alameda County, CA (March 2023)

Client: Cargill, Inc.
Role on project: Archaeologist
Scope/description: Archaeological Monitoring, drafting of cultural maps, and drafting a technical memorandum.
Responsibilities: Jenna served as an archaeological monitor process within East Bay Regional Park District in San Lorenzo, California to ensure avoidance of known cultural resources within construction zone. She drafted a technical memorandum detailing the results of the bores and submitted GIS data.

Viracocha Wind Energy Project – Sand Hill and Rooney Ranch, Alameda County, CA (November 2022 to July 2023)

Client: Salka Energy
Role on project: Archaeologist
Scope/description: Pedestrian Survey, co-author, and drafting cultural survey maps.
Responsibilities: Jenna served as a member of the field crew for pedestrian survey for the proposed Sand Hill and Rooney Ranch Wind Energy Project in Livermore, California. In addition, she created all cultural survey maps and co-authored the after-

survey reports.

Los Medanos Energy Center, Contra Costa County, CA (October 2022 to February 2023)

Client: Calpine Corporation
Role on project: Archaeologist
Scope/description: Archaeological monitoring of construction of carbon capture system.
Responsibilities: Jenna served as an archaeological monitor during the construction of a new carbon capture system within the Los Medanos Energy Center in Pittsburg, California to ensure avoidance of known cultural resources within construction zone.

Former Camp Claiborne, Rapides Parish, LA (December 2022)

Client: U.S. Army Corps of Engineers
Role on project: Archaeologist
Scope/description: Pedestrian survey and subsurface testing for cultural resources within a formally used defence testing site.
Responsibilities: Jenna served as a member of the field crew for pedestrian survey and subsurface testing of the area required for the removals of unexploded WWII-era ordnance in Alexandria, Louisiana. In addition, she assisted with running the GPS collector unit, took handwritten notes, took photographs, and recorded one site within the project area.

Middletown 1101 and 1103 System Hardening, Lake County, CA (September 2022-October 2022)

Client: Pacific Gas and Electric Company
Role on project: Archaeologist
Scope/description: Pedestrian survey, archaeological monitoring, and drafting of Cultural Resource Constraints Report for the undergrounding of utility structures in Middletown, California.
Responsibilities: Jenna conducted the pre-field research and drafted a Cultural Resources Constraints Report for the undergrounding of the Middletown 1101 and 1103 electrical distribution line in multiple locations throughout Lake County. Following the pre-field research, Jenna conducted a surface pedestrian survey of the project area which included taking survey notes and photographs. She drafted the after-survey report detailing the results of the survey. Jenna returned to monitor active trenching for underground utilities, provided a cultural resource tailboard to all construction crew members, and produced a monitoring report.

Hartley 1101 System Hardening, Lake County, CA (September 2022)

Client: Pacific Gas and Electric Company
Role on project: Archaeologist
Scope/description: Pedestrian survey for the undergrounding of utility structures in Lakeport, California.
Responsibilities: Jenna conducted a surface pedestrian survey of the project area which included taking survey notes and photographs. She drafted the after-survey report detailing the results of the survey.

Lower Lake 1101 System Hardening, Lake County, CA (September 2022)

Client: Pacific Gas and Electric Company
Role on project: Archaeologist
Scope/description: Pedestrian survey for the undergrounding of utility structures in Lakeport, California.
Responsibilities: Jenna conducted a surface pedestrian survey of the project area which included taking survey notes and photographs. She drafted the after-survey report detailing the results of the survey.

Upper Lake 1101 System Hardening, Lake County, CA (September 2022)

Client: Pacific Gas and Electric Company
Role on project: Archaeologist

Scope/description: Pedestrian survey for the undergrounding of utility structures in Upper Lake, California.
Responsibilities: Jenna conducted a surface pedestrian survey of the project area which included taking survey notes and photographs. She drafted the after-survey report detailing the results of the survey.

Konocti 1102 System Hardening, Lake County, CA (August 2022)

Client: Pacific Gas and Electric Company
Role on project: Archaeologist
Scope/description: Pedestrian survey for the undergrounding of utility structures in Kelseyville, California.
Responsibilities: Jenna conducted a surface pedestrian survey of the project area

which included taking survey notes and photographs. She drafted the after-survey report detailing the results of the survey.

Ignacio-Mare Island Phase 2 Tower Replacement, Napa, Marin, Solano, and Sonoma Counties, CA (May 2022 – June 2022)

Client: Pacific Gas and Electric Company
Role on project: Archaeologist
Scope/description: Pedestrian survey and drafting of the Department of Parks and Recreation archaeological site forms and after survey report for the replacement of transmission towers in Novato, Petaluma, and Sonoma, California.
Responsibilities: Jenna conducted a surface pedestrian survey of the project area which included taking survey notes, recording resources, and photographs. She drafted the after-survey report detailing the results of the survey and drafted the Department of Parks and Recreation archaeological site forms for resources identified within the project area.

Hecate Bonanza Solar, Klamath County, OR (September 2021)

Client: Hecate Energy, LLC
Role on project: Archaeologist
Scope/description: Pedestrian survey for the proposed Hecate Bonanza Solar facility, Bonanza, Oregon.
Responsibilities: Jenna served as a crew member for pedestrian survey, operated the Collector GPS unit, and assisted in recording sites.

Sanborn Solar Expansion Project, Kern County, CA (July 2021)

Client: Sanborn Solar, LLC
Role on project: Archaeologist
Scope/description: Pedestrian survey and drafting of the Department of Parks and Recreation archaeological site forms in the Mojave Desert, California.
Responsibilities: Jenna conducted a surface pedestrian survey of the project area which included taking survey notes, recording resources, and photographs. She drafted the Department of Parks and Recreation archaeological site forms for resources identified within the project area.

Marine Ocean Terminal Concord Military Base, Contra Costa County, CA (July 2021)

Client: U.S**.** Department of Defense
Role on project: Archaeologist
Scope/description: Archaeological monitoring of construction of a small military facility installation.
Responsibilities: Jenna served as an archaeological monitor during the boring process within the Marine Ocean Terminal Concord Military Base in Concord, California to ensure avoidance of known cultural resources within construction zone. She drafted a monitoring memo detailing the results of the bores and submitted GIS data.

U.S. 20 Chester to Ashton, Fremont County, ID (October 2020 – July 2021)

Client: Idaho Transpiration Department
Role on project: Archaeologist
Scope/description: Pedestrian survey and shovel testing for the widening of the highway and installation of an interchange between Chester and Ashton, Idaho.
Responsibilities: Jenna served as a crew member for survey and subsurface investigations for the replacement of the existing two-lane U.S. 20 roadway with a four-lane roadway and above-ground interchanges between Chester and Ashton in eastern Idaho. She operated the Collector GPS unit and provided her findings in the form of handwritten notes, photographs, and GIS data.

PacifiCorp Klamath Emergency Fire Work within Collier Memorial State Park, Klamath County, OR (December 2020)

Client: PacifiCorp
Role on project: Archaeologist
Scope/description: Archaeological monitoring of emergency FEMA tree removal following a wildfire, Chiloquin, OR.
Responsibilities: Jenna served as an archaeological monitor during emergency FEMA tree removal following a large-scale wildfire. She operated Google Earth and provided her findings in the form of typed monitoring report, photographs, and GIS data.

Blue Marmot Solar Energy Facility, Lake County, OR (September 2020-December 2020)

Client: Blue Marmot Solar Park, LLC
Role on project: Archaeologist
Scope/description: Pedestrian survey and drafted site forms for the survey report for the proposed construction and operation of the Blue Marmot Solar Energy facility in Lakeview, Oregon.
Responsibilities: Jenna served as a crew member for pedestrian survey for the proposed Blue Marmot Solar Energy Facility. She led one of three field crews and operated the Collector GPS unit and assisted in site recording. Jenna then assisted in drafting parts of the survey report and the archaeological site and isolate forms for the project.

Cedar Springs I, II, and III Cultural Resources Mitigation, Converse County, WY (October 2019 – January 2022)

Client: NextEra Energy
Role on project: Archaeologist
Scope/description: Pedestrian survey and shovel testing for known archaeological resources within the planned area of impact in Douglas, Wyoming.
Responsibilities: Jenna served as a crew member for survey and subsurface investigations of five known archaeological site within the grading boundaries for the Cedar Springs Facility project. She operated the Trimble unit and Collector GPS unit and provided her findings in the form of handwritten notes, photographs, GIS data, and assisted in site recording.

Summit Wind Repower Wind Energy Project, Alameda County, CA (July 2019 to October 2022)

Client: Salka Energy
Role on project: Lead Archaeologist and Lead Paleontologist
Scope/description: Pedestrian survey and archaeological/paleontologically monitoring for the Summit Wind Energy Project in Livermore, California.
Responsibilities: Jenna served as the paleontology and archaeology lead on a large-scale windfarm for the removal of older wind turbines and the site relandscaping and installation of new wind turbines in the Altamont Pass, California. Over the course of four years, Jenna served as a lead for conduct multiple surveys and monitored construction to ensure avoidance of cultural and paleontological resources. She led

multiple crews through different phases of the project, operated Google Earth and ArcGIS through a handheld device and provided her findings in the form of monitoring reports, survey reports, handwritten notes, photographs, drafting survey coverage maps and GPS data.

PREVIOUS EXPERIENCE

Archaeologist, Stantec Consulting, Inc., San Jose, California
2021 – 2023.

General Overview of Position: Primary responsibilities included conducting archaeological investigations in California, including archaeological monitoring, pedestrian survey, and excavation; authoring over 100 Cultural Resource Constraint Reports for vegetation management and undergrounding programs, over 20 technical memorandums, over 10 After Survey Reports, Reports; served as an quality reviewer for colleagues' reports; conducting extensive research; preparing archaeological site forms; fieldwork coordination; completing state resource survey forms; and developing maps. Primary client was Pacific Gas and Electric Company.

Select Projects:

- Metcalf Substation Burial Recovery, Santa Clara, California. Role: Archaeologist/Burial Recovery Specialist. Client: Pacific Gas and Electric Company.
- GPRP Madison Street and Jonathan Street Gas Pipeline Installation, Santa Clara County, California. Role: Archaeologist/Lead Author. Client: Pacific Gas and Electric Company.
- Padre Flat Substation-Panoche 230kV Reconductor Project, BOR Segments, Merced County, California. Role: Archaeologist/Lead Author. Client: Pacific Gas and Electric Company.
- Lucerne 12kV CEMA UKIBLM Vegetation Management Project, Lake County, California. Role: Archaeologist/Lead Author. Client: Pacific Gas and Electric.
- SFPUC Sunol 12kV Vegetation Management Project, Alameda County, California. Role: Archaeologist/Lead Author. Client: Pacific Gas and Electric Company.
- Salinas Street and Merritt Street Gas Pipeline Installation, Monterey County, California. Role: Archaeologist/Lead Author. Client: Pacific Gas and Electric Company.
- M2M Lab Building Project, Moffett Field, Santa Clara County, California. Role: Archaeologist. Client: National Aeronautics and Space Administration and the United States Geological Survey.
- Monterey Substation Line Project, Monterey County, California. Role: Archaeologist/Lead Author. Client: Pacific Gas and Electric Company.

Archaeologist/Paleontologist, Applied Technology and Sciences, San Francisco, California. 2021 – 2023.

General Overview of Position: Primary responsibilities included conducting archaeological and paleontological investigations in California, including archaeological and paleontological monitoring, pedestrian survey, and excavation; conducting extensive research; preparing archaeological site forms; fieldwork coordination; completing state resource survey forms; and developing maps.
Select Projects:

- ALA-84 Niles Canyon Safety Improvements, Alameda County, California. Role: Paleontologist. Client: California Department of Transportation, District 4.
- Alameda Creek Bridge Replacement Project, Alameda County, California. Role: Paleontologist. Client: California Department of Transportation, District 4.
- SR-84 Expressway Widening and SR-84/I-680 Interchange Improvements

Project, Alameda County, California. Role: Paleontologist. Client: California Department of Transportation, District 4.
- Google 399 West Java and Google Caribbean Projects, Santa Clara County, California. Role: Paleontologist. Client: Google, Sar Regis, and Devcon.
- SCU Complex Fire A.4 Fence Repair Project, Alameda and Santa Clara Counties, California. Role: Archaeologist/Lead Author. Client: San Francisco Public Utilities Commission.
- SMP30 Fissure Project, Alameda County, California. Role: Archaeologist. Client: San Francisco Public Utilities Commission.

Archaeologist, Beckett Environmental Co., Jackson, California. 2021 – 2022.

General Overview of Position: Primary responsibilities included conducting archaeological investigations, including pedestrian survey, and excavation.

Select Projects:

- Mokelumne Community Forest Project, Amador County, California. Role: Archaeologist. Client: Bureau of Land Management.

Archaeologist/Faunal Analyst, Albion Environmental, Santa Cruz, California. 2015-2017.

General Overview of Position: Primary responsibilities included excavation and processing materials; wet and dry screening; lab sorting of excavated materials; sorting of mammal fauna by taxa; archaeological monitoring; and organization of artifacts.
Select Projects:

- Franklin Block 448 Project at former Mission Santa Clara, Santa Clara County, California. Role: Faunal Analyst/Archaeologist. Client: Santa Clara University.

Field Geology Teaching Assistant, University of California, Santa Cruz. Santa Cruz, California. 2015 – 2016

General Overview of Position: General Overview of Position: While a teaching assistant for three quarters, introduced 25+ undergraduate students to techniques used by professional geologists to develop basic field geology skills of collecting, analyzing, and presenting data in a lecture, laboratory, and field setting. Instructed included basic structural geology and stratigraphy, how to read and interpret geologic maps, how to identify and classify rocks, writing concise and accurate descriptions, instructed students on how to use a Brunton compass and how to measure stratigraphy with a Jacob's staff, how to prepare a geologic map and cross section, and writing clear and concise scientific papers while working with multiple working hypothesis from what was gathered in the field.

Teaching Assistant, Foothill College Field School. Los Altos, California. 2014

General Overview of Position: Helped oversee and coordinate archaeological field students during survey, excavation, and lab in the Monte Bello Preserve. Assisted students to locate, collect, record, interpret data for the project while surveying and excavating. Oversaw laboratory/processing activities such as cleaning, reconstruction, classification, and cataloguing of artifacts. Provided guidance and leadership to students in faunal analysis, identifying fossils, working with GIS, and lithic analysis.

Faunal Researcher, University of California, Santa Cruz, Blackmore Lab. Santa Cruz, California. 2013 - 2015

General Overview of Position: Logged over 100+ hours analyzing, sorting, and

identifying species, element, and human/nonhuman modifications of fauna excavated from Mission San Antonio de Padua. Created and maintained protocols and trainings for incoming student researchers as well as generating and managing all databases.

Bioarcheological Field Technician, Foothill College, San Jose, CA. 2013

General Overview of Position: Contracted through URS Corporation, primary responsibilities included excavation and data recovery of historic burials and resources. Data recovery included the excavation of over 60 burials with in situ analysis and recording all artifacts via notes, profile and plan drawing, photographic and video records. Also performed total station set-up and archaeological survey, artifact analysis, documentation, and packaging artifacts for transfer.

Archaeological/Paleontological Lab Assistant and Teaching Assistant, Foothill College, Los Altos, California. 2013-2015.

General Overview of Position: General collections management and care, processing, and data entry of seven anthropological and three paleontological collections. The collections included Native American cultural material and remains, local invertebrate and vertebrae fossils, artifacts from local historical sites, teaching collections of human remains, and the Castroville Mammoth remains. Responsible for processing human and the Castroville Mammoth remains and cataloging.

Appendix D
Records Search Results

[Appendix D is confidential for appropriate CEC viewing only]

Appendix E
Native American Heritage Commission Results

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov

April 8, 2024

Natalie Lawson
Jacobs

Via Email to: natalie.lawson@jacobs.com

Re: Calpine Tanager BESS Project, Santa Clara County

To Whom It May Concern:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information submitted for the above referenced project. The results were positive. Please contact the Northern Valley Yokut / Ohlone Tribe on the attached list for information. Please note that tribes do not always record their sacred sites in the SLF, nor are they required to do so. A SLF search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with a project's geographic area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites, such as the appropriate regional California Historical Research Information System (CHRIS) archaeological Information Center for the presence of recorded archaeological sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. Please contact all of those listed; if they cannot supply information, they may recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

Attachment

APPENDIX F:

VISUAL IMPACT ASSESSMENT

Jacobs

Tanager BESS Project – Visual Impact Assessment

Date:	January 2025
Project name:	Tanager Battery Energy Storage System Project
Attention:	Nadira Basdeo/Calpine, Emily Precht/Calpine
Company:	Calpine Corporation
Prepared by:	Patricia Steinholtz/Jacobs
Copies to:	Joe Aguirre/Jacobs

Jacobs Project Management Co.

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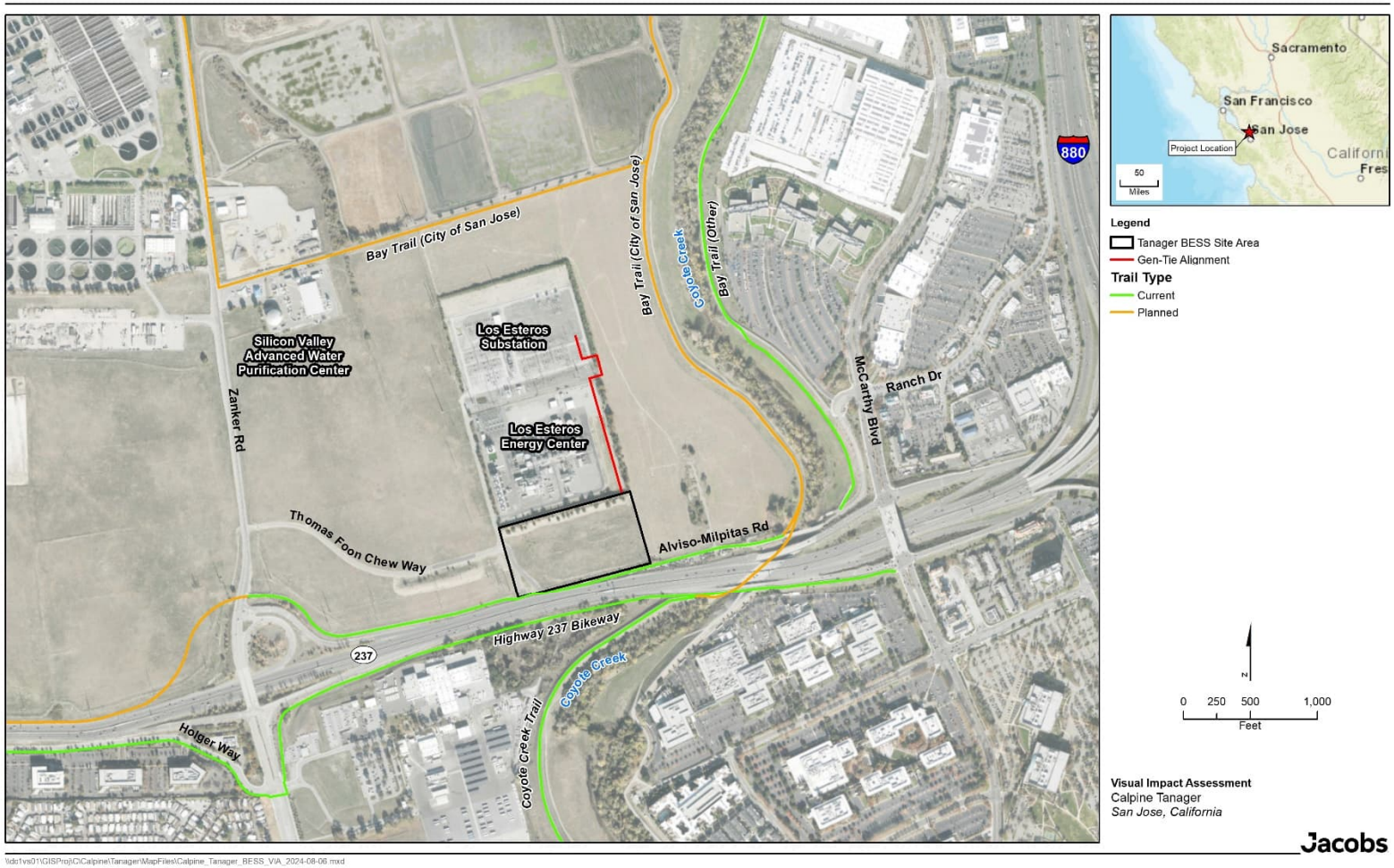
1. Introduction

Los Esteros Critical Energy Facility, LLC, on behalf of Tanager Power, LLC proposes to construct and operate the Tanager Battery Energy Storage System (BESS) Project (Project) at the former temporary laydown and construction parking area for the Los Esteros Critical Energy Facility (LECEF). The Project consists of the installation of a nominal 200-megawatt (MW) lithium-ion BESS, interconnection, and communication system. The Project will provide grid support and reliability services to the Bay Area Local Reliability Area.

This memorandum analyzes potential visual resource impacts for the Project, located in the City of San Jose, Santa Clara County, California. The Project would be located along the north side of State Route (SR) 237, approximately 0.75 mile west of Interstate (I)-880 (Figure 1). The Project would be constructed on approximately 12.8 acres adjacent to, and south of, the existing LECEF. The primary Project site is located on the same parcel as the LECEF (APN: 015-310-72). Before its temporary use as a laydown and construction parking area for the LECEF, the site was used for agricultural operations. The previously disturbed Project site is currently vacant and primarily covered with grasses and areas of gravel. Calpine owns and operates the LECEF.

Visual impacts are generally defined as changes to the scenic attributes of the landscape caused by development and the associated changes in the visual experience of the landscape. A Visual Impact Assessment is the analysis of the potential visual impacts to, and views of, the landscape resulting from a proposed development or land management action (BLM n.d.a.).

Figure 1. Project Site



2. Methodology

The methodology for assessing visual impacts was based on the California Energy Commission's (CEC's) Data Adequacy Worksheet for Visual Resources prepared in 2007, which requires the following:

1. Describe existing site conditions and visual setting, including visual properties of the topography, vegetation, and landscape modifications.
2. Assess the existing visual quality that would be affected by the Project.
3. Identify any designated scenic roadways and visually sensitive areas that would be affected by the Project.
4. Identify locations of key observation points (KOPs) to represent the most critical viewing locations from which to analyze visual impacts of the proposed Project.
5. Provide the dimensions and design characteristics of major visible Project components.
6. Assess visual impacts of the Project, including light and glare.
7. Identify applicable laws, ordinances, regulations, and standards (LORS), and adopted local, regional, state, and federal land use plans applicable to the Project and conformance with each.
8. Provide measures to mitigate adverse visual impacts.

3. Existing Conditions

3.1 Regional Setting

The Project site is located in the Bay Terraces/Lower Santa Clara Valley ecoregion, which is an urbanized area around San Jose and the lower Santa Clara Valley. Within this ecoregion, "common vegetation historically included coast live oak, California oatgrass, and needlegrass grasslands, although land use now is nearly all urban and residential. All but the larger streams are dry through most of the summer" (Griffith et al. 2016). The county's "major topographical features include the Santa Clara Valley, the Diablo Range to the east, and Santa Cruz Mountains to the west" (Santa Clara County 1994; SCMBC 2020). The Diablo Range is visible to the east of the Project site in the distance.

3.2 Project Setting

The Project site is within San Jose's Alviso neighborhood, the city's northernmost area. The site is currently vacant. The southern boundary is adjacent to Alviso Milpitas Road, a small frontage road that abuts and parallels SR 237/Southbay Freeway. The 22-acre LECEF is a 320-MW combined-cycle power plant located at 800 Thomas Foon Chew Way, which is a short, private access road connected to Zanker Road to the west that would also provide access to the Tanager BESS facility. The LECEF consists of natural gas-fired turbines, steam generator tube sections and evaporator drums and piping, duct burners, a steam turbine

generator, a cooling tower, ancillary equipment, switchyard, 550-foot-long pipelines, and a 230-kV transmission line (CEC 2024). The facility's most visible features appear as an industrial building comprised of a broad, beige rectangular form topped with short cylindrical shapes and a separate unit comprised of several tall, connected gray cylinders of varying heights interspersed with horizontal and vertical elements (Figure 2).

Figure 2. Looking North from Alviso Milpitas Road Area toward the LECEF

Photograph taken on April 17, 2024.

The existing LECEF components use operational lighting. The rounded forms of green, deciduous trees are dispersed in an east-west row along the west, south, and east sides of the LECEF, partially obscuring the facility. The Los Esteros Substation, which is owned and operated by the Pacific Gas & Electric Company, occupies approximately 16.5 acres directly adjacent to the north side of the LECEF (Google Maps 2022). Substations typically consist of substation transformers, circuit breakers and switches, and capacitors (Stein 2024). The Los Esteros Substation appears as a series of vertical gray posts connected by horizontal bars and wires (Figure 3).

Figure 3. Looking East from Zanker Road toward the LECEF (Center) and Los Esteros Substation (Left)

Photograph taken on May 22, 2024.

The Project site, LECEF, and associated Los Esteros Substation are currently surrounded to the east, west, and north by vacant land. Additional vacant land and industrial facilities are located along Zanker Road, northwest of the Project site. Coyote Creek, which denotes the City of San Jose's eastern boundary in the Project area, forms a curving north-south waterway approximately 0.25 mile east of the Project site. Coyote creek is narrow and slightly incised; the presence of water is indicated by the dense riparian vegetation that lines both sides of the creek, forming a slim band of green vegetation that obscures farther views (Figure 4). The Coyote Creek Trail parallels the east side of the creek, north of SR 237. A sprawling commercial and office complex area, including expansive parking lots, is east of the trail, occupying land between the Coyote Creek Trail and I-880 to the east. A large data center, located immediately east of the Project site, is in planning stages (CEC 2025).

Figure 4. Looking West from Coyote Creek Trail toward the Project Site

Photograph taken on May 22, 2024.

Alviso Milpitas Road begins near the intersection of Ranch Drive and McCarthy Boulevard approximately 0.2 mile north of SR 237 and 0.4 mile east of the LECEF. The two-lane paved road travels south and takes a 90-degree curving turn to the west at SR 237, paralleling the northern side of the highway for approximately 0.25 mile. Alviso Milpitas Road then narrows, continuing west another 0.25 mile until it reaches the western boundary of the Project site, where the road becomes the Highway 237 Bikeway. The bikeway parallels SR 237 and dead-ends at Zanker Road. A future segment of the bikeway is planned to continue west past Zanker Road (City of San Jose n.d.a.).

SR 237 is an eight-lane highway traveling generally east-west and divided by an approximate 3-foot-tall concrete median. The highway is at-grade but rises to the east where an on-ramp from I-880 enters the westbound traffic. Alviso Milpitas Road is intermittently separated from SR 237 by a concrete median, concrete wall, metal guardrail, or chain-link fence.

Zanker Road interchanges with SR 237, traveling over the highway and continuing north and south, passing the Project site, LECEF, and Los Esteros Substation, which are approximately 0.7 mile to the east. The Silicon Valley Advanced Water Purification Center is located on approximately 7 acres just east of Zanker Road, approximately 1 mile north of SR 237. The industrial site includes a large beige water tank, a long, low, and gray warehouse-like structure, and a smaller white, blue-roofed building.

A 0.8-mile segment of Alviso Milpitas Road and Highway 237 Bikeway is designated as part of the San Francisco Bay Trail, a planned regional trail. This segment of the Highway 237 Bikeway is also designated as part of the Juan Bautista De Anza National Historic Trail (NHT) (City of San Jose n.d.a.). The Juan Bautista De Anza NHT travels over 1,200 miles through three states along a historic route of the 1775 to 1776 Spanish colonizing expedition from Mexico to San Francisco (NPS 2024a). To qualify for designation, NHTs must have "significant potential for public recreational use or historical interest" (*United States Code* [U.S.C.] Title 16, Section 1244(b)). They should generally follow the historic route but may deviate from it to avoid development. NHT segments are "no longer possible to travel by trail due to subsequent development as motorized transportation routes may be designated and marked onsite as segments which link to the historic trail" (16 U.S.C. Section 1244(b)). The National Park Service shows the Juan Bautista De Anza NHT traveling east-west generally through the existing Los Esteros Substation footprint, and identifies SR 237 as an auto tour route for the trail (NPS 2024b).

The Metropolitan Transportation Commission (MTC) and the Valley Transportation Authority (VTA) identify Coyote Creek Trail and Alviso Milpitas Road as segments of the Bay Trail. The MTC identifies Zanker Road as a planned future segment of the Bay Trail, and the VTA identifies it as an unnamed bicycle route (Figure 1) (MTC 2024; VTA 2020). The City of San Jose identifies a gated road paralleling the west side of Coyote Creek as a planned, future section of the Bay Trail from Alviso Milpitas Road north approximately 2.2 miles. The City also identifies a dirt road north of the Los Esteros Substation from the future Bay Trail route to Zanker Road as a planned segment of the Bay Trail, which would head north on Zanker Road (City of San Jose n.d.a.).

Coyote Creek and Coyote Creek Trail take a sharp bend to the west where they cross under SR 237, then wind back toward the southeast. At this point, Coyote Creek Trail is no longer part of the Bay Trail (MTC 2024; City of San Jose n.d.b.). Land near the trail south of SR 237 is slightly more vegetated than north of the highway. However, the trail south of SR 237 is surrounded by extensive office building complexes and a VTA yard east of Zanker Road, which is comprised of large warehouse-like buildings and parking lots.

The Project site, including the LECEF and Los Esteros Substation, are zoned A(PD) (Planned Development with an Agricultural base zone). Land to the east, north, and west of the Project site is zoned Light Industrial; land farther north is zoned Industrial Park and Heavy Industrial. Land along Coyote Creek is zoned Agricultural north of SR 237 and Industrial Park south of the highway. None of these zoning districts include provisions related to visual resources or aesthetics (City of San Jose 2021, 2024a). The *Alviso Master Plan* designates the Project site as Light Industrial land use type. The plan's "general direction" for Light Industrial land uses states, "Appropriate screening and landscaping is required in … light industrial areas. Landscaping and screening … along Route 237 … should protect views of Alviso from the freeway" (City of San Jose 1998).

3.3 Visual Quality

The CEC's Data Adequacy Worksheet for Visual Resources does not include a definition of visual quality. Therefore, the assessment of visual quality is based on the Visual Resource Inventory process developed by the Bureau of Land Management (BLM). The BLM defines visual quality as "a measure of the visual appeal of a tract of land" (BLM 1986). Under the Visual Resource Inventory process, landscapes are given a visual quality rating of A, B, or C based on landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications. These factors are ranked comparative with similar features within the ecoregion. The BLM notes that, "Areas with the most variety and most harmonious composition have the greatest scenic value…. [Hu]man-made features that complement the natural landscape may enhance the

scenic value" (BLM 1986). Table 1 provides rating criteria and associated numerical scores. A score is determined by selecting the appropriate number that best describes each factor in the landscape.

Table 1. Visual Quality Inventory and Evaluation Chart

Key Factors	Rating Criteria and Scores		
Landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops, or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers.	Steep canyons, mesas, buttes, cinder cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features that are interesting though not dominant or exceptional.	Low rolling hills, foothills, or flat valley bottoms; or few or no interesting landscape features.
	5	3	1
Vegetation	A variety of vegetative types as expressed in interesting forms, textures, and patterns.	Some variety of vegetation, but only one or two major types.	Little or no variety or contrast in vegetation.
	5	3	1
Water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape.	Flowing, or still, but not dominant in the landscape.	Absent, or present, but not noticeable.
	5	3	0
Color	Rich color combinations, variety, or vivid color; or pleasing contrasts in the soil, rock, vegetation, water, or snowfields.	Some intensity or variety in colors and contrast of the soil, rock and vegetation, but not a dominant scenic element.	Subtle color variations, contrast, or interest; generally muted tones.
	5	3	1
Influence of Adjacent Scenery	Adjacent scenery greatly enhances visual quality.	Adjacent scenery moderately enhances overall visual quality.	Adjacent scenery has little or no influence on overall visual quality.
	5	3	0
Scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc.	Distinctive, though somewhat similar to others within the region.	Interesting within its setting, but fairly common within the region.
	5	3	1

Key Factors	Rating Criteria and Scores		
Cultural Modifications	Modifications add favorably to visual variety while promoting visual harmony.	Modifications add little or no visual variety to the area and introduce no discordant elements.	Modifications add variety but are very discordant and promote strong disharmony.
	2	0	-4

Source: BLM 1986

A (high) = 19 or more; B (moderate) = 12-18, C (low) = 11 or less.

Table 1 was used to evaluate the visual quality of the three KOPs selected for impact analysis both before and after Project construction. The visual quality scores determined for each KOP were then totaled and a rating assigned based on the BLM's scenic quality rating criteria (BLM 1986, n.d.a., n.d.b.):

3.4 Visually Sensitive Areas

None of the following designated scenic or visual elements are within the Project area:

- National or State Scenic Byways (FHWA n.d.; Caltrans 2024)
- Wild or Scenic Rivers (NPS 2021)
- National Historic Landmarks or National Natural Landmarks (NPS 2023a, 2023b)
- Dark Sky Places, as recognized by the International Dark-Sky Association (International Dark-Sky Association n.d.)
- City of San Jose Scenic Corridors (City of San Jose 2016)

The Project would be visible primarily from SR 237, Alviso Milpitas Road, and, to a lesser extent, Zanker Road, as follows:

- SR 237 consists of eight lanes of traffic traveling east/west. The posted speed limit on SR 237 adjacent to the Project site is 55 miles per hour (mph) (Google Maps 2022). Motorists traveling on SR 237 face away from the Project site, which is north of the highway. Highway travelers include commuters, tourists, and freight truckers driving or occupying motorized vehicles.
- Alviso Milpitas Road is not a through street; it is approximately 0.7 mile long from the intersection of Ranch Road and McCarthy Boulevard just east of Coyote Creek Trail to a southern spur off Thomas Foon Chew Way, where the pavement constrains to a bicycle path (Highway 237 Bikeway). Travelers are more likely cyclists than motorists because Alviso Milpitas Road is short and does not lead to a destination.
- Zanker Road is a paved, two-lane road traveling north-south that is open to cyclists and is designated for bicycle use. An open expanse of vacant land is between Zanker Road and the Project site to the east (Google Maps 2022). The speed limit on this section of Zanker Road is 45 mph (City of San Jose 2017). Motorists face away from the Project site while traveling on Zanker Road. Views of the site would be most prevalent along a short segment of Zanker Road where it intersects with SR 237, south of Thomas Foo Chew Way. Travelers would primarily include commercial and freight truckers that service the industrial areas at the northern end of Zanker Road. Although people living in a residential area

approximately 1.3 miles west of Zanker Road may use it to access SR 237, there are shorter routes to the highway.

Thomas Foon Chew Way, which is an access road to the Project area from Zanker Road, is a gated, private road with no public access.

Very few residential areas exist within view of the Project site. Views from such areas toward the site are mostly obscured by industrial and office complexes, highways, and landscaping.

Although Coyote Creek Trail is slightly elevated, views to the west toward the Project site from the trail north of SR 237 are obscured by dense riparian vegetation along Coyote Creek. Views toward the Project site from the trail south of SR 237 are also partially hindered by vegetation between the trail and highway. Other than the bicycle routes mentioned previously, no other outdoor recreational facilities with views of the Project site were identified.

Industrial areas are not typically considered to be sensitive viewing locations because views are typically restricted to interior, often windowless spaces where employees are focused on work tasks rather than outside views.

3.5 Key Observation Points

Sensitive viewing areas and sensitive receptors in the Project vicinity were identified for this analysis. Three representative viewpoints, or KOPs, were selected, as follows (Figure 5):

- KOP 1: Travelers (motorists) on SR 237, and recreationalists/commuters traveling east-west on the Highway 237 Bikeway, looking north
- KOP 2: Recreationists/commuters (typically cyclists/pedestrians) using Coyote Creek Trail south of SR 237, looking northwest
- KOP 3: Residents at the northeastern side of the Westwinds modular home community south of the intersection of Zanker Road and Holger Way, looking northeast

Fieldwork was conducted in April 2024 by Jacobs staff to photograph the existing conditions from each KOP. A single-lens reflex 35-millimeter camera with a 50-millimeter lens was used to shoot the photographs to best approximate the average view cone and magnification of the human eye (FHWA 2015).

Figure 5. Key Observation Point Locations

3.5.1 KOP 1: View from SR 237 Looking North

Figure 6 depicts the view looking north from KOP 1, immediately adjacent to the southern boundary of the Project site. KOP 1 represents views for travelers on SR 237 and, to a lesser extent, travelers on Alviso Milpitas Road, including cyclists and possibly pedestrians. Average annual daily traffic is 101,000 for SR 237 east of Zanker Road (Caltrans 2023, 2015). The photograph for KOP 1 was not taken from the highway for safety reasons and therefore does not include a slightly elevated view of the existing concrete guardrail, chain-link fence, and overhead utility wires that occupants of motor vehicles would see.

The landform in this view is generally flat. A broad swath of vacant land covered in green grass rises slightly beyond the immediate foreground. Some green, textured trees form rounded clumps in an intermittent horizontal row from west (left) to east (right) along the low rise approximately 450 feet north of the viewpoint. A tall, beige, rectangular building topped with short cylinders is to the west. A broad industrial structure comprised of tall, gray, interconnected cylinders and vertical and horizontal forms is in the approximate center of the view. Other indistinguishable structures are partially visible. Vertical poles and interconnecting wires rise above these structures to the west; shorter poles are to the east. All of these human-made structures are partially obscured by the row of trees. A bright blue sky with translucent white wisps fill the upper half of the view.

Figure 6. KOP 1 — View from SR 237 Traveling Westbound or Highway 237 Bikeway, Looking North

Photograph taken on April 17, 2024.

The expanse of grass and row of trees provide a sense of manipulated naturalness in an otherwise highly developed setting. Although the trees are not sufficiently tall or broad enough to completely obscure the LECEF structures beyond them, which intrude upon the view, the majority of the scene appears natural but not memorable. For these reasons, visual quality at KOP 1 is low, with a rating of "C" (Table 2).

Table 2. KOP 1 Visual Quality Rating Score, Existing Conditions

Key Factors	High	Medium	Low	Rationale
Landform	5	3	**1**	Landform is generally flat; few interesting landscape features.
Vegetation	5	**3**	1	Some variety of vegetation, but only two major types (grass and trees).
Water	5	3	**0**	None.
Color	5	**3**	1	Some intensity in the greens of the grass and trees, but color is not a dominant scenic element.
Influence of Adjacent Scenery	5	3	**0**	Distant mountains to the east are not visible in this view and do not influence it.
Scarcity	5	**3**	1	Industrial and utility features are common in the area; grassy expanses are less common but occur west of Zanker Road.
Cultural Modifications	2	**0**	-4	Industrial elements add little variety and do not share unifying elements, which appear somewhat discordant; however, trees partially obscure these elements.
Totals	**0**	**9**	**1**	**10**

A (high) = 19 or more; B (moderate) = 12-18, C (low) = 11 or less.

3.5.2 KOP 2: View from Coyote Creek Trail South of SR 237 Looking Northwest

Figure 7 depicts the view looking north from KOP 2, approximately 400 feet south of the southern boundary of the Project site and 200 feet south of SR 237 on the Coyote Creek Trail. KOP 2 represents views for users on Coyote Creek Trail, including pedestrians, runners, cyclists, and other types of trail recreationists or commuters.

The landform dips into a V-shaped trough-like depression in the immediate foreground, rising abruptly to meet SR 237. The depression is covered with tall, bright green grass. Rounded forms of darker green deciduous trees are to the west (left) within the depression. The rounded form of another green deciduous tree is to the east (right) and is conspicuous because of its proximity to the viewer. The trees have a stippled textural pattern. A paved path parallels SR 237; both are smooth and gray, creating a slight diagonal line across the view. A handful of motor vehicles are on the highway. Chain-link fences parallel the road at the bottom of the depression, along the paved path, and along SR 237. Telephone poles and, to a lesser extent, utility poles, are notable vertical elements adjacent to the road. A broad metal highway sign crosses SR 237 to the west, creating a short horizontal band. Beyond the highway, a narrow strip of grass and a row of dark green trees are visible. The gray form of the LECEF is visible beyond the trees, its vertical elements and broad mass extending above and through the trees. A tall, beige building and its circular rooftop forms are partially visible through the trees farther west.

Figure 7. KOP 2 — View from Coyote Creek Trail Looking North

Photograph taken on April 17, 2024.

The human-made features, particularly the highway and associated elements, contrast with the grass and trees in the immediate foreground, disrupting a sense of naturalness. For these reasons, visual quality at KOP 2 is low, with a rating of "C" (Table 3).

Table 3. KOP 2 Visual Quality Rating Score, Existing Conditions

Key Factors	High	Medium	Low	Rationale
Landform	5	3	**1**	Landform includes a foreground depression but is otherwise flat with no interesting landscape features.
Vegetation	5	**3**	1	Some variety of vegetation, but only two major types (grass and trees).
Water	5	3	**0**	None.
Color	5	**3**	1	Some intensity in the greens of the grass and trees, but color is not a dominant scenic element.
Influence of Adjacent Scenery	5	3	**0**	Distant mountains to the east are not visible in this view and do not influence it.

Key Factors	High	Medium	Low	Rationale
Scarcity	5	**3**	1	Industrial, transportation, and utility features are common in this area; grassy expanses are less common but vegetation follows Coyote Creek through most of its length.
Cultural Modifications	2	0	**-4**	Transportation and industrial elements do not share unifying elements, which appear discordant and contrast with vegetation.
Totals	**0**	**9**	**-3**	**6**

A (high) = 19 or more; B (moderate) = 12-18, C (low) = 11 or less.

3.5.3 KOP 3: View from Zanker Road and Holger Way Looking Northeast

Figure 8 depicts the view looking northeast from KOP 3 from a sidewalk on the western side of the intersection of Zanker Road and Holger Way at the northeastern corner of the Westwinds modular home community. The landform rises slightly in the immediate foreground and is covered by smooth, dark gray paved roads with bright white striping, which, along with a gray metallic car, are the most notable visual elements. Light poles and utility structures are prominent vertical features. The rounded forms of a few dark green deciduous trees are to the east (right) and north (left), but appear small because of distance. The low, pale forms of white, featureless buildings are farther into the middleground near the central utility pole. The short cylinders of the top of the LECEF building are barely visible beyond the white buildings. The low, slightly undulating forms of the Diablo Range rise beyond these elements and create a slight, central focal point but are interrupted by utility poles and buildings. Thin utility wires cut across a bright blue sky streaked with translucent white swaths of clouds, which occupy the upper half of the view.

Figure 8. KOP 3 — View from Zanker Road and Holger Way Looking Northeast

Photograph taken on April 17, 2024.

The lines and forms of Diablo Range add a small degree of visual interest in the background, slightly influencing the scene in a positive way. However, the view is dominated mostly by road pavement, traffic signals, and overhead lights and wires, which are common in the area and encroach upon views of distant mountains. For these reasons, visual quality at KOP 3 is low, with a rating of "C" (Table 4).

Table 4. KOP 3 Visual Quality Rating Score, Existing Conditions

Key Factors	High	Medium	Low	Rationale
Landform	5	**3**	1	Landform rises slightly in foreground; background mountains add some visual interest but are not dominant or exceptional.
Vegetation	5	3	**1**	Vegetation is limited to a handful of small, scattered trees in the distance; little to no variety or contrast in vegetation.
Water	5	3	**0**	None.
Color	5	3	**1**	Vegetation adds some color, but muted tones of dark gray pavement and white striping are dominant.

Key Factors	High	Medium	Low	Rationale
Influence of Adjacent Scenery	5	**3**	0	Distant mountains create a slight central focal point and moderately enhance overall visual quality, but are encroached upon by built elements.
Scarcity	5	3	**1**	Views dominated by transportation infrastructure are common in this area; low, distant mountains are a common backdrop.
Cultural Modifications	2	0	**-4**	Various pavement striping creates a discordant pattern and the predominantly flat surfaces contrast with several vertical elements, creating disharmony.
Totals	**0**	**6**	**-1**	**5**

A (high) = 19 or more; B (moderate) = 12-18, C (low) = 11 or less.

An opaque, vine-covered wall approximately 6 feet tall parallels Holger Way between the modular homes and the road, obscuring views to the northeast for residents (Figure 9). Mature deciduous trees also line the road alongside the wall as Holger Way travels west. The nearest house to this viewpoint has no windows facing northwest toward the Project site. Similarly, views for adjacent residences either face away from the site or are obscured by vegetation or walls.

Figure 9. Looking South from Holger Way and Zanker Road toward Representative Viewers of KOP 3

Photograph taken on May 22, 2024.

4. Project Appearance

The most visible components of the Project include the following:

- A nominal 200-MW lithium-ion BESS comprised of approximately 125 battery containers, which would be:
  - Approximately 25 feet high (dependent on the technology selection)
  - Placed on either concrete foundations or elevated from grade on pile foundations
- A new 0.5-mile generation tie-line from the Tanager BESS Project to the PG&E 230kV bus at the Los Esteros Substation, primarily traversing south to north along the east boundary the Los Esteros Critical Energy Facility site.
- A new and separate revenue meter for monitoring battery charging and discharging activity.
- Security and operational lighting. Lighting would be restricted to areas needed for safety and operation. To minimize stray light or glare, exterior lights would be hooded and directed onsite. Non-glare fixtures would be specified. Lighting would be activated daily by timers.

5. Assessment of Visual Impacts

This assessment was conducted by determining changes to visual quality at the three KOPs defined for this Project. No measurable change to visual quality is expected at KOP 2 and KOP 3. Substantial change to visual quality is expected at KOP 1 because the new BESS elements would occupy most of the immediate foreground view and replace a grassy expanse, which is somewhat uncommon in this developed area. However, viewers would be primarily highway travelers, most of whom would be facing away from the site and have fleeting views of it. Viewers may also include cyclists and possibly pedestrians using the Highway 237 Bikeway, who would have longer view durations than motorists, but would also be facing away from the site. Visual quality at KOP 1 would diminish but would remain low, as under existing conditions.

5.1 KOP 1: View from SR 237 Looking North

Travelers on SR 237 would have a slightly elevated view of the Project site. The Project's landscaping and perimeter wall along the southern boundary would be visible features beyond the existing concrete guardrail which lines the north side of SR 237. Overhead utility poles and wires along Alviso Milpitas Road would continue to be visible. Although the perimeter wall and landscaping along the southern boundary would provide a partial visual screen of the Project site, the existing grassy expanse in the immediate foreground would be occupied with visible BESS battery containers. The Project would remove some of the natural appearance of the landscape, despite the area being previously disturbed.

Because the battery containers would be approximately 25 feet tall, those closer to the trees along the northern boundary would obscure some of the trees themselves, as well as the LECEF facilities that are visible beyond. The gen-tie line would be minimally noticeable from this viewpoint because their vertical posts and overhead lines would be mostly visually absorbed by the existing LECEF facilities. The gen-tie would add more visual clutter along the east side of the LECEF and Los Esteros Substation but would be generally consistent with the existing powerlines west of the LECEF and Los Esteros Substation. Visual quality would be reduced to 0 but would remain low (Level C), as under existing conditions (Table 5).

Table 5. KOP 1 Visual Quality Rating Score with Proposed Project

Key Factors	High	Medium	Low	Rationale
Landform	5	3	**1**	Landform is generally flat; few interesting landscape features.
Vegetation	5	3	**1**	Foreground grass would be removed; row of intermittent deciduous trees would be mostly obscured.
Water	5	3	**0**	None.
Color	5	3	**1**	Some color interest added by vegetation would be reduced and replaced with muted tones of BESS containers.
Influence of Adjacent Scenery	5	3	**0**	Distant mountains to the east are not visible in this view and do not influence it.
Scarcity	5	3	**1**	Industrial and utility features are common in this area; grassy expanses would become more scarce.
Cultural Modifications	2	0	**-4**	More industrial elements would be visible and dominate the view; they would not share similar elements with existing facilities and would be discordant and disharmonious.
Totals	**0**	**0**	**0**	**0**

A (high) = 19 or more; B (moderate) = 12-18, C (low) = 11 or less.

Affected viewers would be primarily motorists on SR 237. Drivers would be facing away from the Project site and focused on driving. Therefore, westbound passengers would be most impacted, particularly those traveling in the far right (northern) lane. Views to the north for travelers in other lanes would be obscured by vehicles in adjacent lanes. At travel speeds of 55 mph, impacts would be fleeting.

Cyclists and pedestrians using the Highway 237 Bikeway in the vicinity of KOP 1 would also be facing away from the Project site and focused straight ahead. Pedestrians would experience the longest view duration. These trail users could potentially stop to rest in this location, thereby increasing view duration and views of the site, but the immediate proximity of SR 237 likely minimizes that possibility. Development of the Project would not affect current or future designation of this bikeway as part of the Bay Trail. Because the approximate historic route of the Juan Bautista De Anza NHT travels through the existing Los Esteros Substation, the Project would not affect its designation as an NHT, views of it, or the experience of travelers driving SR 237 as an auto tour route of the trail.

5.2 KOP 2: View from Coyote Creek Trail South of SR 237 Looking North

The BESS components would occupy a short section of the narrow strip of grass between the highway and the row of dark green trees in front of the existing industrial facilities in the approximate center of the view. Motor vehicles traveling in the westbound direction (facing to the left) are tall enough to obscure the strip of grass; their movement would create an additional impediment to views of the grassy area occupied by BESS components. Because this grass strip is so short and narrow and would be partially concealed by a

constant stream of moving vehicles, the BESS components would not be notable visual elements. Therefore, no measurable change to visual quality would occur, which would remain low (Level C), as under existing conditions (Table 6).

Table 6. KOP 2 Visual Quality Rating Score with Proposed Project

Key Factors	High	Medium	Low	Rationale
Landform	5	3	**1**	Landform includes a foreground depression but is otherwise flat with no interesting landscape features.
Vegetation	5	**3**	1	Some variety of vegetation, but only two major types (grass and trees).
Water	5	3	**0**	None.
Color	5	**3**	1	Some intensity in the greens of the grass and trees, but not a dominant scenic element.
Influence of Adjacent Scenery	5	3	**0**	Distant mountains to the east are not visible in this view and do not influence it.
Scarcity	5	**3**	1	Industrial, transportation, and utility features are common in this area; grassy expanses are less common but vegetation follows Coyote Creek through most of its length.
Cultural Modifications	2	0	**-4**	Transportation and industrial elements do not share unifying elements, which appear discordant and contrast with vegetation.
Totals	**0**	**9**	**-3**	**6**

A (high) = 19 or more; B (moderate) = 12-18, C (low) = 11 or less.

Cyclists and pedestrians on this section of Coyote Creek Trail would be facing away from the Project site and focused straight ahead, either to the northeast or southwest, rather than northwest. Pedestrians would experience the longest view duration. These trail users could potentially stop to rest in this location, thereby increasing view duration and views of the site, but the proximity of SR 237 may minimize that possibility.

5.3 KOP 3: View from Zanker Road and Holger Way Looking Northeast

Views of the BESS components would be blocked or mostly obscured by existing structures associated with the VTA facility on the east side of Zanker Road. If any part of the Project would be visible, it would likely be indistinguishable from existing, intervening structures. For these reasons, no change to existing visual quality is expected, which would remain low (Level C).

Table 7. KOP 3 Visual Quality Rating Score with Proposed Project

Key Factors	High	Medium	Low	Rationale
Landform	5	**3**	1	Landform rises slightly in foreground; background mountains add some visual interest but are not dominant or exceptional.
Vegetation	5	3	**1**	Vegetation is limited to a handful of small, scattered trees in the distance; little to no variety or contrast in vegetation.
Water	5	3	**0**	None.
Color	5	3	**1**	Vegetation adds some color, but muted tones of dark gray pavement and white striping are dominant.
Influence of Adjacent Scenery	5	**3**	0	Distant mountains create a slight central focal point and moderately enhance overall visual quality, but are encroached upon by built elements.
Scarcity	5	3	**1**	Views dominated by transportation infrastructure are common in this area; low, distant mountains are a common backdrop.
Cultural Modifications	2	0	**-4**	Various pavement striping creates a discordant pattern and the predominantly flat surfaces contrast with several vertical elements, creating disharmony.
Totals	**0**	**6**	**-1**	**5**

A (high) = 19 or more; B (moderate) = 12-18, C (low) = 11 or less.

Views for residents at this location are obscured by tall, opaque walls or mature trees, and the residences lack windows facing the Project site. Eastbound travelers on Holger Way who turn north onto Zanker Road would have the most direct views of the Project site, but only for a few seconds as they complete the turn and face north.

5.4 CEQA Impact Significance

Significance criteria for impacts on visual resources were determined through the preceding analysis and a review of applicable state and local regulations. Because the CEC's Site Certification Process is pursuant to the Warren-Alquist Act, which is a certified agency program pursuant to the California Environmental Quality Act (CEQA), the following criteria developed from the CEQA Guidelines and the CEQA Checklist were used to evaluate whether the Project would result in significant visual resources impacts.

5.4.1 Would the Project have a Substantial Adverse Effect on a Scenic Vista?

The Project would not have a substantial adverse effect on publicly accessible scenic vista points or areas because no designated scenic vistas were identified within view of the Project site. Although not designated as scenic in local plans or policies, views from Coyote Creek Trail are mostly obscured by riparian vegetation. Where a short opening provides views toward the site (KOP 2), changes are expected

to remain mostly imperceptible. Therefore, visual quality would remain low, with no substantial adverse effect, resulting in less than significant impacts.

5.4.2 Would the Project Substantially Damage Scenic Resources, Including, but Not Limited to, Trees, Rock Outcroppings, and Historic Buildings within a State Scenic Highway?

The Project is not visible from an officially designated State Scenic Highway. The nearest officially designated State Scenic Highway is Route 680, east of Highway 238, approximately 8 miles northeast of the Project (Caltrans 2024). The Project would have no impact on an officially designated State Scenic Highway.

5.4.3 Would the Project Substantially Degrade the Site's Existing Visual Character or Quality and its Surroundings? Would the Project Conflict with Applicable Zoning and Other Regulations Governing Scenic Quality?

Substantial change to visual quality is expected at KOP 1 because the new BESS elements would occupy most of the immediate foreground view and replace a grassy expanse, which is somewhat uncommon in this developed area. However, the landscape already includes the LECEF, Los Esteros Substation, and several industrial and commercial complexes and structures in the surrounding area, which together create a highly developed visual character overall on lands zoned primarily for industrial purposes. Further, the Project would include landscaping and a perimeter wall which would partially screen the Project from views at KOP 1. Changes to visual character and quality at other KOPs would be less noticeable or barely detectable. Therefore, taken together, changes to existing visual character and quality would not be substantially degraded overall, and impacts would be less than significant.

Table 8 and Table 9 describe conformance of the Project with existing regulations governing scenic quality. Although some landscaping, as required by existing LECEF Condition of Certification VIS-3, may be removed to accommodate Project elements, such as several trees along the northern side of the Project site (berm) and several trees along the gen-tie line alignment running along the eastern side of the LECEF and Los Esteros Substation, the Project would continue to incorporate landscaping, as well as new perimeter wall, to help obscure views of the BESS elements, improving the aesthetics of the Project components. Care will be taken to avoid blocking vista views of distant ridgelines. The BESS containers would be approximately 25 feet tall and below the maximum building height. The Project would be sited to conform to setback requirements. Therefore, the Project would not conflict with existing zoning, regulations governing scenic quality, or the existing LECEF Conditions of Certification.

5.4.4 Would the Project Create a New Source of Substantial Light and Glare That Would Adversely Affect Day or Nighttime Views in the Area?

Security lighting would be shielded and directed downward and toward the Project site, confining direct rays to the BESS facility. The battery components would be painted a matte, nonreflective color to inhibit glare. In addition, surfaces are expected to reflect light only when the sun is low because of their verticality. Because the LECEF already has nighttime illumination, security lighting associated with the Project would not substantially change present conditions.

Construction activities are not expected to occur at night. Temporary glare could result from reflections off construction equipment, such as truck windshields. However, construction would be short-term and limited to the Project site.

In the unanticipated event that lighting would be required for nighttime construction activities, the lighting would be directed toward the center of the construction site and shielded to prevent light from straying offsite. Task-specific construction lighting would be used to the extent practical while complying with worker safety regulations. Any increase in nighttime lighting during construction would be temporary and limited to the construction site.

For these reasons, the proposed Project would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area, and impacts would be less than significant.

5.5 Conformity with Laws, Ordinances, Regulations, and Standards

This section describes whether the Project would be consistent with applicable LORS relevant to visual resource issues (Table 8).

Guidance is provided by the *Envision San Jose 2040 General Plan* (City of San Jose 2024b) and the *Alviso Master Plan* (City of San Jose 1998). The General Plan has adopted and incorporated the *Alviso Master Plan* as a "Specific Plan." The General Plan states that, "Because the Specific Plans were developed through extensive community-based planning processes, the Envision General Plan incorporates, with only very limited modification, the land uses designated within the Specific Plan areas." The General Plan also notes that the *Alviso Master Plan* provides for "significant amounts of new industrial and commercial development along the Plan area's southern and eastern edges," which is where this Project is proposed (City of San Jose 2024b).

Table 8. Conformity with LORS

Provision	Consistency
Envision San Jose 2040 General Plan (City of San Jose 2024b)	
CD-1.25: Apply Riparian Corridor Goals and Policies of this Plan when reviewing development adjacent to creeks. ▪ Development adjacent to creekside areas should incorporate compatible design and landscaping, including appropriate setbacks and plant species that are native to the area or are compatible with native species.	Coyote Creek is approximately 1,350 feet east of the Project's eastern border and 645 feet south of its southern border on the opposite site of SR 237. Therefore, Coyote Creek is not considered adjacent to the Project site. However, the Project would include appropriate setbacks from Coyote Creek, and any landscaping would include native plant species or species compatible with native plants.
IN-1.9: Design new public and private utility facilities to be safe, aesthetically pleasing.	The Project would incorporate landscaping to help obscure views of the BESS elements, helping to improve the aesthetics of the Project components.

Provision	Consistency
Alviso Master Plan (City of San Jose 1998)	
Appropriate screening and landscaping is required in … light industrial areas. Landscaping and screening … along Route 237 … should protect views of Alviso from the freeway.	The Project would incorporate landscaping to help obscure views of the BESS elements from SR 237.
Setbacks and buffers should be established to protect environmental resources (for example, Coyote Creek) … from potential negative impacts of industrial use.	The Project would include appropriate setbacks from Coyote Creek, which would help minimize potential negative visual impacts.
Lands Outside of the Village Area ▪ Development Standards - Height: Maximum 45 feet and two stories above flood elevation - Front Setbacks: 10 feet minimum - Side and Rear Setbacks: Required as necessary - Riparian Setback (including Coyote Creek): Minimum 100 feet from riparian edge ▪ Guidelines for Industrial Development - Use attractive walls and landscaping to screen parking, loading, storage, and other outdoor activity areas - Industrial buildings should have simple volumes, straight lines, and traditional shapes with well-done roof forms, preferably sloped. This simplicity should result in buildings that are easily read from a distance along Route 237.	The BESS containers would be approximately 25 feet tall and below the maximum building height. The Project would be sited to conform to setback requirements. Landscaping would be incorporated to screen the BESS components. The BESS containers and associated elements would consist of simple shapes and lines. No roof is required.
Landscaping Policy ▪ Landscaping should be designed to: (1) incorporate plant materials suited to the area's environmental conditions; (2) reflect Alviso 's open, bayside character; and (3) enhance existing and new development. ▪ Landscaping should make a strong connection between the natural and built environment and preserve Alviso 's existing character. ▪ Landscaping design should be simple and minimal to reflect Alviso's open character. ▪ Landscaping should be used to screen unattractive uses and soften the effect of taller buildings due to the flood protection requirements. ▪ Landscaping should not block views of the rivers, natural riparian areas, or marshlands. ▪ Landscaping should be drought tolerant.	The Project would incorporate drought-tolerant landscaping that is suited to the area's environment to screen the site, using simple and minimal design that connects the natural and built environment. The Project would refer to the "Suggested Plant List" in Appendix A of the *Alviso Master Plan* (City of San Jose 1998). Landscaping would not block views of the riparian area along Coyote Creek.

The City of San Jose zones the Project site as A(PD); Agricultural Planned Development. The City's Code of Ordinances describes Agricultural zoning and Planned Development zoning separately. Neither includes provisions related to visual resources or aesthetics (City of San Jose 2021, 2024a).

5.5.1 Conformance with LECEF Conditions of Certification

The LECEF's *Commission Decision* (CEC 2002) contains Conditions of Certification required to avoid or minimize visual impacts associated with LECEF. Table 9 lists these Conditions of Certification and provides an analysis on the Project's conformity with these conditions.

Table 9. Conformity with LECEF Conditions of Certification

Condition of Certification	Consistency
VIS-1 The project owner shall ensure that visual impacts of project construction are adequately mitigated. To accomplish this, the project owner shall require the following as a condition of contract with its contractors to construct the proposed project: Protocol: If visible from nearby residences, SR-237, Zanker Road, or Grand Boulevard, the project site as well as staging and material and equipment storage areas shall be visually screened. All evidence of construction activities, including ground disturbance due to staging and storage areas, shall be removed and remediated upon completion of construction. The project owner shall submit a plan to the California Energy Commission Compliance Project Manager (CPM) for review and approval and to the City of San Jose for review and comment for restoring the surface conditions of any rights of way disturbed during construction of underground pipelines; and staging and storage areas. The plan shall include grading, contouring, and revegetation consistent with applicable plans. The project owner shall not implement the plan until receiving written approval of the submittal from the CPM. Verification: At least 45 days prior to beginning implementation of the surface restoration, the project owner shall submit the restoration plan to the CPM for review and approval and to the City of San Jose for review and comment. If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within 15 days of receiving that notification, the project owner shall submit to the CPM a revised plan. The project owner shall notify the CPM within 7 days after completing the surface restoration that it is ready for inspection.	The Project would screen construction activities from public view and all evidence of construction activities, including ground disturbance due to staging and storage areas, would be removed and remediated upon completion of construction. If applicable, a plan for restoring surface conditions of any rights of way disturbed during construction of underground pipelines, staging, and storage areas, will be submitted to the CEC, as described in VIS-1. The Project would comply with VIS-1, as applicable.

Condition of Certification	Consistency
VIS-2 Within 180 days after reaching the Simple Cycle Commercial Operation Date (SCCOD), the project owner shall a) treat all project structures and buildings visible to the public in appropriate colors or hues that minimize visual intrusion and contrast by blending with the surrounding landscape, and b) ensure that those structures and buildings have surfaces that do not create glare. A specific treatment plan shall be developed for CPM approval to ensure that the proposed colors do not unduly contrast with the surrounding landscape colors. The plan shall be submitted sufficiently early to ensure that any precolored buildings, structures, and linear facilities will have colors approved and included in bid specifications for such buildings or structures, unless the structures have been ordered prior to the Commission Decision. Prior to submittal of the plan to the CPM, the project owner shall submit the plan to the City of San Jose for review and comment. Protocol: The treatment plan shall include: a) specification, and 11" x 17" color simulations, of the treatment proposed for use on project structures, including structures treated during manufacture; b) a list of each major project structure, building, and tank, specifying the color(s) proposed for each item; c) samples of the proposed treatment and color on any fiberglass materials that would be visible to the public; d) documentation that the surfaces to be used on all project elements visible to the public will minimize glare; where this is not practicable, provide documentation of the infeasibility of nonglare paint or material; e) a detailed schedule for completion of the treatment; and; f) a procedure to ensure proper treatment maintenance for the life of the project. After approval of the plan by the CPM, the project owner shall implement the plan according to the schedule and shall ensure that the treatment is properly maintained for the life of the project. The project owner shall not perform the final treatment on any structures until the project owner receives notification of approval of the treatment plan from the CPM. Verification: At least 30 days prior to ordering the first structures that are color treated during manufacture, the project owner shall submit its proposed plan to the CPM for review and approval and to the City of San Jose for review and comment. If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within 30 days of receiving that notification, the project owner shall submit to the CPM a revised plan. No later than 180 days after reaching the Simple Cycle Commercial Operation Date (SCCOD), the project owner shall notify the CPM that all structures treated during manufacture and all structures treated in the field are ready for inspection.	Visible project structures, including a perimeter wall, would be treated with appropriate colors that minimize visual intrusion and contrast by blending with the surrounding landscape, as feasible. Glare minimizing finishes will be implemented, as feasible, and a treatment plan will be provided to the CEC for approval. The Project would comply with VIS-2, as applicable.

Condition of Certification	Consistency
The project owner shall provide a status report regarding treatment maintenance in the Annual Compliance Report.	
VIS-3 The project owner shall provide landscaping that is effective in screening the majority of structural forms (not the upper portions of the stacks) from the following key viewing areas: (a) SR-237 and the existing bicycle trail to the south, (b) Zanker Road to the west, and (c) the proposed Bay Trail alignments to the east (Reach 1). Screening vegetation must be provided around the project's eastern, southern, and western edges, and include a sufficient number of appropriately located evergreen trees to ensure effective year-round screening. Trees and other vegetation must be strategically placed and of sufficient height and density to achieve maximum effective screening of the proposed project structures as soon as possible. In screening project facilities, care must be taken in siting vegetation plantings to avoid blocking vista views of distant ridgelines (for an example, see simulation presented as VISUAL RESOURCES Figure 7). Protocol: The project owner shall submit a final landscaping plan that has been approved by the Project Architectural Committee. The plan shall, to the extent feasible, incorporate the landscaping plan presented to the Commission on May 20, 2002, by Dr. Priestly. The Plan shall include: a) 11"x17" color simulations of the proposed landscaping at 5 years as viewed from KOPs 1 and 2; b) a detailed list of plants to be used and times to maturity given their size and age at planting; and c) a detailed schedule describing when plants will be installed in specific landscape areas, and a discussion which provides the justification for the planting schedule for the specific areas and species proposed." The project owner shall not implement the plan until the project owner receives approval of the submittal from the CPM. However, the planting must be completed as soon as practical without impeding construction and consistent with the Applicant's revised landscaping plan that was presented on May 20, 2002. Verification: The final project landscaping plan shall be prepared under the direction of the Architectural Committee. At least 30 days prior to installing the landscaping, the project owner shall submit the plan to the CPM for review and approval and the City of San Jose for review and comment. If the CPM does not approve the landscape plan, that element shall return to the Committee for further discussion and resolution. If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, within 30 days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal. The project owner shall notify the CPM within 7 days after completing installation of the landscaping, that the landscaping is ready for inspection.	Although some landscaping may be removed to accommodate some project elements such as several trees along the north side of the Project site (berm) and the gen-tie line along the east side of the LECEF and Los Esteros Substation, the Project would incorporate additional landscaping to help obscure views of the BESS elements, helping to improve the aesthetics of the Project components. Care will be taken to avoid blocking vista views of distant ridgelines. A final landscaping plan will be provided to the CEC for review and approval. The Project would comply with VIS-3, as applicable.

Condition of Certification	Consistency
VIS-4 Prior to first turbine roll, the project owner shall design and install all lighting such that light bulbs and reflectors are not visible from public viewing areas and illumination of the vicinity and the night sky is minimized during both project construction and operation. The project owner shall develop and submit lighting plans for construction and operation of the project to the CPM for review and approval and the City of San Jose for review and comment. Protocol: The lighting plan shall require that: a) All exterior night lighting shall be of minimum necessary brightness consistent with operational safety. b) Lighting shall be designed so that during both construction and operation (consistent with worker safety), highly directional, exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the night sky is minimized. The design of this outdoor lighting shall be such that the luminescence or light source is shielded to prevent light trespass outside the project boundary. c) High illumination areas not occupied on a continuous basis such as maintenance platforms shall be provided with switches or motion detectors to light the area only when occupied. d) A lighting complaint resolution form (following the general format of that in Visual Resources Appendix VR-2) shall be used by plant operations, to record all lighting complaints received and to document the resolution of those complaints. All records of lighting complaints shall be kept in the on-site compliance file. Lighting shall not be installed before the plans are approved. Verification: At least 15 days prior to installing the construction lighting, the project owner shall provide the construction lighting plans to the CPM for review and approval and the City of San Jose for review and comment. If the CPM notifies the project owner that revisions to the construction lighting plan are needed before the CPM will approve the plans, the project owner shall submit a revised plan within seven days of receiving that notification from the CPM At least 30 days before ordering the facility exterior lighting, the project owner shall provide the lighting plan to the CPM for review and approval and the City of San Jose for review and comment. If the CPM notifies the project owner that any revisions to the facility lighting plans are needed before the CPM will approve the plans, the project owner shall submit to the CPM a revised plan within 30 days of receiving the CPM's notice that revisions to the plan are required. The project owner shall notify the CPM within seven days of completing exterior lighting installation that the lighting is ready for inspection.	The Project would provide a lighting plan to the CEC for review and approval, as well as to the City of San Jose for review and comment. The Project would comply with VIS-4, as applicable.

Condition of Certification	Consistency
VIS-5 The project owner shall comply with the City of San Jose's requirements regarding signs. In addition, the project owner shall install minimal signage, which shall be constructed of non-glare materials and unobtrusive colors. The design of any signs required by safety regulations shall conform to the criteria established by those regulations. The project owner shall submit a signage plan for the project to the CPM for review and approval and to the City of San Jose for review and comment. The project owner shall not implement the plan until the project owner receives approval of the submittal from the CPM. Verification: Prior to first turbine roll and at least 30 days prior to installing signage, the project owner shall submit the plan to the CPM for review and approval and to the City of San Jose for review and comment. If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the submittal, within 30 days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal. The project owner shall notify the CPM within 7 days after completing installation of the signage that they are ready for inspection.	The Project would comply with the City of San Jose's requirements for signage. The Project would provide a signage plan to the CEC for review and approval, as well as to the City of San Jose for review and comment. The Project would comply with VIS-5, as applicable.
VIS-6 The project owner shall implement the "best commercially-feasible available technology" for cooling-related plume abatement. The project owner shall not construct the cooling system until the project owner receives notification of approval from the CPM that the proposed system incorporates the "best commercially-feasible available technology" for plume abatement. Verification: At least 60 days prior to construction of the cooling system, the project owner shall submit to the CPM for review and approval and to the City of San Jose for review and comment an analysis that reviews commercially-feasible and available plume abatement technologies for the cooling system (including dry-chilling) and presents their effectiveness and costs compared to the proposed system, which consists of a two-cell wet counter flow cooling tower.	The Project would not produce a visual plume, therefore, VIS-6 is not applicable.

Condition of Certification	Consistency
VIS-7 The project owner shall continue to confer with the cities of San Jose and Milpitas to consider additional aesthetic changes that incorporate interesting and attractive design qualities and promote a high standard of architectural excellence, and that can be implemented during the post-licensing period. Verification: The project owner will meet with representatives of the Cities of San Jose and Milpitas and provide a report to the CPM on additional measures, including screening, painting, design, or architectural treatment that may improve the aesthetic appearance of the project. Prior to commercial operation, the project owner shall submit the report, including 11"X17' high quality color photo simulations of the proposed aesthetic treatment as seen from at least KOPs 1 and 2, to the CPM for review and approval. If approved by the CPM, the project owner shall implement these additional aesthetic measures within 180 days of the simple cycle commercial operation date.	As appropriate, the Project will confer with the cities of San Jose and Milpitas to consider additional aesthetic changes that incorporate interesting and attractive design qualities and promote a high standard of architectural excellence, and that can be implemented during the post-licensing period. The Project would comply with VIS-6, as appropriate.

6. Mitigation Measures

This analysis has determined that no significant visual impacts would result from the implementation of the Project. Landscaping required under LECEF Condition of Certification VIS-3 (Table 9) would further reduce impacts to visual quality by partially screening the Project with landscaping, while also providing consistency with local plans (Table 8). Therefore, no mitigation measures are proposed.

7. References

Bureau of Land Management (BLM). 1986. *Manual H-8410-1 - Visual Resource Inventory*. https://blmwyomingvisual.anl.gov/docs/BLM_VRI_H-8410.pdf.

Bureau of Land Management (BLM). n.d.a. "Visual Impact Assessment Methodologies." https://blmwyomingvisual.anl.gov/assess-simulate/index.cfm. Accessed March 26, 2024.

Bureau of Land Management (BLM). n.d.b. "Recreation/BLM_Natl_VRI_Inventories (MapServer)." https://gis.blm.gov/arcgis/rest/services/recreation/BLM_Natl_VRI_Inventories/MapServer#:~:text=Scenic%20quality%20is%20an%20assessment,scenery%2C%20scarcity%20and%20cultural%20modifications. Accessed April 24, 2024.

Bureau of Land Management (BLM). n.d.c. "BLM's Visual Resource Inventory." https://blmwyomingvisual.anl.gov/vr-inventory/blm/index.cfm. Accessed April 24, 2024.

California Energy Commission (CEC). 2002. *Commission Decision*. https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=03-AFC-02

California Energy Commission (CEC). 2024. "Los Esteros Critical Energy Facility." https://www.energy.ca.gov/powerplant/combined-cycle/los-esteros-critical-energy-facility.

California Energy Commission (CEC). 2025. "San Jose Data Center." https://www.energy.ca.gov/powerplant/backup-generating-system/san-jose-data-center

California Department of Transportation (Caltrans). 2015. "Traffic Census Explanations." https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/census/f0017711-traffic-data-faq.pdf.

California Department of Transportation (Caltrans). 2023. *Traffic Volumes AADT Map Viewer*. https://caltrans-gis.dot.ca.gov/portal/apps/mapviewer/index.html?layers=60e97eec773345f9815a2feaaa61dec1.

California Department of Transportation (Caltrans). 2024. "Scenic Highways: California State Scenic Highways." https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways.

City of San Jose. 1998. *Alviso Master Plan*. https://www.sanjoseca.gov/home/showpublisheddocument/16053/636681597543870000.

City of San Jose. 2016. *Envision San Jose 2040 General Plan Scenic Corridors Diagram*. https://www.sanjoseca.gov/home/showpublisheddocument/22565/636688980487230000.

City of San Jose. 2017. "A Resolution of the Council of the City of San Jose (1) Reestablishing Speed Limits with Changes on Seven Roadway Segments; and (2) Repealing Resolution No. 77826." https://sanjose.granicus.com/MetaViewer.php?view_id=&event_id=2673&meta_id=618897.

City of San Jose. 2021. *Zoning Districts* [map]. https://gisdata-csj.opendata.arcgis.com/datasets/adf17ae739214787ad42945c5f72ccd8/explore?location=37.415500%2C-121.927490%2C12.78.

City of San Jose. 2024a. "Chapter 20.10 - General Provisions and Zoning Districts." Code of Ordinances https://library.municode.com/ca/san_jose/codes/code_of_ordinances?nodeId=TIT20ZO_CH20.10GEPRZODI.

City of San Jose. 2024b. *Envision San Jose 2040 General Plan*. Adopted November 1, 2011; amended January 31, 2024. https://www.sanjoseca.gov/home/showpublisheddocument/22359/637928744399330000.

City of San Jose. n.d.a. *San Jose Parks Finder*. https://csj.maps.arcgis.com/apps/webappviewer/index.html?id=93ae7909fe8f4b758daa5a73baa895c3.

City of San Jose. n.d.b. "Search Trails." https://www.sanjoseca.gov/Home/Components/FacilityDirectory/FacilityDirectory/2947/2058. Accessed March 27, 2024.

Federal Highway Administration (FHWA). n.d. "National Scenic Byways & All-American Roads: California." https://fhwaapps.fhwa.dot.gov/bywaysp/state/CA/map. Accessed March 26, 2024.

Federal Highway Administration (FHWA). 2015. "Guidelines for the Visual Impact Assessment of Highway Projects." https://www.environment.fhwa.dot.gov/env_topics/other_topics/VIA_Guidelines_for_Highway_Projects.aspx#appf.

Griffith, G.E., Omernik, J.M., Smith, D.W., Cook, T.D., Tallyn, E., Moseley, K., and Johnson, C.B. 2016. Ecoregions of California (poster): U.S. Geological Survey Open-File Report 2016–1021, with map, scale 1:1,100,000, http://dx.doi.org/10.3133/ofr20161021.

Google Maps. 2022. "Google Maps." https://www.google.com/maps.

International Dark-Sky Association. n.d. "Dark Sky Places, California." https://darksky.org/?s=california&post_type=darksky_place. Accessed March 26, 2024.

Metropolitan Transportation Commission (MTC). 2024. *Bay Trail Interactive Map*. https://mtc.ca.gov/operations/regional-trails-parks/san-francisco-bay-trail/bay-trail-interactive-map.

Metropolitan Transportation Commission (MTC). 2024.

National Park Service (NPS). 2021. "Wild and Scenic Rivers Program: Interactive Map of NPS Wild and Scenic Rivers." https://www.nps.gov/orgs/1912/plan-your-visit.htm.

National Park Service (NPS). 2023a. "List of NHLs by State." https://www.nps.gov/subjects/nationalhistoriclandmarks/list-of-nhls-by-state.htm#onthisPage-50.

National Park Service (NPS). 2023b. *National Natural Landmarks Directory*. December 13. https://www.nps.gov/subjects/nnlandmarks/nation.htm.

National Park Service (NPS). 2024a. "Juan Bautista de Anza National Historic Trail." https://www.nps.gov/juba/index.htm.

National Park Service (NPS). 2024b. "Maps - Juan Bautista de Anza National Historic Trail." https://www.nps.gov/juba/planyourvisit/maps.htm

Santa Clara County. 1994. *Santa Clara County General Plan*. December 20. https://parks.sccgov.org/sites/g/files/exjcpb961/files/GP_Book_A.pdf.

Stein, Zach. 2024. "Substation." *Carbon Collective*. May 25. https://www.carboncollective.co/sustainable-investing/substation.

The Santa Cruz Mountains Bioregional Council (SCMBC). 2020. *Santa Cruz Mountains Bioregion* [map]. https://www.scmbc.org/map-of-bioregion.

Valley Transportation Authority (VTA). 2020. *Santa Clara Valley Bikeways Map*. June. https://www.vta.org/sites/default/files/2023-02/VTA-Bike-Map_5_20-Hi-Res.pdf.