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Data Request Response #1

Corby Battery Energy Storage System Project (24-OPT-05)

April 2025

Prepared for

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Acronyms and Abbreviations

A	ampere
ACSR	aluminum conductor steel reinforced
ACSS	aluminum core steel supported
Applicant	North Bay Interconnect, LLC and Corby Energy Storage, LLC
Application	Opt-in Application
ARDR	aquatic resources delineation report
BESS	battery energy storage system
BMP	Best Management Practice
CATL	Contemporary Amperex Technology Company
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CPM	Compliance Project Manager
CPUC	California Public Utilities Commission
DOC	California Department of Conservation
gen-tie	generation tie
GO	General Order
I-80	Interstate 80
KOP	key observation point
kV	kilovolt
LCC	Land Capability Classification Score
LESA	Land Evaluation and Site Assessment
MVA	megavolt amperes
ng/L	nanogram per liter
PG&E	Pacific Gas and Electric
POCO	point of change of ownership
Project	Corby Battery Energy Storage System Project
SLT	Solano Land Trust
ZOI	Zone of Influence

1.0 INTRODUCTION

This Data Request Response #1 to North Bay Interconnect, LLC and Corby Energy Storage, LLC's (Applicant)[1] Opt-in Application (Application) for the Corby Battery Energy Storage System Project (Project) (24-OPT-05), responds to comments that California Energy Commission (CEC) Staff have made as a result of their data adequacy review of the Application, as documented in their Determination of Incomplete Application and Request for Information letter dated December 9, 2024. The intention of this supplement is to provide all additional information necessary for Staff to find that the Application contains adequate data to begin an Opt-in Renewables site certification proceeding under California Code of Regulations, Title 20, Section 1877, and Public Resources Code, Section 25545, for the technical areas included in the submittal.

Table 1-1 provides a summary of the technical areas requiring additional information to be deemed complete and indicates which of these are addressed in this Data Request Response #1. For each technical area included, the responses are complete and address all identified deficiencies.

Table 1-1. Completeness Review Status

Technical Area	Addressed in Data Request Response #1	To be Addressed in Data Request Response #2
Incomplete		
Mandatory Opt-in Requirements	X	
Air Quality		X
Alternatives		X
Biological Resources	X	
Cultura/Tribal Cultural Resources		X
Geologic Hazards	X	
Greenhouse Gas Emissions		X
Hazardous Materials Handling		X
Land Use	X	
Paleontological Resources	X	
Project Description	X	
Reliability		X
Socioeconomics		X
Traffic and Transportation		X
Transmission System Design	X	
Transmission System Safety and Nuisance	X	
Visual Resources	X	
Waste Management		X
Water Resources	X	
Wildfire		X

[1] North Bay Interconnect, LLC and Corby Energy Storage, LLC are both wholly-owned subsidiaries of NextEra Energy Resources. North Bay Interconnect, LLC will own and operate the interconnection facilities for the Project; and Corby Energy Storage, LLC will own and operate the BESS components of the Project.

Technical Area	Addressed in Data Request Response #1	To be Addressed in Data Request Response #2
Worker Safety and Fire Protection		X
Complete		
Efficiency, Energy, and Energy Resources	NA	
Executive Summary		
Facility Design		
Noise and Vibration		
Public Health		
Soils		

The format for this supplement follows the order of Staff's completeness review and provides additional information and responses to CEC information requests for several disciplines. Only sections for which CEC Staff posed requests or questions related to data adequacy are addressed.

Each data request is followed by the Applicant's response to the information requested. All figures referenced in responses are provided following the set of responses for the technical discipline. If the response requires additional appended material, it is included in numbered appendices at the end of the document.

Separate from this Data Request Response #1 document, the Applicant is concurrently filing a Project Description Update, which presents Project updates and analyzes the potential environmental impacts resulting from these updates relative to the analysis included in the Application. The Project Description Update is referenced in data request responses where applicable.

2.0 MANDATORY OPT-IN REQUIREMENTS

2.1 Data Request DR MAND-1

DR MAND-1. Per California Code of Regulations title 20, section 1877(f) requirement, please provide:

a. What is the expected annual operating revenue of the facility? What share of that benefit is estimated to be allocated locally to Solano County?

b. What is the annual income tax for this facility? What allocation has been made for the local share of taxes to Solano County?

Response: As discussed with Staff, the expected operating revenue of the facility and an estimate that would be allocated locally to Solano County cannot be accurately calculated. The Project will not pay annual income taxes specifically for the facility. NextEra files its taxes as a corporation and does not break down tax liability from company revenue per facility. Even if it was possible to estimate the portion of the income tax associated with the revenue for any particular facility in NextEra's portfolio, the estimate would be small in comparison to the other taxes paid for the facility as described in Section 4.14.3.3 of the Opt-In Application and, therefore, the information would not contribute significantly in determining net economic benefit to the community.

2.2 Data Request DR MAND-2

DR MAND-2. Submit a signed and enforceable agreement that complies with Public Resources Code section 21183(e).

Response: The Applicant has submitted the Project to full CEC siting jurisdiction by electing to file an Opt-In Application. The CEC's jurisdiction includes siting, CEQA compliance, and full compliance monitoring of the facility until decommissioned. Submission to the CEC jurisdiction is acknowledgement that the Applicant will be required to comply with all conditions of approval and all mitigation measures included in the Final Decision should the CEC approve the Opt-In Application. Therefore, for the Opt-In process it is unnecessary for the Applicant to file a binding agreement that the lead agency has full enforcement authority to enforce the mitigation measures. This interpretation is consistent with the conclusions in the recent Staff Assessment for the Darden Clean Energy Project (23-OPT-02).

3.0 BIOLOGICAL RESOURCES

3.1 Data Request DR BIO-1

DR BIO-1. Please provide the following information for the western burrowing owl (Athene cunicularia hypugaea) in consideration of the current listing status as a candidate species under the California Endangered Species Act (CESA).

a. The Staff Report on Burrowing Owl Mitigation (CDFG 2012) recommends that breeding surveys be conducted at least once between February 15 and April 15. Per Section 2.3.3 of the Biological Resources Report, Survey 1 was conducted May 23-24, 2024, Survey 2 was conducted on June 17 and Survey 3 was conducted on July 10. Please provide a habitat assessment, survey field notes, and over-wintering survey results per the Staff Report on Burrowing Owl Mitigation guidance. Please provide a schedule for conducting any additional surveys to meet the California Department of Fish and Wildlife (CDFW) guidance and the results of those surveys once completed. Please identify how the transect surveys met the survey recommendations in the guidance.

b. Please provide a figure showing the location(s) where burrowing owls were observed in 2023 during the Swainson's hawk protocol surveys. In addition, please delineate the buffer surveyed on the figure and identify which parcels were inaccessible during the 2024 focused surveys.

c. Please include a list of proposed avoidance and minimization measures for western burrowing owl.

d. Please provide the resumes for staff conducting the protocol level surveys. Also see **DR BIO-5**.

e. If the project area and surrounding lands support suitable nesting or overwintering habitat and burrowing owls are detected within the project area or within 500 feet during protocol level surveys, CEC staff in coordination with CDFW recommend requesting take authorization. If requesting take authorization for western burrowing owl, and pursuant to California Code of Regulations, title 20, section 1877, Contents of an Opt-in Application, please submit an

Incidental Take Permit (ITP) application and provide the items required in California Code of Regulations, Title 14, section 783.2(a)(1)-(a)(10). They are the 13 listed items on the CDFW website at: https://wildlife.ca.gov/Conservation/CESA/Permitting/Incidental-Take-Permits. Please submit in one ITP application package identifying these items specific to western burrowing owl.

Response:

a. A breeding season survey for burrowing owl was conducted between February 15 and April 15 in 2025 as requested. The survey was conducted on February 17, 2025, and was negative for the presence of burrowing owl within the study area. In addition, no burrows or burrow surrogates of sufficient size were observed within the survey area. Results of the survey are provided as Appendix 3-A.

   Overwintering surveys for burrowing owl were conducted on December 23, 2024 and January 7, 17, and 31, 2025. The surveys were negative for the presence of wintering burrowing owl within the study area. In addition, no burrows or burrow surrogates of sufficient size were observed within the study area. A report including a habitat assessment, survey field notes, and the results of the over-wintering surveys are provided as Appendix 3-A.

   On each survey visit, and in accordance with CDFW's 2012 Staff Report on burrowing owl, biologists conducted the surveys by walking transects within suitable habitat spread between 7 and 20 meters (dependent on vegetation height and density). The survey area included the Project disturbance footprint and a 500-foot buffer, in accordance with CDFW's 2012 Staff Report. All inaccessible areas were surveyed from accessible properties or from along the public roads using binoculars.

b. Please see Confidential Appendix 3-B for a map that depicts areas within the Study Area that were inaccessible. Confidential Appendix 3-B also depicts where burrowing owls were observed during the focused surveys conducted for Swainson's hawk in 2023.

c. Proposed Project Design Measure **PD BIO-5** has been updated to provide a list of western burrowing owl mitigation measures; the updated text is provided below.

   PD BIO-5: Burrowing Owl

   The following measures will be implemented to avoid and minimize impacts of the Project on burrowing owl:

   PD BIO-5a: Burrowing Owl Preconstruction Surveys

   The Applicant will retain qualified wildlife biologists (experienced with burrowing owl surveys including burrowing owl identification and behaviors) to conduct focused surveys preconstruction surveys for burrowing owl within all suitable habitat areas the Project disturbance area, including the Project site, generation tie (gen-tie) corridor, and gen-tie laydown area, and 500 feet (approximately 150 meters) around the Project disturbance area, where accessible, no more than 14 days prior to initiation of ground disturbing activities (i.e.,

vegetation removal, grading, excavation, etc.). A minimum of two surveys will be conducted, with the first survey no more than 14 days prior to initial construction activities and the second survey conducted no more than 2 days prior to initial construction activities. The survey will begin 1 hour before sunrise and continue until 2 hours after sunrise (3 hours total) or begin 2 hours before sunset and continue until 1 hour after sunset. The preconstruction surveys will be consistent with the guidelines provided in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). If the work activities halt for a period of 14 days or more, the survey would need to be conducted again prior to the continuation of site activities. The burrowing owl survey may be conducted in conjunction with other required preconstruction survey, if timing is appropriate.

If no burrowing owl or their sign (i.e., pellets, prey remains, whitewash, etc.) is observed during the preconstruction surveys, construction may continue as planned and no further action is required.

If the qualified biologists detect burrowing owl or their sign during the preconstruction surveys, then an appropriately sized avoidance buffer will be implemented dependent on the time of year and level of disturbance at the Project site as defined in PD BIO-5b.

Once preconstruction surveys have been completed, a preconstruction survey report will be submitted to the CEC and CDFW within 14 days. The preconstruction survey report will outline the survey methodology including the area relative to the Project disturbance area and a description of the findings including, but not limited to, number of owls or nesting pairs, locations, number of burrows being used, signs, and description of their behavior.

PD BIO-5b: Burrowing Owl Burrow Avoidance Buffers

If a burrowing owl is observed within the Project disturbance area or survey buffer during preconstruction surveys, or if burrowing owls arrive on site after construction activities commence, these active occupied burrows shall be designated as an environmentally sensitive area, protected, and have appropriately sized avoidance buffers established around them by the qualified biologist during Project construction activities. An active occupied burrow is defined as those burrows that are either currently occupied by burrowing owl or burrows where burrowing owl were seen during the pre-construction surveys. No work would occur within the designated environmentally sensitive area around active occupied burrows.

The Project shall implement activity avoidance buffers (Table 3-1) in the vicinity of active occupied burrows during construction and any ground-disturbing operations activities as shown in Table 3-1. Please refer to Table 3-2 for typical Project activities and their disturbance levels.

Table 3-1. Activity Buffer Distance for Active Occupied Burrows

Time of Year	Buffer Distance (meter) and Level of Disturbance			
	Minimal	Low	Moderate	High
Standard Buffer				
Feb 1 – April 15	0	100	200	300
Apr 16 – Aug 31	0	75	100	250
Aug 31 – Jan 31	0	35	50	100
Minimum Temporary Buffer[1/]				
Feb 1 – April 15	0	30	90	150
Apr 16 – Aug 31	0	25	65	90
Aug 31 – Jan 31	0	20	35	50

1/ Requires approval of the qualified biologist, and other conditions may apply, including, but not limited to, installation of visual and/or sound barriers, other minimization measures, and enforcement of increase in buffer from Minimum to Standard as soon as activity is complete.

An avoidance buffer around active occupied burrows may be reduced to the minimum temporary buffer if the qualified biologist verifies through noninvasive methods that either (1) the owls have not begun egg laying and incubation, or (2) juveniles from the occupied burrows are capable of independent survival (i.e., they are foraging independently and are not dependent on the natal burrow). If burrowing owls have independently left the active occupied burrow for at least 1 week, these burrows would be reclassified as inactive occupied burrows.

Inactive occupied burrows are those burrows which only show burrowing owl sign or were identified as being occupied during prior protocol level burrowing owl surveys but are not currently occupied by burrowing owl as determined during preconstruction surveys. Inactive occupied burrows will be avoided by implementing a 5-meter buffer around the burrow entrance, this buffer can be modified in coordination with the qualified biologist based on orientation and location of the burrow, proposed construction activities in the vicinity of it, and similar. Activities that do not disturb the ground, such as vegetation removal and vehicular traffic on existing roads, will generally have a smaller avoidance buffer implemented around inactive occupied burrows.

PD BIO-5c: Burrows With No Sign

Burrows within the Project disturbance area that have not had historic occupancy and/or show no burrowing owl sign during the 2024-2025 breeding and non-breeding season protocol surveys, as well as during preconstruction surveys, may be plugged or excavated prior to or during construction. Avoidance buffers will not be implemented around these burrows.

Burrowing owls or their sign have not been documented in the Project disturbance area; as such, the Applicant is not requesting incidental take authorization for burrowing owl. The Applicant is proposing PD BIO-5, which includes preconstruction surveys and avoidance of burrowing owls to ensure that take, as defined by the California Fish and Game Code, will not occur as a result of Project activities.

Should burrowing owls be documented during preconstruction surveys and avoidance, as defined by PD BIO-5, is not feasible, and it is determined the Project is likely to directly impact or substantially indirectly impact the burrowing owls such that take could occur, the Applicant will coordinate with the CEC and CDFW to obtain incidental take authorization.

Table 3-2. Typical Project Activities and Their Disturbance Levels

Project Phase	Construction Activity	Intensity	Disturbance Level
Preconstruction	Site Visits	Short-duration, on foot, driving on established roads, quiet	Minimal
	Environmental Resource Surveys and Monitoring	Short-duration, on foot, driving on established roads, quiet	Minimal
	Activity Buffer Staking and Flagging	Short-duration, on foot, driving off-road after wildlife surveys, quiet	Minimal
	Civil Survey, Staking, and Flagging	Short-duration, on foot, driving off-road after wildlife surveys, quiet	Minimal
	Geotechnical Testing	Short-duration, on foot, driving off-road after wildlife surveys, quiet	Low
Site Preparation	Environmental Monitoring	Short-duration, passive observation of natural resources conducted by trained environmental field professionals on foot and in vehicles	Minimal
	Vegetation Mowing (4+ inches)	Mowing well above the ground surface to de-bulk grassland, cropland, or weedy vegetation, single pass, short duration in any single location	Moderate
	Vegetation Mowing (0-4 inches)	Mowing of vegetation very close to the ground surface, single pass, short duration in any single location, low to moderate soil disturbance, noise, and vibration	High
	Woody Vegetation Removal and Site Grubbing	Removal, chipping, and grubbing of soils to remove woody bulk, medium duration, targeted in locations with high woody vegetation content, extensive soil disturbance, noise, and vibration	High
	Site Grading	Movement of soil and recontouring of site topography, medium duration, may be targeted in localized areas, extensive soil disturbance, noise, and vibration	High
	Best Management Practices (BMP) Installation (Hand Tools)	Short-duration, on foot, driving on established roads, quiet	Low
	BMP Installation (Light Machinery)	Short-duration, using light equipment, driving on established roads and offroad	Low
	BMP Installation (Heavy Machinery)	Short- to moderate-duration, using heavy equipment, driving on established roads and offroad, extensive soil disturbance, noise, and vibration	High
	Security Fence Installation	Shallow foundation excavation, concrete pouring, and post establishment, and laying fencing fabric, short duration in any one location	Low
	Road Compaction	Use of graders and rollers, extensive noise, and vibration, moderate duration in any one location	High

Project Phase	Construction Activity	Intensity	Disturbance Level
	Equipment and Material Laydown	Movement and staging of equipment and materials, extensive noise and vibration, moderate duration in a few locations	Moderate
	Cable Trenching (Ditch Witch)	Short- to moderate-duration, using heavy equipment, driving on established roads and offroad, moderate soil disturbance, noise, and vibration	Moderate
Major Equipment Installation, Site Cleanup, Restoration	Cable/Fiber Trenching (Excavate Full Trench)	Use of heavy equipment, extensive disturbance, noise, and vibration, moderate duration in any one location	High
	Trenchless Installation of Cables/Fiber at Entrance and Exit Pits (Horizontal Directional Drill, Jack-and-Bore, and similar)	Use of heavy equipment, extensive disturbance, noise, and vibration, moderate duration at entrance and exit pits	High
	Trenchless Installation of Cables/Fiber along Underground Alignment	Below ground soil disturbance, limited noise and vibration. Vehicular travel along alignment.	Low
	Pile Driving	Short- to moderate-duration, using heavy equipment, extensive soil disturbance, noise, and vibration	Moderate - High
	Well Drilling	Short duration, using drill rig to develop groundwater supply well (if required)	Moderate
	BESS Delivery and Interconnection	Movement and staging of equipment and materials, extensive noise and vibration, moderate-duration in a one location	Moderate
	Gen-tie and Fiber Optic Cable Pole Foundation Excavation	Short- to moderate-duration, using heavy equipment, extensive soil disturbance, noise, and vibration	High
	Water Truck Use	Short-duration, using light equipment, driving on established roads	Low
	Hydroseeding	Short-duration, using light equipment, driving on established roads and offroad	Low
	Broadcast Seeding	Short-duration, on foot, driving on established roads, quiet	Minimal
O&M	Inspections	Short-duration, driving on established roads, quiet no ground disturbance	Low
	General Maintenance of Equipment	Short-duration, using light equipment, driving on established roads and offroad	Low
	Equipment Replacement	Short-duration, possibly heavy equipment, driving on established roads and offroad	Moderate - High
	Weed Management (Chemical Controls)	Short to moderate-duration, targeted herbicide application for noxious/invasive weeds, on foot in any one location, using light equipment, driving on established roads and offroad	Low - Moderate
	Ground-disturbing Activities	Use of heavy equipment, extensive disturbance, noise, and vibration, moderate-duration in any one location	Moderate - High
	Vegetation Mowing (4+in)	Mowing well above the ground surface to de-bulk grassland, cropland, or weedy vegetation, single pass, short duration in any single location	Moderate

Project Phase	Construction Activity	Intensity	Disturbance Level
	Vegetation Mowing (0-4in)	Mowing of vegetation very close to the ground surface, single pass, short duration in any single location, low to moderate soil disturbance, noise, and vibration	High
	Weed Management (Mechanical Controls)	Weed whacking very close to the ground or hoeing, hand pulling to remove noxious/invasive weed roots, short duration on foot in any one location, using light equipment, low to moderate soil disturbance, noise, and vibration, driving on established roads and offroad	Low - Moderate

d. Resumes for staff who conducted focused surveys for Swainson's hawk and burrowing owl are included as Appendix 3-C.

e. Burrowing owls or their sign have not been documented in the Project disturbance area; as such, the Applicant is not requesting incidental take authorization for burrowing owl. The Applicant is proposing **PD BIO-5**, which includes preconstruction surveys and avoidance of burrowing owls to ensure that take, as defined by the California Fish and Game Code, will not occur as a result of Project activities.

   Should burrowing owls be documented during preconstruction surveys and avoidance, as defined by **PD BIO-5**, is not feasible, and it is determined the Project is likely to directly impact or substantially indirectly impact the burrowing owls such that take could occur, the Applicant will coordinate with the CEC and CDFW to obtain incidental take authorization.

3.2 Data Request DR BIO-2

DR BIO-2. The Aquatic Resources Delineation Report, included as Appendix 4.4-D in Volume 2 App 4-4 of the opt-in application (TN 259894) describes the study area as encompassing approximately 175.053 acres; however, Figure 1-1 in Appendix 4.4-D and the Aquatic Resources Delineation Map, included as Appendix A of Appendix 4.4-D, both identify a study area of 286.636 acres. Please clarify the size of the study area (in acres) and provide updated figures and maps, as appropriate.

Response: The study area for the aquatic resources delineation included a 250-foot buffer around the Project area encompassing an area of 177.887 acres.

A corrected Figure 1-1 and a corrected Aquatic Resources Delineation Map, Appendix A, are included as Appendix 3-D.

3.3 Data Request DR BIO-3

DR BIO-3. Section 3.1.2 of the Aquatic Resources Delineation Report, included as Appendix 4.4-D in Volume 2 App 4-4 of opt-in application (TN 259894) identified 13 mapped ditches; however, the Aquatic Resources Delineation Maps, included as Appendix A of Appendix 4.4-D identified 16 ditches (mapped as DR-1 to DR-16) and noted 2.394 acres of ditches whereas the text only identified 1.932 acres of ditches. Please clarify the number of ditches and the total acres of ditches.

Response: The Aquatic Resources Delineation Report (ARDR) text and tables are correct. There was an error in Figure 1-1 and the Appendix A, Aquatic Resources Delineation Map. There are 13 mapped ditches with a total acreage of 1.932 acres in the study area.

A corrected Figure 1-1 and a corrected Aquatic Resources Delineation Map, Appendix A, are included as Appendix 3-D.

3.4 Data Request DR BIO-4

DR BIO-4. The Biological Resources Report (TN 259894) did not include a table, as required by California Code of Regulation, title 20, section 1877(d), Appendix B (i) (1) (A), that identifies the applicable laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits to the proposed project. In addition, a discussion of the applicability of, and conformance with each should be included. The table or matrix should reference pages in the application where conformance, with each applicable law, regulation, ordinance, standard, or adopted local, regional, state, and federal land use plans, leases, and permits during both construction and operation of the facility is discussed.

Response: Table 3-3 identifies applicable local, state, and federal laws, ordinances, regulations, and standards for the Project relating to biological resources.

Table 3-3. Laws, Ordinances, Regulations, and Standards (LORS) for Biological Resources

LORS	Requirements/Applicability	Administering Agency	Project Conformance
Federal			
Federal Endangered Species Act (ESA; 16 United States Code [U.S.C.] Section 1531 et seq.)	Section 9 prohibits the "take" of species listed as endangered or threatened under the federal ESA.	U.S. Fish and Wildlife Service (USFWS)	The Project will implement proposed PD Measures (**PD BIO-1** through **PD BIO-3**) outlined in Section 4.4.5 Mitigation Measures on pages 4.4-42 to 4.4-44 to reduce impacts to any federally listed species and ensure compliance with the ESA.
Migratory Bird Treaty Act (MBTA; 16 U.S.C. Section 703 - 711)	Protects all migratory birds, including nests and eggs.	USFWS	The implementation of the proposed PD Measures (**PD BIO-1** through **PD BIO-3, PD BIO-5,** and **PD BIO-6**), outlined in Section 4.4.5 Mitigation Measures on pages 4.4-42 to 4.4-46, will be implemented to protect migratory birds, including nests and eggs.
Bald and Golden Eagle Protection Act (BGEPA; 16 U.S.C. Section 668)	Specifically protects bald and golden eagles from harm or trade in parts of these species.	USFWS	The implementation of the proposed PD Measures (**PD BIO-1** through **PD BIO-3**), outlined in Section 4.4.5 Mitigation Measures on pages 4.4-42 to 4.4-44, will ensure compliance to the BGEPA.
Sections 401 and 404 of the Clean Water Act (CWA)	Prohibits the discharge of dredged or fill material into waters of the United States (WOTUS), including wetlands, without a permit from the U.S. Army Corps of Engineers (USACE). All Section 404 CWA permit actions require water quality	USACE	As stated in Section 4.4.3.8 CEQA Impact Analysis (iii) page 4.4-40, the Project would not impact WOTUS and would ensure compliance with the CWA.

LORS	Requirements/Applicability	Administering Agency	Project Conformance
	certification or a waiver pursuant to Section 401 of the CWA. This authority has been delegated by the U.S. Environmental Protection Agency to the California State Water Resources Control Board, who delegates regional authority to the Regional Water Quality Control Boards (RWQCBs).		
State			
California ESA (Fish and Game Code Section 2050 et seq.)	States that species listed as threatened or endangered in California cannot be "taken" or harmed unless such "take" is authorized pursuant to an incidental take permit.	California Department of Fish and Wildlife (CDFW)	The Project will implement proposed PD Measures (**PD BIO-1** through **PD BIO-7**) outlined in Section 4.4.5 Mitigation Measures on pages 4.4-42 to 4.4-46 to reduce, avoid, or mitigate impacts to any state threatened species and ensure compliance with the California ESA. Take of California ESA protected species (Swainson's hawk, burrowing owl, and Crotch's bumble bee) will not occur with implementation of PD Measures.
California Code of Regulations (Sections 670.2 and 670.5)	California Species of Special Concern (SSC) is a category conferred by the CDFW to fish and wildlife species that meet the state definition of threatened or endangered, but have not been formally listed (e.g., federally or state listed species), or are considered at risk of qualifying for threatened or endangered status in the future based on known threats.	CDFW	The Project will implement proposed PD Measures (**PD BIO-1** through **PD BIO-4**, and **PD BIO-7**) outlined in Section 4.4.5 Mitigation Measures on pages 4.4-42 to 4.4-45 to avoid impacts to SSC species and ensure compliance.
California Fish and Game Code Section 3511	Describes bird species, primarily raptors, that are "fully protected." Fully protected birds may not be taken or possessed, except under specific permit requirements.	CDFW	The Project will implement proposed PD Measures (**PD BIO-1** through **PD BIO-3**, and **PD BIO-7**) outlined in Section 4.4.5 Mitigation Measures on pages 4.4-42 to 4.4-44 to avoid impacts to fully protected species and ensure compliance.
California Fish and Game Code Section 3503	States that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.	CDFW	The Project will implement proposed PD Measures (**PD BIO-1** through **PD BIO-3, PD BIO-5,** and **PD BIO-6**) outlined in Section 4.4.5 Mitigation Measures on pages 4.4-42 to 4.4-46 to avoid impacts to birds and ensure compliance.
California Fish and Game Code Section 3503.5	Protects all birds of prey and their eggs and nests.	CDFW	The Project will implement proposed PD Measures (**PD BIO-1** through **PD BIO-3, PD BIO-5,** and **PD BIO-6**) outlined in Section 4.4.5 Mitigation Measures on pages 4.4-42 to 4.4-46 to avoid impacts to birds of prey and ensure compliance.

LORS	Requirements/Applicability	Administering Agency	Project Conformance
California Fish and Game Code Section 3513	Makes it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.	CDFW	The Project will implement proposed PD Measures (**PD BIO-1** through **PD BIO-3, PD BIO-5,** and **PD BIO-6**) outlined in Section 4.4.5 Mitigation Measures on pages 4.4-42 to 4.4-46 to avoid impacts to birds and ensure compliance.
California Fish and Game Code Sections 4700, 5050, and 5515	List mammal, amphibian, and reptile species that are fully protected in California.	CDFW	Table 4.4-3 on pages 4.4-11 to 4.4-13 includes fully protected species with the potential to occur within one mile of the Project site and within 1,000 feet from the outer edge of linear facility corridors. The Project will implement proposed PD Measures (**PD BIO-1** through **PD BIO-3,** and **PD BIO-7**) outlined in Section 4.4.5 Mitigation Measures on pages 4.4-42 to 4.4-44 to avoid impacts to fully protected species.
California Fish and Game Code Section 1900 et seq.	The California Native Plant Protection Act, protects rare plants listed as state threatened, endangered, and rare.	CDFW	The Project would not impact any state threatened, endangered, or rare plants.
California Fish and Game Code Section 1600 et seq.	Prohibits alteration of any stream or lake, including intermittent and seasonal channels and many artificial channels, without a Streambed Alteration Agreement from CDFW.	CDFW	The Project would not impact any CDFW jurisdictional aquatic features. A Lake and Streambed Alteration Agreement will not be required.
CEQA (Public Resources Code Section 15380)	Defines “rare” in a broader sense than the California ESA and CDFW definitions of threatened, endangered, or SSC. Under this definition, the CDFW can request additional consideration of species not otherwise protected.	CDFW	As discussed in Section 4.4.2.2 page 4.4-3 and 4.4-4, reviews of databases were conducted to assess to determine if any “rare” species have the potential to occur within one mile of the Project site and within 1,000 feet from the outer edge of linear facility corridors. One California rare plant species was identified in the records search in Table 4.4-3 on page 4.4-19, but this species has a low potential for occurrence. No “rare” wildlife species were identified in records searches. Any potential impacts to “rare” species will be avoided through implementation of the proposed PD Measure **PD BIO-1** in Section 4.4.5 page 4.4-42 to 4.4-44.
Section 13263 of the Porter-Cologne Water Quality Control Act	Authorizes the RWQCB to regulate discharges of waste and fill material to waters of the State, including “isolated” waters and wetlands, through the issuance of water quality certifications or waste discharge requirements (WDR).	RWQCB	The Project would not impact any jurisdictional waters of the state. A water quality certification or waste discharge requirements will not be required.

LORS	Requirements/Applicability	Administering Agency	Project Conformance
Native Plant Act of 1973 (Fish and Game Code Sections 1900–1913)	Includes provisions that prohibit the taking of endangered or rare native plants.	CDFW	The Project would not impact any state threatened, endangered, or rare native plants.
California Food and Agriculture Code 403	Prevent the introduction and spread of injurious insect or animal pests, plant diseases, and noxious weeds.	California Department of Food and Agriculture	As discussed further under DR BIO-8, a new PD Measure, **PD BIO-8**, will be implemented to minimize and control the spread of invasive species during construction and operation activities.
Local			
Solano County General Plan	The Solano County General Plan serves as a framework to fulfill the community's vision for the county. The Solano County General Plan, Chapter 4, *Resources*, has multiple policies related to biological resources including: • *Policy RS.P-1*: Protect and enhance the county's natural habitats and diverse plant and animal communities, particularly occurrences of special status species, wetlands, sensitive natural communities, and habitat connections. • *Policy RS.P-4*: Together with property owners and federal and state agencies, identify feasible and economically viable methods of protecting and enhancing natural habitats and biological resources. • *Policy RS.P-6*: Protect oak woodlands and heritage trees and encourage the planting of native tree species in new developments and along road rights-of-way. • *Policy RS.P-71*: Ensure that land use activities and development occur in a manner that minimizes the impact of earth disturbance, erosion, and surface runoff pollutants on water quality.	Solano County Department of Resource Management	The Solano County General Plan identifies Priority Habitat Areas and Resource Conservation Areas, neither of which occur in the vicinity of the Project site. Loss of special status species and their habitat as a result of implementing the Project would conflict with these policies. However, PD Measures **PD BIO-1** through **PD BIO-7**, outlined in Section 4.4.5 Mitigation Measures on pages 4.4-42 to 4.4-46, would ensure compliance with the Solano County General Plan policies.
City of Vacaville General Plan	The City of Vacaville General Plan specifies a number of policies or actions to address concerns related to biological resources. The specific policies and implementation programs of the General Plan, Conservation and Open Space Element, include: • *Goal COS-1: Protect and enhance habitat for sensitive species and natural communities.* • *Policy COS-P1.5: Require new development proposals to provide baseline assessments prepared by qualified biologists. The assessment shall contain sufficient detail to*	City of Vacaville Department of Community Development	The Project will comply with the goals, policies, and implementation measures of the City's General Plan as related to biological resources. The Project has conducted baseline biological assessment and with the implementation of **PD BIO-1** through **PD BIO-7**, outlined in Section 4.4.5 Mitigation Measures on pages 4.4-42 to 4.4-46, and restoration of temporarily disturbed areas, the Project would comply with the City of Vacaville General Plan.

LORS	Requirements/Applicability	Administering Agency	Project Conformance
	characterize the resources on, and adjacent to, the development site. • *Policy COS-P1.6: Require that new development minimize the disturbance of natural habitats and vegetation. Require revegetation of disturbed natural habitat areas with native or non-invasive naturalized species.* • *Policy COS-P1.12: Until the Solano Habitat Conservation Plan (HCP) is adopted, comply with all of the Avoidance, Minimization, and Mitigation Measures listed in the Draft Solano HCP.* • *Policy COS-P1.13: Require that new development avoid the loss of special-status bat species as feasible.*		

3.5 Data Request DR BIO-5

DR BIO-5. Please provide resumes for all staff who conducted biological resources surveys in support of the opt-in application, including all habitat assessments, species surveys, and aquatic delineations. Please provide sufficient detail to verify the qualifications of the biologists to perform specific surveys. The biologists' resumes should indicate the amount of time spent performing specific surveys/monitoring (e.g., hours/days) or the time period served on each project.

Response: Please see Appendix 3-C for resumes for the biologist who conducted biological surveys, including focused species surveys, in support of the Application.

3.6 Data Request DR BIO-6

DR BIO-6. Please provide a statement in response to Appendix B (g) (13) (B) (ii) and Appendix B (g) (13) (C) (iii) regarding whether or not the project would require the use of fossil fuel generators. If the project would require the use of fossil fuel generators during the operations phase, please provide the following to determine deposition rates and location: a. Aerial map of the isopleth graphic depicting modeled nitrogen deposition rates per Appendix B (g) (13) (B) (ii). The geographical extent of the nitrogen deposition map(s) should include the entire plume from the source and a radius of 6 miles from the project site, specifically identifying acres of sensitive habitat(s) within each isopleth. Please provide modeling parameters and files. Please provide the GIS shapefiles. b. Perform nitrogen deposition modeling including the complete citations for references used in determining deposition rates and locations, per Appendix B (g) (13) (C) (ii). c. Amount of total annual nitrogen deposition in kilograms of nitrogen per hectare per year (kg N/ha/yr) in special status species habitats and vegetation types for wet and dry deposition. d. Description of habitat and species potentially affected. e. Provide an impact discussion, specifically addressing impacts to sensitive species habitat, per Appendix B (g) (13) (E).

Response: The Project will not require the use of fossil fuel generators during operations.

3.7 Data Request DR BIO-7

DR BIO-7. Please provide the following information regarding the intermittent riverine feature and potential impacts from the project: a. Please provide clarification about whether project construction or operation would include any activities subject to notification under California Fish and Game Code, section 1602. Please clarify if there would be any permanent and/or temporary impacts to jurisdictional waters or wetlands. Include a description of any project activities that would occur near the intermittent riverine feature. b. If construction activities may substantially alter the bed, bank or channel of the feature, divert or obstruct its natural flow, or deposit material into the feature (e.g., via a frac-out scenario if using horizontal directional drilling or via dropped construction materials if constructing overhead structures) then a Lake or Streambed Alteration Agreement (LSAA) notification should be submitted to the CEC that includes all the information required in California Fish and Game Code section 1602(a)(1)(A)-(F).

Response: The intermittent riverine feature will not be impacted during Project construction or operations. The Project will construct overhead powerlines that will span this jurisdictional aquatic feature, and no horizontal directional drilling or similar action under this feature will be conducted. The construction disturbance footprint will encompass the extent of the gen-tie corridor in this area for orchard removal prior to gen-tie construction, with the exception of all jurisdictional portions of this intermittent riverine feature, as the conductors will span it in an overhead alignment and there will be no impacts to it. However, as a part of standard erosion control practices per **PD HYD-02** and **PD HYD-03**, prior to construction activities, including orchard removal, the Applicant or its contractors will install Best Management Practices (BMPs) upland from the top of the bank of the intermittent riverine feature to ensure construction-related debris and/or personnel do not impact it. As such, no California Fish and Game Code Section 1602 jurisdictional aquatic feature will be impacted during Project construction or operations.

Due to avoidance of aquatic features that are jurisdictional under Section 1602, the Applicant is not submitting a Lake or Streambed Alteration Agreement to CDFW.

3.8 Data Request DR BIO-8

DR BIO-8. Section 4.4, Biological Resources, (TN 259874) of the opt-in application, did not include measures to control the spread of invasive species during construction and operation activities. Please submit appropriate measures to control the spread of invasive species during construction, operation, and decommissioning activities.

Response: Proposed Project Design Measure **PD BIO-8** has been added to control the spread of invasive species during construction and operation activities.

PD BIO-8: Prevent the Spread of Invasive Plants

To minimize the risk of introducing new invasive plants to the Project site and adjacent properties during construction, operations and maintenance, and decommissioning, all construction vehicles and equipment must be inspected and free of mud, seeds, and other vegetation debris before use in the Project site. Prior to accessing the Project site, construction equipment will be inspected and cleaned if necessary. Any plant materials (such as hay bales or wattles) or other erosion control

materials brought onto the Project site will be certified weed free. During construction, operations and maintenance, and decommissioning, soil disturbance will be limited to the extent feasible to prevent the spread of invasive plants. Following construction, temporarily disturbed areas will be revegetated following the guidance of the draft revegetation plan discussed further in **DR BIO-18** and Appendix 3-E to minimize the potential for the spread of invasive plants.

3.9 Data Request DR BIO-9

DR BIO-9. Please provide a map of all areas that were not surveyed for biological resources, due to being inaccessible or other reasons, and provide the reasoning for not conducting surveys of these areas (e.g., lack of landowner permission, safety concerns, etc.).

Response: Confidential Appendix 3-B depicts the areas that were not accessible during surveys for biological resources because landowner permission could not be obtained. These areas were surveyed during focused surveys for burrowing owl and Swainson's hawk using binoculars from publicly accessible areas.

3.10 Data Request DR BIO-10

DR BIO-10. Please include Figures 4.4-1 and 4.4-2 CNDDB plants and wildlife maps at a scale of 1:6,000 under confidential cover.

Response: Figures 4.4-1 and 4.4-2 from the Application have been updated and are provided in confidential Appendices 3-F and 3-G. These updated confidential figures show California Natural Diversity Database (CNDDB) results for plants and wildlife, respectively, at a scale of 1:6,000.

3.11 Data Request DR BIO-11

DR BIO-11. Please clarify whether potential nesting habitat or records of nesting colonies exist within 3.1 miles of the project area. If suitable nesting habitat does or may exist within this range, please update the likelihood of tricolored blackbird to occur within the project area accordingly. If nesting habitat is present within the project area and the project may result in disturbance of a colony, CEC staff and CDFW recommend that the applicant obtain incidental take authorization for the species. Please include all appropriate avoidance, minimization, and mitigation measures to avoid take of the species, as necessary. If applicant is requesting take coverage for tricolored blackbird, pursuant to California Code of Regulations, title 20, section 1877, Contents of an Opt-in Application, please submit an Incidental Take Permit (ITP) application and provide the items required in California Code of Regulations, Title 14, section 783.2(a)(1)-(a)(10). See **DR BIO-1.**

Response: There is no suitable nesting habitat within or adjacent to the Project construction footprint. There are also no nesting colonies of tricolored blackbird documented in the CNDDB within 3.1 miles of the Project construction footprint. The closest nesting colony occurrence (OCC # 491) is approximately 5 miles south of the Project. In addition, notes associated with this occurrence detail that foraging activities for this colony were observed to the south and east of the nesting site; therefore, foraging tricolored blackbirds from this colony are not anticipated to occur to the north where the Project is located. Tricolored blackbird does not have a potential to occur within or near

the Project construction footprint. As such, the Applicant is not requesting incidental take authorization for tricolored blackbird.

3.12 Data Request DR BIO-12

DR BIO-12. Please provide a figure showing where potential habitat was identified in the project area, including potential floral resources and nesting sites. To avoid take of the species, additional avoidance measures should be included. If this additional information for Crotch's bumble bee indicates that the project or activities may cause take of Crotch's bumble bee, CEC staff and CDFW recommend the applicant apply for an incidental take authorization for Crotch's bumble bee. If applicant is requesting take coverage for Crotch's bumble bee, pursuant to California Code of Regulations, title 20, section 1877, Contents of an Opt-in Application, please submit an Incidental Take Permit (ITP) application and provide the items required in California Code of Regulations, Title 14, section 783.2(a)(1)-(a)(10). See **DR BIO-1**. Pre-construction survey methods should be consistent with the CDFW's Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species (CDFW 2023) found at the following site: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=213150&inline

Response: There are non-native floral resources scattered throughout the Project site; however, there are no native floral resources that are preferred by Crotch's bumble bee within the Project site. As such, there is a low likelihood that Crotch's bumble bee will be present within the Project site, and the Project is unlikely to result in take as defined by the California Fish and Game Code.

The Applicant has proposed **PD BIO-4**, which includes preconstruction surveys for Crotch's bumble bee within 2 weeks of the start of construction to identify individuals, active nesting colonies, and associated floral resources that could be avoided by construction personnel. If an individual Crotch's bumble bee or an active nest colony is found, a no-disturbance buffer would be implemented to protect individuals, the nest, and floral resources until the nest is no longer present and/or individuals leave the construction area. As such, the Applicant is not requesting incidental take authorization for Crotch's bumble bee.

3.13 Data Request DR BIO-13

DR BIO-13. Please provide a description of what type of construction or operation activities would be planned within a 0.25 mile of the known Swainson's nest near the substation. In addition, please describe the survey area (i.e., portion of the project area and buffer surveyed). Identify activities that could occur outside of the breeding season; otherwise, CEC staff and CDFW recommend the applicant apply for incidental take authorization if impacts to Swainson's hawk cannot be avoided. If applicant is requesting take authorization for Swainson's hawk, pursuant to California Code of Regulations, title 20, section 1877, Contents of an Opt-in Application, please submit an Incidental Take Permit (ITP) application and provide the items required in California Code of Regulations, Title 14, section 783.2(a)(1)- (a)(10). See **DR BIO-1.**

Response: Construction activities occurring south of Interstate 80 (I-80) and within 0.25 mile of the known Swainson's hawk nest include vegetation removal, including removal of the orchard,

installation of two overhead gen-tie pole structures (structures 5 and 6), and stringing of the 230-kilovolt (kV) transmission line.

Construction activities occurring north of I-80 and within 0.25 mile of the known Swainson's hawk nest include vegetation removal, including potential tree removal near structures 7 and 8, installation of up to four overhead structures (structures 7 through 10) to connect the Project to the Vaca-Dixon Substation, stringing of the 230-kV transmission line, and completion of the New Corby Bay. Pacific Gas and Electric (PG&E) will be responsible for the portion of the gen-tie between the point of change of ownership (POCO; structure 6) and the point of interconnection at the PG&E Vaca-Dixon Substation, including the final five structures (structures 6 through 10), the I-80 crossing, and the New Corby Bay. The specific height, location, and design of the structures for the gen-tie line from the POCO to Vaca-Dixon Substation will be determined by PG&E during final design.

Construction activities that would occur within 0.25 mile of the known Swainson's hawk nest will occur outside of the breeding season, defined as March 1 through September 15, to avoid impacts to nesting Swainson's hawk. However, if preconstruction nesting bird surveys confirm that no Swainson's hawk pair is actively nesting within 0.25 mile of this location, work may occur during anytime of the year provided that no other nesting birds or biological constraints are encountered during preconstruction surveys. During operations, infrastructure may be subject to periodic inspection; however, these inspections are expected to be minimal and infrequent and would not result in take of Swainson's hawk.

Due to the timing restriction of construction activities, potential take of Swainson's hawk will be avoided, and the Applicant is not requesting incidental take authorization.

3.14 Data Request DR BIO-14

DR BIO-14. Please provide a figure similar to Figure 4.4-3 (TN 259874) that separates out the "other temporary impacts" at the 40.3-acre project site from the temporary impacts near the substation. Please provide a discussion of proposed compensatory mitigation in consideration of the guidance from CEC staff and CDFW based on the Five-Year Status Report – Swainson's Hawk (CDFW 2016).

Response: A revised Figure 4.4-3 (Figure 3-1, *Impacts to Swainson's Hawk Foraging Habitat*) has been included in the additional material submitted to support the CEC comment. The revised figure separates out "other temporary impacts" at the 40.3-acre Project site and those near the substation. The Project is anticipated to result in the permanent loss of approximately 15.9 acres and temporary loss of approximately 24.4 acres of available foraging habitat within the 40.3-acre Project site and an additional temporary loss of approximately 3.8 acres of available foraging habitat near the PG&E Vaca-Dixon Substation (Figure 3-1). This results in a total of approximately 15.9 acres of permanent foraging habitat loss and approximately 28.3 acres of temporarily foraging habitat loss as a result of construction activities.

According to the Five Year Status Review for Swainson's Hawk (*Buteo swainsoni*) (CDFW 2016[2]), "mitigation for impacts to Swainson's hawk foraging habitat may vary among CEQA agencies, but essentially does not occur at a rate greater than 1:1 habitat lost to habitat protected."

The Applicant is proposing mitigation impacts associated with conversion of farmland by securing at least 60.5 acres of protected agricultural mitigation lands within Solano County in coordination with Solano Land Trust. According to CDFW (2016), the Swainson's hawk has shifted its foraging strategy to rely heavily on agricultural crop types that have a low, open vegetation structure and support large number of rodent prey. As such, these protected agricultural mitigation lands will serve as important foraging habitat preservation for the Swainson's hawk, if the mitigation lands comprise compatible crop types.

Foraging studies indicate that crop types that consistently have a low, open vegetation structure provide the highest quality foraging habitat, whereas crop types that are characterized by tall and dense vegetation provide the lowest quality foraging habitat. Swainson's hawks' preferentially forage high to moderate quality crop types such as alfalfa or other grain crops such as wheat, oat, or barley, row crops such as tomatoes and beets, or other similarly annually rotated crops that maintain a relatively low vegetation profile and that are harvested during the breeding season (CDFW 2016; Swolgaard et al. 2008[3]; Babcock 1995[4]). Crops characterized by tall and dense vegetation such as safflower, sunflower, corn, and rice provide low foraging value, while orchards and vineyards provide little to no foraging value (CDFW 2016).

As such, the Applicant is proposing, in coordination with the Solano Land Trust, to mitigate for the conversion of farmland with crop types compatible with Swainson's hawk foraging to support the regional Swainson's hawk population. These protected agricultural mitigation lands will be located in Solano County and will include a low-growing crop such as alfalfa, grains, or other row crops that will be preserved primarily for agricultural preservation, but will also serve as higher quality foraging habitat for Swainson's hawk compared to the baseline habitat at the Project site. In addition, the protected agricultural mitigation lands (at least 60.5 acres) will result in a much greater than 1:1 mitigation ratio for loss of Swainson's hawk foraging habitat as a result of the Project.

3.15 Data Request DR BIO-15

DR BIO-15. Please clearly depict temporary and permanent impacts throughout the document and include a description of the specific location(s), habitat types being impacted, and acreage amounts. Please clarify impact acreages to add up to 65.9 acres or to match the total disturbance footprint for construction and operation of the project. Please clarify and provide the clean and redlined versions of an updated Section 4.4 of the application and associated appendices of the opt-in application, as needed.

[2] CDFW (California Department of Fish and Wildlife). 2016. Status Review: Swainson's Hawk (*Buteo swainsoni*) in California. Available online at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=133622&inline

[3] C.A. Swolgaard, K.A. Reeves, and D.A. Bell. 2008. Foraging by Swainson's hawks in a vineyard-dominated landscape. *Journal of Raptor Research* 42(3):188–196.

[4] K. Babcock. 1995. Home range and habitat use of breeding Swainson's hawks in the Sacramento Valley of California. *Journal of Raptor Research* 29(3):193–197.

Response: Project impacts are depicted on revised Figure 4.4-3 (Figure 3-1, *Impacts to Swainson's Hawk Foraging Habitat*). A Project impacts table is included below that details the specific impact, habitat being impacted, and acreage (Table 3-4).

Table 3-4. Project Impact Table

Project Site Permanent Impacts	Habitat Type	Acres[1/]
Northern Stormwater Pond	Fallow Farmland	1.0
Southern Stormwater Pond	Fallow Farmland	1.1
Project Substation	Fallow Farmland	2.1
BESS Array Area	Fallow Farmland	11.4
BESS Access Roads	Fallow Farmland	0.1
Substation Access Road	Fallow Farmland	0.2
Total Project Site Permanent Impacts		**15.9**
Permanent Impact - Orchard Removal		
Gen-tie Laydown Area	Orchard	7.2
Gen-tie Corridor (south of I-80)[2/]	Orchard	14.4
Total Permanent Impact - Orchard Removal		**21.6**
Temporary Impacts		
Project Site Northern Laydown Area	Fallow Farmland	4.5
Project Site Southern Laydown Area	Fallow Farmland	8.8
Project Site Work Areas	Fallow Farmland	11.2
PG&E Substation Work Area	Non-Native Forest & Developed/Disturbed	3.8
Total Temporary Impacts		**28.3**
Total Disturbance Footprint		**65.9**

1/ Acreages are rounded to the nearest 0.1 acre.
2/ Approximate gen-tie corridor construction disturbance area (including gen-tie option 1 or 2, not both)

3.16 Data Request DR BIO-16

DR BIO-16. Please submit detailed maps, under confidential cover, at a scale of 1:6,000 that show the proposed project site and related facilities, biological resources including, but not limited to, those found during project-related field surveys and in records from the CNDDB, and the associated areas where biological surveys were conducted. See **DR BIO-10.** Label the biological resources and survey areas as well as the project facilities. Please identify the gen-tie overhead line activities in relation to the intermittent riverine resource, as well.

Response: Please see confidential Appendices 3-F and 3-G for the requested confidential detailed maps at a scale of 1:6,000. The confidential maps include proposed Project facilities, CNDDB records, areas where biological field surveys were conducted and where biological resources were encountered during those surveys, as well as work areas in relation to the intermittent riverine resource.

The construction disturbance footprint within the gen-tie corridor will include all areas where orchards are present, as required for orchard removal. The construction disturbance footprint will avoid the intermittent riverine resource, as shown in confidential Appendices 3-F and 3-G. Prior to

construction activities, including orchard removal, the Applicant or its contractors will install erosion control materials (BMPs) at the top of the bank of the intermittent riverine feature to ensure construction-related debris or personnel do not impact the aquatic feature. The location of the erosion control materials is depicted in confidential Appendices 3-F and 3-G. Erosion control materials may include silt fences, straw wattles, or other applicable BMPs. Existing roadways in relation to this intermittent aquatic feature may be used to access the work area.

3.17 Data Request DR BIO-17

DR BIO-17. If impacts to Waters of the United States are unavoidable and an U.S. Army Corps of Engineers (ACOE) 404 permit and a Regional Water Quality Control Board (RWQCB) 401 certification is required, please provide the following, per the requirements of Appendix B (g) (13) (D) (ii) and Appendix B (g) (14) (A) (i-iii): ACOE Section 404 and RWQCB 401 Certification and Waste Discharge Requirements (WDR) applications; a completed wetland delineation report verified by the ACOE, if verification is required by the ACOE; a description of the waters proposed to be impacted by the project including the quantity of impacts to waters proposed to receive a discharge of dredged or fill material at each location rounded to at least the nearest one-hundredth (0.01) of an acre and nearest linear foot, and cubic yards of fill; and a compensatory mitigation plan for permanent physical loss and permanent ecological degradation of a water of the state.

Response: Gen-tie Option 1 would route under the irrigation ditch (Feature D-7; waters of the State), on the north side of Kilkenny Road. The gen-tie conduit would be installed using jack and bore methods, and the redundant fiber line would be installed by horizontal directional drilling. The vertical clearance between the bottom of the irrigation ditch and the gen-tie and fiber conduits would be 10 feet and 11 feet, respectively. As such, impacts to waters of the State would be avoided and a Waste Discharge Requirement would not be required. Similarly, because this feature is not considered waters of the United States under the Clean Water Act Section 404, a Section 404 application would not be required.

All other potentially jurisdictional aquatic features would be avoided during Project construction and operations. The Project would construct overhead powerlines which would span potentially jurisdictional aquatic features. The construction disturbance footprint would be set back from any potentially jurisdictional aquatic features and erosion control materials would be erected prior to work in these areas. As such, no potentially jurisdictional aquatic features will be impacted during Project construction or operations.

3.18 Data Request DR BIO-18

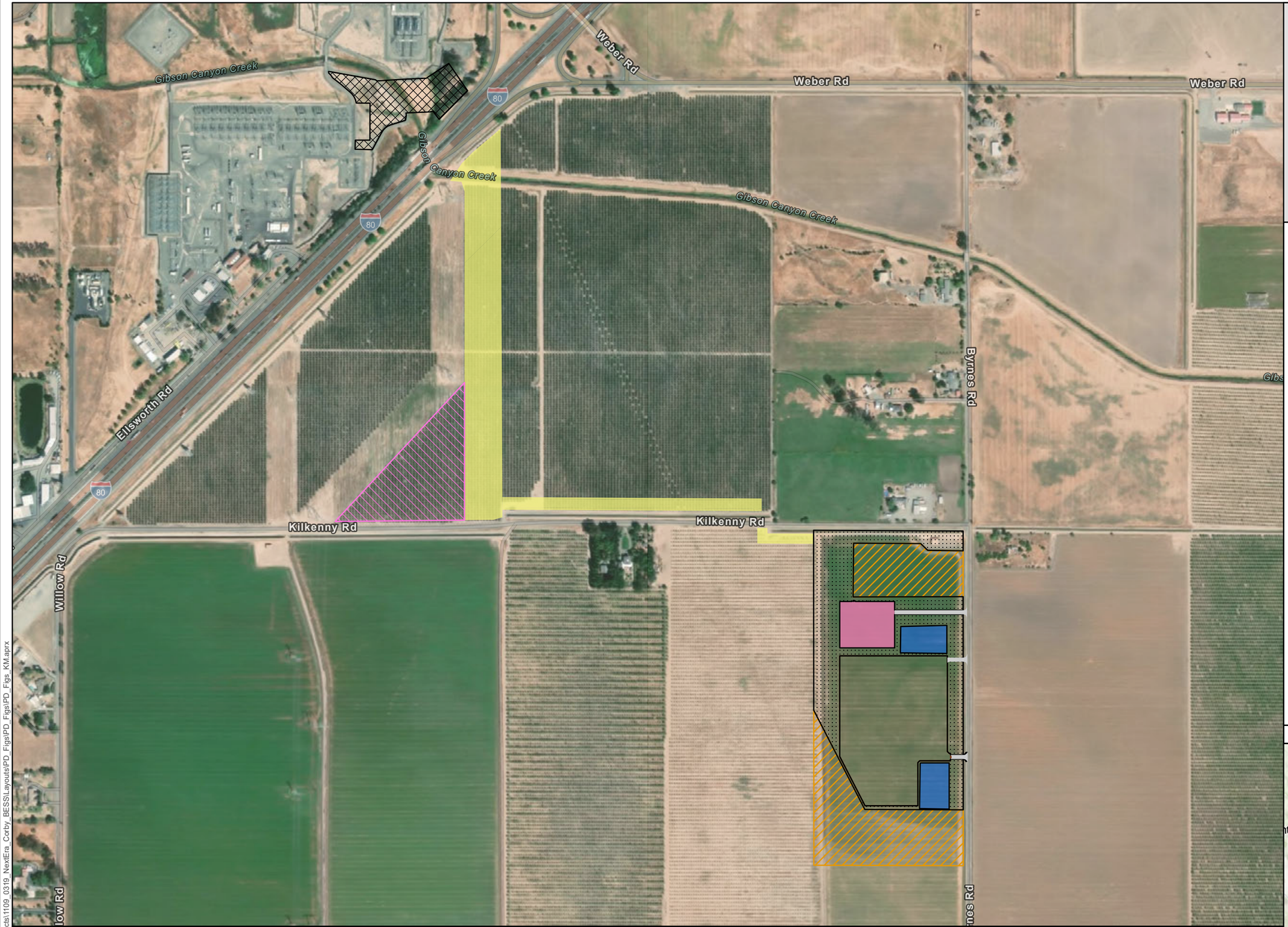
DR BIO-18. Please submit a draft revegetation plan that includes a comprehensive list of proposed plant species, including quantities and monitoring plan. The revegetation plan should include flowering plants appropriate for monarch butterfly (Danaus plexippus) and Crotch's bumble bee use.

Response: A draft revegetation plan that includes a proposed seed mix with quantities applied per acre is included in Appendix 3-E. This seed mix includes plant species that are appropriate for monarch butterfly and Crotch's bumble bee.

NextEra Energy
Corby Battery Energy Storage System Project

Figure 3-1
Impacts to Swainson's Hawk Foraging Habitat
(Replaces Figure 4.4-3)

Solano County, CA



Suitable Habitat

Permanent Impacts

- Stormwater Pond (2.1 acres)
- Project Substation (2.1 acres)
- BESS Area (11.4 acres)
- Access Road (0.4 acres)

Temporary Impacts

- Construction Laydown Area (13.3 acres)
- Project Site Work Areas (11.2 acres)
- Substation Area Work Areas (3.8 acres)

Unsuitable Habitat

Orchard Removal Area

- Gen-tie Corridor (14.4 acres)
- Gen-tie Laydown Area (7.2 acres)

TETRA TECH

NOT FOR CONSTRUCTION

Reference Map

1:6,500 NAD 1983 StatePlane California II FIPS 0402 Feet

0 0.25 0.5 Miles

Source: ESRI, USDA NAIP, US CENSUS, BTS

Z:\Projects\1109_0319_NextEra_Corby_BESS\Layouts\PD_Figs\PD_Figs_KM.aprx

4.0 GEOLOGICAL HAZARDS

4.1 Data Request DR GEO-1

DR GEO-1. Please provide a discussion regarding the research and evaluation of any other potential geologic resources of recreational, commercial, or scientific value. If any other geologic resources of recreational, commercial, or scientific value are found and evaluated, please include an appropriate map.

Response: The geologic resources found near the Project site were researched using published geologic maps from the U.S. Geological Survey (Graymer et al. 2002, Helley and Harwood 1985, and Knudsen et al. 2000)[5] and the California Geological Survey (Dawson 2009[6]). These sources indicate the surface materials in the immediate vicinity of the Project site include unconsolidated alluvial sediments deposited in both alluvial fan and stream channel levee settings during the Holocene and Pleistocene epochs. The fan deposits are moderately to poorly bedded sediments ranging in particle size from clays to gravels. The levee deposits are moderately to well sorted sands with lesser amounts of silts and clays. At depths exceeding those expected to be reached during Project construction, the Tehama Formation is likely found (comprising poorly consolidated siltstones, sandstones, tuff, and conglomerates). The Tehama formation has proven to contain paleontological resources as described in Section 4.7, *Geology, Soils and Paleontological Resources*, of the Application. One of the alluvial fan deposits in the vicinity, from the Pleistocene, also has potential to contain fossils while the unconsolidated sediments deposited during the Holocene do not. No other geological or soil resource was identified as having recreational, commercial, or scientific value. There is nothing exceptional about the identified geologic units at this location (primarily unconsolidated alluvial sedimentary deposits) that offer a geologic resource with any outstanding recreational or scientific value. The upper layers of soils and sediment provide value through agricultural use, but they are not commercially viable as a commodity (as would be the case with rare and/or valuable minerals, or a source of sand and gravel). Therefore, no other resource, aside from the limited potential for fossil discoveries suggested in the Pleistocene sediments, was identified in this subject area.

4.2 Data Request DR GEO-2

DR GEO-2. Please add a table or matrix that explicitly references pages in the application wherein conformance with each law or standard during both construction and operation of the facility is discussed.

[5] R.W. Graymer, D.L. Jones, and E.E. Brabb. 2002. G*eologic map and map database of northeastern San Francisco Bay Region, California*. U.S. Geological Survey Miscellaneous Field Studies Map MF-2403.
E.J. Helley and D.S. Harwood. 1995. *Geologic Map of Late Cenozoic Deposits of the Sacramento Valley and Northern Sierran Foothills, California.* U.S. Geological Survey Miscellaneous Field Studies Map MF-1790.
K.L. Knudsen, J.M. Sowers, R.C. Witter, C.M. Wentworth, and E.J. Helley. 2000. *Preliminary maps of Quaternary deposits and liquefaction susceptibility, nine-county San Francisco Bay Region, California: A Digital Database.* U.S. Geological Survey Open-File Report 00-444.
[6] T.E. Dawson. 2009. *Preliminary Geologic Map of the Lodi 30' X 60' quadrangle, California, California Geological Survey.* Preliminary Geologic Maps PGM-09-04, scale 1:100,000.

Response:

Table 4-1. Laws, Ordinances, Regulations, and Standards (LORS) for Geology and Soils

LORS	Requirements/Applicability	Administering Agency	Project Conformance
Federal			
Earthquake Hazards Reduction Act	Established the National Earthquake Hazards Reduction Program (NEHRP) in order to minimize the loss and disruption resulting from future earthquakes.	Federal Emergency Management Agency	The Project will comply with the guidance provided by the Earthquake Hazards Reduction Act as described further in Section 4.7.3.1 Faults and Seismic Ground Shaking on pages 4.7-11 through 4.7.12 as well as CEQA Impact 4.7-1 pages 4.7-12 through 4.7-13. Data gathered from the California Geological Survey (CGS) and the U.S. Geological Survey (USGS) conclude that the risk of an earthquake occurring on or near the Project site would be unlikely; however, proper California Building Code (CBC) design features will be implemented to prevent damage from seismic ground shaking. It is not anticipated that the Project site would experience any ground rupture due to the distance to the closest faults and the low probability of movement.
State			
California Building Code	Provides minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures and certain equipment.	California Department of General Services	The Project will comply with the seismic design standards set by the CBC as described further in Section 4.7.3.1 Faults and Seismic Ground Shaking and Seismic-Related Ground Failure and Liquefaction on page 4.7-12 and CEQA Impact 4.7-1 on page 4.7-13. All design features will be constructed to withstand any anticipated ground shaking from regional fault sources.
Construction General Permit	Develop and implement an effective Stormwater Pollution Prevention Plan (SWPPP), conduct regular inspections, and adopt appropriate Best Management Practices (BMPs) designed to prevent the discharge of pollutants in stormwater runoff.	California State Water Resources Control Board	The Project will comply with the Construction General Permit's requirement to develop and implement a SWPPP as described further in Section 3.7.3.1 page 4.17-15. The SWPPP will identify BMPs to control stormwater during construction activities and prevent offsite transport of disturbed soils.
California Public Utilities Commission (CPUC) General Order 95	Provides requirements for overhead line design, construction, and maintenance that broadly applies to all overhead electrical supply and communication facilities within the CPUC's jurisdiction.	CPUC	The Project will comply with the requirements outlined in GO-95 as described in Section 4.7.3.2 PG&E Facilities pages 4.7-18 through 4.7-19. Construction activities associated with the PG&E infrastructure will be required to comply with, and adhere to, the

LORS	Requirements/Applicability	Administering Agency	Project Conformance
			same design criteria as the rest of the Project components.
CEQA 1970 (Public Resources Code Section 21000 et seq.)	Requires public agencies to consider and disclose to the public the environmental implications of their actions, as well as to avoid or reduce significant environmental impacts of these actions.	California Energy Commission (CEC)	CEC will perform CEQA review as part of the Opt-in licensing process in accordance with Public Resources Code (PRC) Section 21000.
Public Resources Code Section 5097.5	Regulates the removal of paleontological resources from state lands, defines unauthorized removal of fossil resources as a misdemeanor, and requires mitigation of disturbed sties	CEC	The Project will comply with the regulations described in Public Resources Code Section 5097.5 by implementing the measures which are described in Section 4.7.2.4 pages 4.7-10 through 4.7-11. To comply with PRC Section 5097.5, the Project will implement protection measures based on the assessed sensitivity of likely paleontological resources within the general area and the Project site. Refer to Appendix 4.7-A of the original Application for a detailed description of the paleontological survey results and recommended management actions.
Local			
Solano County General Plan	Comprehensive long-range plan to guide the County's physical development.	Solano County Department of Resource Management	The Project will comply with the goals, policies, and implementation measures of the County General Plan, including Policies RS.P-71, HS.P-12, HS.P-15, HS.P-17, and HS.P-18 and Implementation Program HS.I-20 as related to geology and soils. The Project will incorporate a SWPPP as well as BMPs to minimize erosion and surface runoff pollutants as described in Section 4.7.3.1 CEQA Impact 4.7-2 page 4.7-15. The Project site is not located within an earthquake fault zone and no identified faults cross the site; however, Project designs will comply with seismic standards set by the CBC to reduce any substantial adverse effects as described in Section 4.7.3.1 CEQA Impact 4.7-1 pages 4.7-12 and 4.7-13. Expansive soils with high shrink-swell capacity do exist within the Project site, which would necessitate corrective actions during site preparation as described in Section 4.7.2.3 Shrink Swell pages 4.7-9 and 4.7-10 and further detailed in the geotechnical report (Appendix 2-E of the original Application). The geotechnical report provides a site-specific

LORS	Requirements/Applicability	Administering Agency	Project Conformance
			evaluation of the soil and potential hazards, with a summary of the results provided in Section 4.7.2.3, Soils, page 4.7-7.
City of Vacaville General Plan	Guides future conservation, enhancement and development in the city.	City of Vacaville Department of Community Development	The Project will comply with the goals, policies and actions of the City General Plan, including Goal SAF-1 and Policies COS-P14.5, SAF-P1.4, SAF-P1.6, and SAF-P1.7 as related to geology and soils. The Project will incorporate BMPs to minimize erosion, sedimentation and water quality degradation resulting from construction of new impervious surfaces as described in Section 4.7.3.1, CEQA Impact 4.7-2 page 4.7-15. The Project site is not located within an earthquake fault zone and no identified faults cross the site as described in Section 4.7.3.1 CEQA Impact 4.7-1 pages 4.7-12. Additionally, the Project's construction would not generate new natural geological hazards such as landslides, lateral spreading, subsidence, liquefaction or collapse as described in Section 4.7.3.1 CEQA Impact 4.7-3 page 4.7-16.
Solano County Code of Ordinances	Provides laws that are enforced within the jurisdiction of Solano County	Solano County Department of Resource Management	The Project will comply with Chapter 6.3 Building Standards and Codes as described in Section 4.7.3.1, CEQA Impact 4.7-3 page 4.7-16, and CEQA Impact 4.7-4 page 4.7-17. The Project will adhere to the Chapter 6.3 design standards to ensure structures can withstand expansive soil or require expansive soil radiation. The Project is not required to comply with the Chapter 6.4 Sewage Standards as the Project would not generate wastewater.
City of Vacaville Municipal Code	Comprehensive collection of laws that include ordinances, regulations, and administration rules established by the City of Vacaville to manage various aspects of community life.	City of Vacaville Department of Community Development	The Project will comply with Title 14 Land Use and Development Code of the City of Vacaville Municipal Code as described in Section 4.7.3.1 Geologic Hazards, CEQA Impact 4.7-2 pages 4.7-13 through 4.7-16. Erosion impacts from grading will be minimized through implementing BMPs. BMPs may include, but are not limited to, physical barriers to prevent erosion and sedimentation; limitations on work periods during storm events, protection of stockpiled materials,

LORS	Requirements/Applicability	Administering Agency	Project Conformance
			and other measures identified by the SWPPP that would help reduce or prevent erosion during construction (page 4.17-15).

5.0 LAND USE

5.1 Data Request DR LAND-1

DR LAND-1. Per California Code of Regulations, title 20, section 1704 (a) (3) (A) and section 1704 (a) (3) (B), please provide the following:

a. Provide a revised LESA analysis that includes corrections for the following data inconsistencies:

- The acreages listed in Appendix 4.2-B, Table 3-2 and Table 3-3, do not add up correctly to the total acreage calculations presented in those tables. Please correct the acreage calculations throughout the LESA analysis.
- The Land Capability Classification Score (LCC) is reported inconsistently in Appendix 4.2-B. A LCC Score of 60.2 is reported on page 3-4, and a LCC Score of 58.8 is reported in Table 3-3. Please correct the LCC Score throughout the LESA analysis.
- The Storie Index Score is reported inconsistently in Appendix 4.2-B. A Storie Index Score of 52.03 is reported on page 3-4, and a Storie Index Score of 51.14 is reported in Table 3-3. Please correct the Storie Index Score throughout the LESA analysis.
- Provide updated calculations in Appendix 4.2-B, Section 3.2.3, to ensure that the surrounding agricultural land use rating is reported consistently throughout the LESA analysis.

b. Provide all assumptions that were used to run the LESA analysis, including:

- The assumptions and data sources used to complete Appendix 4.2-B, Table 3-5 (i.e., water source, restrictions during drought years and non-drought years).
- The assumptions used to complete Table 3-6 (i.e., percent of agriculture within the Zone of Influence [ZOI]).
- Provide acreage data for each California Department of Conservation Important Farmland category within the ZOI, including Grazing Land, to allow staff to calculate the percent of agriculture within the ZOI. Per Public Resources Code section 21060.1, Grazing Land is categorized as “agricultural land” under CEQA. According to Figure 4, the entire ZOI appears to encompass agricultural land. If any land parcels within the ZOI are not classified as Important Farmland by the California Department of Conservation, include the acreage and county or city land use designation for each parcel.

Response:

a. An updated Land Evaluation and Site Assessment (LESA; Appendix 4.2-B in the original Application) is provided in Appendix 5-A with corrections for the data inconsistencies listed by the CEC, including:

- Acreage calculations have been corrected and are now consistent throughout the revised LESA analysis.
- The LCC Score has been verified to be 58.8 and has been corrected for consistency throughout the revised LESA analysis.
- The Storie Index Score has been verified to be 51.7 and has been corrected for consistency throughout the revised LESA analysis.
- Section 3.2.3 has been revised to clarify that surrounding land use rates are calculated and reported correctly and consistently throughout the revised LESA analysis.

b. The updated LESA analysis provides the assumptions and data sources used to complete the analysis, including:

- Text has been added to Section 3.2.2 to clarify and describe the assumptions used to complete Table 3-5.
- Text has been added to Section 3.2.2 to clarify and describe the assumptions used to complete Table 3-6.
- Text has been added to Section 3.2.2 to include the acreage of each California Department of Conservation (DOC) important farmland category.

5.2 Data Request DR LAND-2

DR LAND-2. Please provide records of conversation and any other relevant documentation such as a letter of commitment to support the conclusions in Appendix 4.2-A that Solano Land Trust has determined the proposed Agricultural Mitigation Plan would be feasible, and that Solano Land Trust could assist the applicant with the execution of a mitigation agreement.

Response: The Applicant is currently working with Solano Land Trust (SLT) to acquire the required agricultural mitigation lands. The Applicant provided a completed SLT Mitigation Project Application Form, signed SLT Screening Letter, and $5,000 non-refundable Initial Screening fee to SLT to formally kick-off the mitigation project (see Appendix 5-B). The Applicant had a follow-up discussion with SLT to discuss next steps on March 19, 2025; SLT is currently reviewing the application materials and anticipates providing a letter of intent in mid-April 2025.

5.3 Data Request DR LAND-3

DR LAND-3. Please provide a table or matrix that references the application sections and pages numbers which address the County's input on project design and environmental concerns, per the County's pre-application comment letter provided in Appendix 4.11-A.

Response: Table 5-1 summarizes where each comment provided in the County pre-application comment letter is addressed within the original Application.

Table 5-1. Pre-Application Letter Responses

County Input	Location within Opt-in Application
Provide landscape and irrigation plans to include a 25-foot wide landscape strip along the public street, trees 50 feet on center, shrubs, and ground cover. Drought tolerant and native vegetation is highly encouraged. Additional landscaping may be required upon project evaluation. Landscaping shall comply with the Department of Water Resources Water Efficient Landscape requirements. In addition, please clarify the remaining perimeter fencing. Due to the industrial character of the facility, additional screening may be required.	Please see Appendix 4.1-B, *Landscape Plan,* of the Application for the landscaping plan which incorporated the County's input. Refer also to the response to Data Request VIS-6 for additional information.
The project has the potential to result in the loss of 40 acres of productive agriculture if approved. General Plan policy requires compensation for the loss of agricultural use at a ratio of 1:1.5 acres. If approved, mitigation for the 40-acre project would amount to 60 acres of compensation. The 40-acre loss is potentially significant impact; however, may be mitigated to a less than significant level. Planning staff recommends the preparation of an Agricultural Mitigation Plan to be submitted to the Planning Services Division prior to initiating the environmental review process.	Please see Section 4.2, *Agriculture and Forestry*; subsection 4.2.5, Mitigation Measures, page 4.2-9 for impacts to agricultural resources.
The proposed project is in close proximity to Interstate - 80, a state-designated scenic corridor. Visual impacts of the proposed 150-foot tall poles within the gen-tie route shall be included in the Initial Study.	Please see Section 4.1, *Aesthetics*, Impact 4.1-3, KOP 4, page 4.1-17; the gen-tie is discussed concluding it has minimal potential impacts to the viewshed.
In addition, the proposed project includes a gen-tie route within the city limits of Vacaville. Please contact the City of Vacaville for permitting requirements and any additional concerns.	Please see Section 4.11, *Land Use and Planning*; Impact 4.11-2, pages 4.11-23 and 4.11-24 for information regarding the gen-tie route within the city limits of Vacaville.
Property owner(s) authorization for the proposed site and preferred gen-tie route shall be submitted in conjunction with the application submittal.	Site control for the gen-tie parcels and easements is summarized in Section 1.1.1.2. Appendix 1-A, *Property Owners Within 1,000 Feet of Facility and 500 Feet of Linears,* of the Application provides a comprehensive list of property owners.
Contact the Dixon Fire Protection District to address fire prevention and suppression concerns and requirements.	Please see Section 4.15, *Public Services*, CEQA Impact 4.15-1(i), page 4.15-4 for fire prevention requirements. Additional information will be provided in response to Data Request HAZ-11, which will be provided in a forthcoming Data Request Response #2.
A commercial coach or prefabricated buildings built on a foundation are permitted. RV trailers may not be utilized as on-site office space.	Please see Section 2.0, *Project Description*, subsection 2.4.4.2 Construction Schedule, page 2-17 and Activities; temporary trailers will be utilized within the construction laydown yard. No commercial coach or prefabricated buildings will be constructed.
Early input in land use planning and development review processes better enables the County and project applicants to incorporate feedback from community stakeholders, ultimately resulting in improved outcomes. Early outreach helps to educate and encourage communication and could provide more certainty to developers and community stakeholders during the permitting process. Please submit a Public Outreach Report prior to or in conjunction with the application submittal packet and include the following information:	The Solano County Conditional Use Permit (CUP) review process was put on hold in 2024 and the Applicant filed an Opt-in Application in lieu of the County CUP process. Therefore, a Public Outreach Report was not submitted to Solano County. The Applicant has performed ongoing public outreach, and the CEC is conducting public outreach through the standard CEC public participation process.

County Input	Location within Opt-in Application
Property owners and tenant(s) notification in the form of flyers or fact sheets reviewed and approved by Planning Services staff prior to distribution.	Please see Appendix 1-A, *Property Owners Within 1,000 Feet of Facility and 500 Feet of Linears,* of the Application for the list of property owners and tenants for notification regarding the proposed project through the CEC public participation process. The County CUP process was put on hold in 2024, prior to distribution of landowner notifications.
The flyer or fact sheets to be mailed out shall include: • An envelope with clear markings such as "Potential Project in Your Area" if placed in an envelope; • Project site map with radius identified; • Proposed development plans; • Projected timeline of the project; • Project website, if any, and opportunity to provide feedback by email or online form to the applicant. The flyer or fact sheet or website shall not include County Logo or County contact information.	See above.
Documentation of the property owners and tenants contacted – Assessor Parcel Numbers (APN), address, and methods of communication such as face-to-face interviews, mailed-out flyers, or both. Flyers or fact sheets mailed by the United States Postal Service using a Certificate of Mailing (Form 3788), or another form of registered mail with proof of mailing provided to staff.	See above.
Comments or concerns organized by property owners or tenants' name, APNs, address, date mailed out, date comments received, and email addresses, if any. The report shall clearly include and state the issues raised by the property owners and the actions taken to address the concerns.	The Solano County CUP review process was put on hold in 2024 and the Applicant filed an Opt-in Application in lieu of the County CUP process. Several property owners have now filed comments via the CEC public participation process.
Property owners and tenants of lands within ½ mile of the project site and preferred gen-tie route shall be informed as indicated above. Attached are two property owner list - a list of property owners' mailing addresses located within a half-mile of the subject location and the gen-tie route. The mailing addresses of the tenants within this area will follow as soon as possible.	See the information in the rows above regarding property owner notifications performed during the previous Solano County review process and current CEC Opt-in review process.
A Use Permit application fee in the amount of $7,992 and an environmental review fee in the amount of $9,515 are required to submit the application. The check shall be payable to Solano County or you may pay online. Please schedule an appointment to submit the application or email the application to Planning@solanocounty.com. Attached are the application submittal packet and online payment instructions, for your convenience.	The referenced application fees were paid to Solano County in 2023, however this information is no longer relevant because the Solano County CUP review process was put on hold in 2024 and the Applicant subsequently filed an Opt-in Application in lieu of the County CUP process.
The March 2023 pre-application package is not clear about the number of onsite staff that will be required, and if accessory structures, like an office, will be included as part of the final build-out for the site. If accessory structures with plumbing fixtures will be included as part of the final build-out, an area on the property will need to be reserved for a septic system, including a primary and reserve leach field area.	Please see Section 2, *Project Description*, Section 2.3.7 Facility Operation, page 2-13 for descriptions of the various battery energy storage system (BESS) facility components. No structures with plumbing have been proposed.
The pre-application material indicates the placement of a detention pond to mitigate stormwater runoff, but this is not shown in Figure 5, as indicated in the narrative. Can a revised mapping be provided to show the detention pond location?	Please see Section 4.10, *Hydrology and Water Quality*, Figure 4.10-4, Proposed Drainage Conditions for the location of the proposed detention ponds.
Please provide a revised mapping showing the location of all water wells on the property. Enhanced protections from potential electrolyte discharge for any neighboring water wells may also be required.	Please see Appendix 4.10-B, *Groundwater Supply Feasibility Study,* of the Opt-in Application, for the locations of all wells within the Project area. The closest existing wells are

County Input	Location within Opt-in Application
	located approximately 200 feet north and 200 feet east of the Project site across Kilkenny Road and Byrnes Road, respectively.
If a fire were to break out among the battery enclosures, can that type of fire be fought with water, or is some type of foam or other firefighting medium required?	Please see Section 4.20, *Wildfire*, Impact 4.20-2, pages 4.20-9 to 4.20-10 for information regarding fire prevention for battery enclosures. Additional information will be provided in response to Data Request WS-10, which will be provided in a forthcoming Data Request Response #2.
More information on the type of batteries that will be deployed, including if they contain a liquid electrolyte and if so the volume of liquid electrolyte in each battery enclosure, is requested.	Please see Section 4.9, *Hazards and Hazardous Materials*, Table 4.9-1 Use and Storage of Hazardous Materials, page 4.9-6 for information regarding hazardous materials used within a BESS and the volumes at which they can be anticipated.
If the battery enclosures contain liquid electrolytes, what additional protections can be put in place to prevent electrolyte discharge to Kilkenny Canal?	Please see Section 4.9, *Hazards and Hazardous Materials*, Impact 4.9-1, Operations, pages 4.9-17 to 4.9-19 regarding discharge prevention of battery enclosures. Liquid electrolytes are sealed within battery cells. Additionally, BESS enclosures would contain any liquid material releases. The Project will also include development and implementation of a Spill Prevention, Control, and Countermeasure (SPCC) Plan as required by Project Design Measure **PD HAZ-02**, which will include general procedures for spill cleanup. Additionally, the BESS containers are a minimum of 0.3 mile south of the Kilkenny canal. Based on the distance and low volume of liquids within each BESS container, the potential for impacts to Kilkenny canal from the unlikely event of a battery discharge are insignificant.
A permit from Environmental Health is required to deepen an existing water well and/or to drill a new well.	Please see Section 4.10.8 and Appendix 4.10-B, *Groundwater Supply Feasibility Study*, of the Opt-in Application for information regarding the proposed onsite groundwater well permitting requirements.
Solano County Code Ch. 6.4 does not allow for the use of chemical/portable toilets for this type of commercial operation. Construction of an in-ground septic system will be required for any restroom facilities.	Please see Section 4.19, *Utilities*, Impact 4.19-1, page 4.19-11 for information regarding the temporary use of portable restroom facilities during construction. No onsite toilets will be needed during operations.
The applicant shall acknowledge that a hazardous materials business plan shall be in place for the operation of the facility and that the lithium-ion batteries will be included in the hazardous materials inventory for the facility. If the applicant believes the lithium-ion batteries do not require inclusion into the hazardous materials inventory for the facility, the applicant shall provide information demonstrating that the batteries are not subject to the Health and Safety Code §25501(n) and §25507, nor the California Fire Code for water reactive or pyrophoric metals and metal alloys.	Please see Section 4.9, *Hazards and Hazardous Materials*, Section 4.9.5 Mitigation Measures, **PD HAZ-01**, page 4.9-25, which notes that a Hazardous Materials Business Plan will be created and implemented during construction and operations.

6.0 PALEONTOLOGICAL RESOURCES

6.1 Data Request DR PAL-1

DR PAL-1. Please add a table or matrix that explicitly references pages in the application wherein conformance with each law or standard during both construction and operation of the facility is discussed.

Response:

Table 6-1. Laws, Ordinances, Regulations, and Standards (LORS) for Paleontological Resources

LORS	Requirements/Applicability	Administering Agency	Project Conformance
Federal			
No federal statutes, regulations, plans, or policies govern population and housing-related considerations on the Project site.			
State			
Public Resources Code (PRC) Section 5097.5	Regulates the removal of paleontological resources from state lands, defines unauthorized removal of fossil resources as a misdemeanor, and requires mitigation of disturbed sties	California Natural Resources Agency	The Project will comply with the regulations described in PRC Section 5097.5 by implementing the measures which are described in Section 4.7.2.4, pages 4.7-10 through 4.7-11. To comply with PRC Section 5097.5, the Project will implement protection measures based on the assessed sensitivity of likely paleontological resources within the general area and the Project Site. Refer to Appendix 4.7-A of the Opt-in Application for a detailed description of the paleontological survey results and recommended management actions.
Local			
No local statutes, regulations, plans, or policies govern population and housing-related considerations on the Project site.			

7.0 PROJECT DESCRIPTION

7.1 Data Request DR PD-1

DR PD-1. Please provide elevation drawings depicting the relative size and location of the power plant and all related facilities including the substation control building to establish the accuracy of the photo simulations.

Response: The Project substation elevation drawings prepared for the Project that were provided in Figures 3-5b and 3-5c of the Application (and included as Appendix 8-A herein) do not include a cross section showing the control enclosure. A substation control enclosure details drawing is provided in Appendix 7-A that shows control enclosure dimensions to confirm accuracy of the photo simulations. This is a vendor drawing for the control enclosure the Applicant plans to procure for the Project.

7.2 Data Request DR PD-2

DR PD-2. Please identify how many BESS enclosures would typically be added every 2 to 3 years and provide a general description of the construction activities that are anticipated to occur as part of these augmentation activities including but not limited to trenching, number of vehicle trips, number of deliveries, use of cranes, etc.

Response: As described in Section 2.0 of the Application, the initial battery energy storage system (BESS) installation will include 384 BESS enclosures. Based on the current specification of the proposed Contemporary Amperex Technology Company (CATL) EnerC+ battery technology and the Applicant's contractual delivery commitment through year 15, 12 additional containers and 3 additional inverters would be added in year 6, 12 additional containers and 3 additional inverters would be added in year 9, and 13 additional containers and 3 additional inverters would be added in year 12. The augmentation schedule beyond year 15 is currently unknown, and will be based on future contractual commitments and evolving battery technology performance. The full build-out of 544 enclosures presented in the Application is a conservative estimate.

Trenching and conduit for augmentation will occur during the initial construction phase. Installation of foundations and setting of equipment will be performed during each augmentation activity. Minor trenching may be required around equipment being set to align with cable inlets. As stated in Section 2.3.7 of the Application, a crew of approximately 20 additional workers will be onsite for approximately 3 months to install and connect additional batteries during each augmentation activity. Cranes will be used to place the BESS containers and inverters. Approximately 40 one-way worker vehicle trips and approximately 10 one-way delivery vehicle trips and 10 one-way haul trips will occur per day during the augmentation activity.

7.3 Data Request DR PD-3

DR PD-3. Please provide a description of how the site and related facilities were selected, and the consideration given to engineering constraints, site geology, environmental impacts, water, waste and fuel constraints, electric transmission constraints, and other factors considered by the applicant.

Response: The selection of the site for the proposed Project was a comprehensive process that involved multiple considerations to ensure compliance with engineering standards and environmental regulations. The Applicant conducted a thorough site screening to identify potential site locations that would not only meet operational requirements but also minimize potential environmental impacts. As described in further detail in Section 2.3.1 of the Application, primary screening criteria reviewed for each site included parcel size and distance to the PG&E Vaca-Dixon Substation. Additional screening criteria considered for site selection included parcel zoning, general plan land use designations, the presence of habitats for special-status species, conserved lands,

Federal Emergency Management Agency flood zones, existing development, parcel slope, and the feasibility of securing easements for a generation tie line connecting to the Vaca-Dixon Substation.

The Project addresses engineering constraints by conducting a thorough evaluation of the potential site's physical characteristics and the technical requirements necessary for the successful implementation of the Project. During the site selection process, the Applicant assessed the topography, soil stability, and existing infrastructure to ensure that the Project could be designed and constructed in compliance with relevant engineering standards and safety regulations. This included a geotechnical investigation to evaluate soil conditions and seismic risks, which informed the design of foundations and other structural elements to withstand potential ground shaking. The engineering design also considered access routes for construction and maintenance, ensuring that they could accommodate the necessary equipment and vehicles without compromising safety or efficiency. Additionally, the integration of the Project with the existing electrical grid was carefully planned to meet technical specifications for interconnection and reliability.

The Project addresses electrical transmission constraints by carefully considering the proximity and capacity of existing infrastructure during the site selection process. The Applicant evaluated the connection to the Vaca-Dixon Substation, which is essential for integrating the Project into the local and regional electrical grid. During the route selection process, the routing of the gen-tie line was optimized to minimize impacts on existing land uses and natural resources while also complying with local regulations. This included minimizing route length, reducing the number of easements necessary for the Project, paralleling existing infrastructure to the extent feasible, and evaluating approaches and constraints for a new electrical transmission line to the interconnection point at the Vaca-Dixon Substation.

Engineering constraints played a significant role in the site selection process, primarily associated with the size of the site, slope, existing land use, proximity to the Vaca-Dixon Substation, and similar factors. The Applicant assessed potential site capacity to accommodate the required infrastructure, including the BESS, associated substations, inverters, and transmission lines.

Geological assessments were conducted to evaluate the site's suitability concerning soil stability and seismic risks. The Project area is located in a region with constraints associated with ground shaking and soil liquefaction. The findings of the geological assessments were used to inform the engineering design to address these geological concerns, ensuring the safety and reliability of the facilities.

During the site selection process, the Applicant assessed the potential for the occurrence of biological resources, special-status species and their habitats, and aquatic features in the vicinity. The Project site was determined during the site evaluation stage to have limited potential for special-status species to occur, no aquatic features within it, and overall degraded habitat as a result of current and historic agricultural practices. The gen-tie routes were similarly evaluated to minimize any potential biological impacts.

The Project addressed cultural and tribal resources by conducting a comprehensive assessment to identify and evaluate any potential impacts on historical and cultural sites within the Project area. The Applicant performed a cultural resources survey that included a records search to determine the presence of potential cultural resources, including those of potential importance to local Native

American Tribes. The findings indicated that there were no known cultural or historical resources on the Project site or proposed gen-tie corridor.

During the site selection process, the Applicant assessed potential water sources, including the SID, and the feasibility of developing an onsite groundwater well. The analysis confirmed that sufficient groundwater resources exist to meet the Project's needs without causing significant environmental impacts. The Project design incorporates measures to minimize water use, ensuring that construction activities, such as dust control and landscape irrigation, are conducted efficiently. By integrating these water supply considerations into the Project, the Applicant aims to ensure that the Project operates within the constraints of local water availability while adhering to environmental regulations and promoting responsible water management practices.

All of the potential sites identified during the site selection process are in proximity to one another, within the same air basin, on areas with a similar slope, and of a similar size. Therefore, they would have similar effects on air quality, largely generate a similar amount of greenhouse gas emissions and waste, and utilize a similar amount of fuel. While these factors were considered during siting, they were not key determining factors.

These analyses were conducted to ensure that the selected site was feasible from an engineering perspective, could accommodate the necessary infrastructure without significant alterations to the landscape, and met the minimum site requirements and additional screening criteria as described in Section 2.3.1 of the Application.

7.4 Data Request DR PD-4

DR PD-4. Please update Figure 3-1 to identify the 1-mile radius around the proposed transmission line routes and clearly identify any parks, recreational areas, and/or scenic areas.

Response: This figure has been updated to include a 1-mile radius around the proposed transmission line routes and any parks, recreational areas, and/or scenic areas and is included herein as Figure 7-1.

7.5 Data Request DR PD-5

DR PD-5. Please provide a full-page color photographic reproduction depicting a representative above ground section of the transmission line route prior to construction and a full-page color photographic simulation of that section of the transmission line route after construction.

Response: A full-page color photographic reproduction depicting a representative aboveground section of the transmission line route prior to construction and a full-page color photographic simulation of that section of the transmission line route after construction are provided herein as Figure 7-2.

7.6 Data Request DR PD-6

DR PD-6. Please provide a discussion of how facility closure would be accomplished in the event of premature or unexpected cessation of operations.

Response: For a premature or unexpected cessation of operations, the Applicant would notify the CEC and other responsible agencies, and the facility would be de-energized, isolated from external electrical lines, and secured in accordance with the Project's decommissioning plan. If the premature

or unexpected cessation of operations results in permanent facility closure, decommissioning activities would proceed as follows.

As reclamation and equipment removal can take a year or more, access roads, fencing, and electrical power may temporarily remain in place for use by the decommissioning workers until no longer needed.

The process of removing structures involves evaluating and categorizing all components and materials into categories of salvage, recycling, and disposal. In the interest of increased efficiency and minimal transportation impacts, components and materials may be stored on-site in a pre-approved location until the bulk of similar components or materials are ready for transport. The components and materials will be transported to the appropriate facilities for reconditioning, salvage, recycling, or disposal.

The inverters that convert direct current power to alternating current power and the transformers will be dismantled and removed by cranes and flat-bed trucks. Insulating fluids from the transformers will be drained, removed from the site, and recycled or disposed of at an appropriately licensed disposal facility. Lithium-ion batteries will be managed under the federal “universal waste” regulations found in Title 40 of the Code of Federal Regulations Part 273, as recommended by the USEPA. Additionally, many battery manufacturers offer to reclaim lithium-ion batteries as many of the component parts can be recycled (refer also to Section 4.19.3.1, *Solid Waste Disposal*, of the Application).

Concrete slabs used as equipment pads will be broken and removed. Clean concrete will be crushed and disposed of off-site and/or recycled and reused on-site or off-site. Pads will be excavated to a depth sufficient to remove all anchor bolts, rebar, conduits, cable, and concrete. The remaining excavation will be filled with clean sub-grade material of quality comparable to the immediate surrounding area. All unexcavated areas compacted by equipment used in decommissioning shall be de-compacted in a manner to adequately restore the topsoil and surface material to the proper density consistent and compatible with the surrounding area and to support revegetation.

If the landowner determines that some of the on-site roads will be beneficial for future use, those roads may remain after reclamation. Roads that will not be re-used will be restored to preconstruction conditions. The chain-link fence and gates surrounding the Project may be retained for safety and security purposes. Once other major reclamation activities are complete, the fencing will be removed and recycled.

Environmental protection and mitigation measures will be implemented during Project decommissioning, similar to measures taken during construction and operations. Reclamation will attempt to maximize the recycling of all facility components. The individual Project components to be reclaimed will be recycled to the maximum extent practical. The management of wastes and excess materials will be in accordance with local, state, and federal laws. Hazardous wastes are not anticipated to be onsite outside of the hazardous materials contained within the Project components (battery cells, transformers, and high-voltage breakers). Both hazardous and non-hazardous waste will be removed and disposed of in accordance with local, state, and federal laws. The general reclamation approach will be the same whether a portion of the Project or the entire Project is reclaimed.

Finally, once the Project is decommissioned, the Project site will be restored to previous conditions. The goal of Project restoration is to return the land to a condition in which natural vegetation can successfully re-establish.

NextEra Energy
Corby Battery Energy Storage System Project

Figure 7-1
Existing and Proposed Transmission Lines
(Replaces Figure 3-1)

Solano County, CA

- Solano County Parks
- Buffer (1-mile)

PG&E Features

- Point of Change of Ownership

Proposed Features

- Gen-tie (Overhead)
- Gen-tie (Underground; Option 1)
- Gen-tie (Underground; Option 2)
- Project Site

PG&E Features

- Gen-tie (Overhead; PG&E)

Existing Transmission Lines

- Less than 100 kV
- 100 - 161 kV
- 220 - 287 kV
- 500 kV

TETRA TECH

NOT FOR CONSTRUCTION

Reference Map

1:24,000 NAD 1983 StatePlane California II FIPS 0402 Feet

0 0.25 0.5 Miles

Source: ESRI, USDA NAIP, US CENSUS, BTS

Z:\Projects\1109_0319_NextEra_Corby_BESS\Layouts\PD_Figs\PD_Figs_KM.aprx

CORBY BATTERY ENERGY STORAGE SYSTEM PROJECT

Figure 7-2
Gen-Tie Corridor
Photo Simulation

Kilkenny Road

VICINITY MAP

LEGEND

SIMULATED EQUIPMENT

KOP LOCATION WITH SIMULATION

PHOTOGRAPH INFORMATION

TIME:	1:50 PM
DATE:	01/22/2025
WEATHER CONDITION:	SUNNY
VIEWING DIRECTION:	NORTHWEST
LATITIUDE:	38.395293°
LONGITUDE:	-121.915532°
DISTANCE TO BESS:	.16 MILES
CAMERA TYPE:	CANON EOS R5
LENS FOCAL LENGTH:	50MM

Preliminary Visualization

DISCLAIMER: PRELIMINARY VISUALIZATIONS ARE FOR REFERENCE ONLY; PROJECT LAYOUT IS IN DEVELOPMENT AND SUBJECT TO CHANGE.

8.0 TRANSMISSION SYSTEM DESIGN

8.1 Data Request DR TSD-1

DR TSD-1. Please resubmit Figures 3-5a, 3-5b, 3-5c and 3-6. These figures submitted are not legible. Show all equipment ratings including the bay arrangement of the circuit breaker, disconnection switches, buses, transformers, and other equipment that would be required for the project interconnection to the proposed switchyard.

Response: The process of converting the original engineering drawings into Figures 3-5a, 3-5b, 3-5c, and 3-6 resulted in reduced resolution; therefore, the original engineering drawings are provided in Appendix 8-A to ensure improved resolution.

- BCR-P003-01 – Corby 230/34.5kV Substation General Arrangement Plan
- BCR-P004-01 – Corby 230/34.5kV Substation General Arrangement Elevations A-A & B-B
- BCR-P004-02 – Corby 230/34.5kV Substation General Arrangement Elevations C-C, D-D, & E-E
- BCR-S001-01 – Corby 230/34.5kV Substation Ultimate Switching Diagram

The requested information is legible on these drawings.

8.2 Data Request DR TSD-2

DR TSD-2. Please provide detailed PG&E Vaca-Dixon Substation one-line diagram with the proposed project interconnection. Show all equipment ratings including bay arrangement of the breakers, disconnect switches, buses, generator tie-line, line rating, and other equipment.

Response: The PG&E Vaca-Dixon Substation one-line diagram with the proposed Project interconnection is provided in confidential Appendix 8-B.

8.3 Data Request DR TSD-3

DR TSD-3. Please discuss the CPUC GO 128 standard in reference to the project's underground construction facilities, such as grounding, duct banks, derated ampacity, underground conductor clearances, and soil resistivity analysis.

Response: A summary of the California Public Utilities Commission (CPUC) General Order (GO) 128 standard conformance in reference to the Project’s underground construction facilities, such as grounding, duct banks, derated ampacity, underground conductor clearances, and soil resistivity analysis, is provided in Appendix 8-C.

8.4 Data Request DR TSD-4

DR TSD-4. Please provide the generator tie-line underground cable type, size, and current carrying capacity.

Response: The gen-tie line underground cable type will be a single 5,000 kcmil enameled copper cross-linked polyethylene (XLPE) cable with an outside diameter of 4.06 inches. This cable will have a steady state rating of 778 megavolt amperes (MVA) and 1,952 amperes (A) based on a 69 percent daily load factor.

8.5 Data Request DR TSD-5

DR TSD-5. Please clarify the overhead generator tie-line information. The overhead conductor name, type, size, and current carrying capacity provided in application Section 3.2.1 are different from what is provided in Appendix 3-A Figure 1-2.

Response: Figure 1-2 of the CAISO Queue Cluster 9 document previously provided in Appendix 3-A of the Application identifies the overhead gen-tie line conductor that will be used as an aluminum conductor steel reinforced (ACSR) 954 kcmil conductor. However, based on current Project design and as discussed in Section 3.2.1 of the Application, the overhead generator tie-line conductor that will be used is an aluminum core steel supported (ACSS) 1272 kcmil Bittern conductor. Ampacity of this cable at 200 degrees Celsius is 2,201 A.

8.6 Data Request DR TSD-6

DR TSD-6. Please provide an execute Large Generator Interconnection Agreement.

Response: The fully executed Large Generator Interconnection Agreement will be filed confidentially as Confidential Appendix 8-D.

8.7 Data Request DR TSD-7

DR TSD-7. The applicant provided the Appendix A of the Cluster 9 Interconnection Study Report only. Please provide the entire California ISO Cluster 9 Phase II Interconnection Study Report including all the appendices and attachments.

Response: The California ISO Cluster 9 Phase II Interconnection Study Report including all the appendices and attachments will be filed confidentially as Confidential Appendix 8-E.

8.8 Data Request DR TSD-8

DR TSD-8. Please provide the most recent Generator Interconnection Reassessment Study Report if it is available.

Response: The 2021 Generator Interconnection Reassessment Study Report including Appendix A – Q1270 will be filed confidentially as Confidential Appendix 8-F.

9.0 TRANSMISSION LINE SAFETY AND NUISANCE

9.1 Data Request DR TLSN-1

DR TLSN-1. Please provide grounding details of the proposed project's substation and generator tie-line structures. Please provide the expected Electro Magnetic Field and Electric Field values, below the gen-tie line. Also provide an estimate of the radio and television interference that could result from the project.

Response: Grounding details of the proposed Project substation and gen-tie structures are provided in Appendix 9-A. Substation grounding details shown in drawings BCR-P013-02, BCR-P013-03, BCR-P012-01, and BCR-P013-04. Overhead gen-tie grounding schematics are provided in drawings C4.003526-3100 and C4.003526-3101.

An Electric and Magnetic Field Study is provided in Appendix 9-B. The study provides the expected electromagnetic field and electric field values below the gen-tie line and provides an estimate of the radio and television interference that could result from the Project.

10.0 VISUAL RESOURCES

10.1 Data Request DR VIS-1

DR VIS-1. Please provide Attachment A (BLM Visual Contrast Rating Worksheet [Form 8400-4]) as referred to in subsection 4.1.3.2 (Aesthetics Concepts and Methodology) of the application.

Response: The BLM Visual Contrast Rating Worksheets (Form 8400-4) that were inadvertently omitted from Appendix 4.1-A, *Visual Impact Assessment,* are provided in Appendix 10-A. Two of these forms (KOP 2a and KOP 3) have been updated based on subsequent Project changes. The updated aesthetics analysis associated with these Project changes is provided in a separate Project Description Update, which will be filed concurrently with this Data Request Response #1.

10.2 Data Request DR VIS-2

DR VIS-2. Please establish an additional KOP (#7) on eastbound Kilkenny Road at approximately Lat: 38.395324°; Long: -121.909814°. The view should be to the southwest to capture the substation facilities, gen-tie structures 1 and 2, and fiber optic line and poles. This view would also capture the 15-foot-tall sound barrier along Kilkenny Road. Also, provide the necessary analysis and supporting information including a Contrast Rating Worksheet and visual simulation. Simulation of any proposed landscaping should be limited to one year of growth as required by CEC regulations.

Response: An additional key observation point (KOP), #7, on eastbound Kilkenny Road at approximately Lat: 38.395324°; Long: -121.909814° has been prepared and analyzed. The data request specified that the view should be to the southwest. It is assumed that a view to the southeast is required as the Project would not be visible from a view to the southwest from this location.

Two views from KOP 7 capture the following Project components:

- Southeast view (KOP 7a) captures gen-tie structures 1 and 2, fiber optic line and poles, a portion of the substation facilities and the 15-foot-tall sound barrier along Kilkenny Road.
- South-Southeast view (KOP 7b) captures gen-tie structure 2, fiber optic line and poles, and the substation facilities.

Visual simulations for KOP 7a and KOP 7b have been provided in Figures 10-1 through 10-4. Photographs for KOP 7 were taken on January 22, 2025. Contrast Rating Worksheets for KOP 7a and KOP 7b are provided in Appendix 10-A.

10.2.1 Key Observation Point 7a

10.2.1.1 Existing Visual Character

KOP 7a is located on Kilkenny Road, approximately 300 feet west of the Project site. This KOP depicts views oriented southeast toward the Project site, with Kilkenny Road on the left side of the view. As shown in Figure 10-1, the existing landscape setting is characterized by agricultural land with flat

terrain. Orchards, an irrigation canal, and row crops are located along the south side of Kilkenny Road in the foreground, with a utility pole and transmission towers in the middle ground. An irrigation canal and row crops are located along the south side of Kilkenny Road from the foreground to the middle ground. Dominant colors in the landscape are tans, browns, and greens, while the structures are gray and rust-red. The vegetation consists of irregular, organic forms: grasses and row crops are continuous with irregular-shaped ruderal vegetation and trees. The trees are planted in uniform linear rows. The linear and horizontal lines associated with the built features are visible from this viewpoint.

This view was selected to represent views from Kilkenny Road as seen by local motorists. Motorists would parallel the Project site for a limited time and views of the Project site would be of short duration due to intervening vegetation. Considering the short duration of viewing, viewers would have a low exposure to the visual changes in the Project vicinity.

10.2.1.2 Impact Analysis

The Project gen-tie structures 1 and 2 and lines, fiber optic line and poles, a portion of the substation facilities, and the sound barrier are visible from this location and view direction (see Figure 10-1). Views would include existing orchard trees in the foreground.

The Project would introduce gray and brown colors, geometric shapes, and horizontal and vertical lines into the landscape setting. The Project gen-tie structures, substation, and sound barrier are predominately gray. The Project fiber optic poles are brown. The Project would be visible from this location by a casual observer; see Figure 10-1. The regular geometric forms and horizontal and vertical lines associated with the Project facilities would result in a visual contrast with the irregular, organic forms of the existing vegetation but would be consistent with the horizontal and vertical lines associated with the orchards, irrigation canal, utility pole and transmission towers and lines. In addition, existing structures in the vicinity possess gray colors (roadway and transmission towers and lines).

This view was selected to represent views from Kilkenny Road as seen by local motorists traveling east. Appearing as new and visible features, the Project structures would contrast with the undeveloped agricultural land but would be consistent with the horizontal and vertical lines and geometric shapes visible and colors of other man-made structures throughout the landscape. The Project sound barrier would partially block views in the middle ground of adjacent agricultural fields. The Project would demand attention of the casual viewer and dominate the landscape setting, introducing a strong contrast.

While the Project would introduce a strong contrast, the existing Project site and adjacent properties' landscape settings do not contain any unique scenic features and include a wide variety of visual encroachments. In addition, views for local motorists would be of short duration due to partial or full blockage of views by vegetation prior to approaching the Project site, limiting view accessibility of the Project.

Proposed Project landscaping would soften the contrast between the agricultural land and the Project sound barrier. Project landscaping, shown in Figure 10-1, is after one year of growth. In approximately 5 years, as shown in Figure 10-2, trees will be approximately 9 to 13 feet tall and shrubs will be

approximately 5 to 9 feet tall, depending on species. With the additional height and filling out, the landscaping will help obscure the Project, reducing the contrast with agricultural land.

Therefore, due to the limited visibility and view duration, lack of existing unique scenic features, and reduction of contrast through landscaping, impacts are considered to be less than significant.

Level of Significance: Less than significant impact.

10.2.2 Key Observation Point 7b

10.2.2.1 Existing Visual Character

KOP 7b is located on Kilkenny Road, approximately 300 feet west of the Project site. This KOP depicts views oriented south-southeast toward the Project site, with Kilkenny Road on the left side of the view. As shown in Figure 10-3, the existing landscape setting is characterized by agricultural land with flat terrain. Orchards, an irrigation canal, and row crops are located along the south side of Kilkenny Road in the foreground. Ornamental trees are in the middle ground at the west end of the view. Dominant colors in the landscape are tans, browns, and greens. The vegetation consists of irregular, organic forms: grasses and row crops are continuous with irregular-shaped ruderal vegetation and trees. The trees are planted in uniform linear rows. The linear and horizontal lines associated with the built features are visible and prominent from this viewpoint.

This view was selected to represent views from Kilkenny Road as seen by local motorists. Motorists would parallel the Project site for a limited time and views of the Project site would be of short duration due to intervening vegetation. Considering the short duration of viewing, viewers would have a low exposure to the visual changes in the Project vicinity.

10.2.2.2 Impact Analysis

The Project gen-tie structure 2 and lines, fiber optic line and poles, and the substation facilities are visible from this location and view direction (see Figure 10-3). Views would include existing orchard trees in the foreground, though a few rows of the orchard adjacent to Kilkenny Road will be removed.

The Project would introduce gray and brown colors, geometric shapes, and horizontal and vertical lines into the landscape setting. The Project gen-tie structures and substation are predominately gray. The Project fiber optic poles are brown. The Project would be visible from this location by a casual observer; see Figure 10-3. The regular geometric forms and horizontal and vertical lines associated with the Project facilities would result in a visual contrast with the irregular, organic forms of the existing vegetation but would be consistent with the horizontal and vertical lines associated with the orchards and irrigation canal. In addition, existing structures in the vicinity possess gray colors (roadway and transmission towers and lines).

This view was selected to represent views from Kilkenny Road as seen by local motorists traveling east. Appearing as new and visible features, the Project structures would contrast with the undeveloped agricultural land but would be consistent with the horizontal and vertical lines and geometric shapes visible and colors of other man-made structures throughout the landscape. The Project would demand attention of the casual viewer and dominate the landscape setting, introducing a strong contrast.

While the Project would introduce a strong contrast, the existing Project site and adjacent properties' landscape settings do not contain any unique scenic features and include a wide variety of visual encroachments. In addition, views for local motorists would be of short duration due to partial or full blockage of views by vegetation prior to approaching the Project site, limiting view accessibility of the Project.

Therefore, due to the limited visibility and view duration and lack of existing unique scenic features, impacts are considered to be less than significant.

Level of Significance: Less than significant impact.

10.3 Data Request DR VIS-3

DR VIS-3. Please provide a reference citation in subsection 4.1.9 of the application for the City of Vacaville General Plan Conservation and Open Space Element entry referenced in subsection 4.1.6.3.

Response: City of Vacaville. 2015. City of Vacaville General Plan – Conservation and Open Space Element. Available online at: https://www.cityofvacaville.gov/home/showpublisheddocument/5414/638371466917070000.

10.4 Data Request DR VIS-4

DR VIS-4. Provide to the CEC project manager electronic files of stand-alone, high-resolution, KOP existing view and simulation images that are capable of being printed at 11" x 17" with a minimum 600 dots per inch output resolution.

Response: Electronic files of stand-alone, high-resolution, KOP existing view and simulation images that are capable of being printed at 11" x 17" with a minimum 600 dots per inch output resolution have been provided to the CEC project manager.

10.5 Data Request DR VIS-5

DR VIS-5. Please add the gen-tie pole diameters to Table 3-1 in Appendix 4.1-A of the application. Alternatively, add the gen-tie pole diameters along with the other gen-tie information provided in Table 3-1 to Table 4.1-2 in the application subsection 4.1.3.3, pages 4.1-10 to 4.1-11. Also, add the fiber optic, wood-pole specifications (including the number of poles) to the table. Additionally, provide an elevation drawing that includes the substation control building.

Response: The gen-tie pole diameters and fiber optic pole specifications have been added below in Table 11-1, which replaces both Table 4.1-2 in the original Application and Table 3-1 in the original Appendix 4.1-A. Additionally, a proposed water tank has been added to Table 11-1. The water tank has

been added to the Project and is described in further detail in a separate Project Description Update, which will be filed concurrently with this Data Request Response #1.

A substation control enclosure details drawing is provided in Appendix 7-A. This is a vendor drawing for the control enclosure the Applicant plans to procure for the Project. The enclosure height has been updated in Table 10-1.

Table 10-1. Approximate Dimensions, Color, Materials, and Finishes of the Major Project Features (Replaces Table 4.1-2 in Application)[1/]

Feature	Length (feet)	Width (feet)	Height (feet)	Color	Materials	Finish
BESS Array Components						
Batteries and battery enclosures	20	8	9.5	Traffic Gray RAL 7042	Prefabricated Metal Building	Semi-gloss
Inverters	22	7	7	Gray/Dark gray	Electrical Equipment	NA
Auxiliary transformers	7	6.5	8	Munsell Green 7GY 3.29/1.5	Electrical Equipment	NA
Auxiliary switchboard	10	3	7.5	ANSI 61 Gray	Electrical Equipment	Textured powder coat
Project Substation Components						
Generator step-up transformers	22	28	26	Painted steel – ANSI 61 Gray	Electrical Equipment	NA
Switchgear	8	12	28	No paint - Steel/Galvanized steel	Electrical Equipment	NA
Busbar structures	274	275	28	No paint - Galvanized steel	Electrical Equipment	NA
Riser structures	-	-	65	No paint – **Galvanized steel**	Steel	NA
Substation control house	60	14	**11.6**	**ANSI 70 Grey**	Concrete, Steel, Metal alloys, Electrical Equipment	NA
Shield Poles	NA	NA	70	No paint - **Galvanized steel**	Steel	NA
Other Project Components						
Generation tie line (above ground portion) (up to 10 structures)	NA	**37.1 inches in diameter**	90 - 130 (Monopole, H-Frame, and 3-Pole Tubular Steel Pole [TSP])	No paint/gray	Steel	NA
Perimeter Fence (Substation)	1,230	-	6	No paint/gray	Steel	NA
Perimeter Fence (BESS array)	2,977	-	6	No paint/gray	Steel	NA
Sound Barrier	785	-	15	Gray	Blend of wood shavings and cement	NA

Feature	Length (feet)	Width (feet)	Height (feet)	Color	Materials	Finish
Signage	NA	8	4	various	Steel/plastic	NA
Fiber Optic Poles (approximately 10 structures)	**NA**	**13.8 inches in diameter**	**30-80**	**Brown**	**Wood**	**NA**
Water Tank	**15**	**15**	**19.25**	**No paint/gray**	**Steel**	**NA**

1/ Updated information is provided in **bold text**.

10.6 Data Request DR VIS-6

DR VIS-6. Please provide documentation that demonstrates conformance with the city municipal code or county government code.

Response:

Consistency with Solano County Zoning Code Requirements Related to Landscape Design Plan

Pursuant to Solano County Code Section 2024-1859 – Water Efficient Landscape Regulations, Solano County requires landscaping projects to comply with the State of California's Model Water Efficient Landscape Ordinance. Per the State of California's Model Water Efficient Landscape Ordinance Chapter 2.7. Section 490.1 (e)(2), the ordinance does not apply to ecological restoration projects that do not require a permanent irrigation system. Per Section 490.1 (m), "ecological restoration project" means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

In Solano County's April 18, 2023 pre-application comment letter provided in Appendix 4.11-A of the Application, the following comments were made in regard to project landscaping:

- Provide landscape and irrigation plans to include a 25-foot wide landscape strip along the public street, trees 50 feet on center, shrubs, and ground cover. Drought tolerant and native vegetation is highly encouraged. Additional landscaping may be required upon project evaluation. Landscaping shall comply with the Department of Water Resources Water Efficient Landscape requirements. In addition, please clarify the remaining perimeter fencing. Due to the industrial character of the facility, additional screening may be required.

In response to this request, a landscape strip will be planted along Kilkenny Road and Byrnes Road along the northern and eastern sides of the Project; see the Landscape Plan presented in Appendix 4.1-B of the Application. The Plan includes a landscape strip that will be approximately 36 feet wide, exceeding the County request, and will include trees, shrubs, and herbaceous ground cover.

As the landscaping plan specifies drought-tolerant and native vegetation, consistent with the indigenous, historic ecosystem, and does not include a permanent irrigation system, the State of California's Model Water Efficient Landscape Ordinance does not apply. However, the landscape plan will meet the requirements of the maximum applied water allowance outlined in the ordinance as demonstrated in the Water Efficient Landscape Worksheet included on Sheet 1 of the Landscape Plan.

The following Project Design Measure was previously included in Section 4.1, *Aesthetics,* of the Application and had been updated to clarify that the Project is exempt from the State's Model Water Efficient Landscape Ordinance (updates are presented in underline/~~strikeout~~ format):

PD AES-01: A landscape strip will be planted along Kilkenny Road and Byrnes Road. Drought-tolerant and native vegetation will be used with no permanent irrigation~~, and all landscaping will meet the California Department of Water Resources Water Efficient Landscape requirements~~. The vegetation will include trees, shrubs, and herbaceous ground cover.

Given the analysis provided above, the Project will conform to Solano County Municipal Code requirements pertaining to landscape design plans.

Consistency with City of Vacaville Municipal Code Requirements Related to Related to Landscape Design Plan

The proposed gen-tie line, and specifically the portion located within the City's jurisdiction, does not involve landscaping; therefore, it is not subject to any City of Vacaville Municipal Code landscaping requirements.

10.7 Data Request DR VIS-7

DR VIS-7. Please provide a project-specific, conceptual, outdoor lighting control and management plan, and explain the control of reflectance from exterior surfaces off site that conforms with the city municipal code or county government code. Include a list of the project-specific luminaires; identify the design(s); and indicate if the luminaires have the International Dark-Sky Association Fixture Seal of Approval to the extent feasible consistent with safety and security considerations. Also, show the project-specific luminaire locations on a diagram or elevation. Include a description of the intensity of the specular reflectance from the exterior surface of the project's large buildings, structures, and major equipment off site to the surrounding area. Additionally, provide information that documents conformance with the city municipal code or county government code, including consultations with, and review and comment by, the appropriate local agencies. Tie the provision of the outdoor lighting control and management plan to a new mitigation measure to be added to application subsection 4.1.5 (Mitigation Measures), the purpose of which is to address the potentially significant visual impact of uncontrolled night lighting.

Response: The Project will include permanent lighting within the Project substation only; no permanent lighting will be installed at site entrance gates or within the BESS array. A preliminary Project-specific Project substation lighting plan has been provided in Appendix 10-B. The Plan provides the following:

- A list of the Project-specific luminaires;
- The design of the luminaires;
- Project-specific luminaire locations.

Specification sheets for each proposed luminaire are provided in Appendix 10-C. The specification sheets indicate that the Dark-Sky Association (IDA) Fixture Seal of Approval is available for the

Lithonia RSX2 Area Light and GE Evolve Area Light Wall Pack products utilizing a 3,000 degrees Kelvin color temperature.

As discussed in the Visual Impact Assessment (Appendix 4.1-A of the Application), lighting has been designed to provide the minimum illumination needed to achieve safety and security and would be downward-facing and shielded to focus illumination in the immediate area consistent with Solano County General Plan Element RS.I-22. Additionally, all Project substation lighting will be controlled by manual switches, with the exception of the control house which will be controlled by motion sensors. Lighting will rarely be required or activated because the facility is not manned, and all routine maintenance activities are expected to occur during daylight hours. With the application of anti-reflective coatings on the control enclosure and other coated substation electrical equipment where feasible, the Project would display overall low reflectivity during the limited periods where Project substation lighting is illuminated.

The following additional Project Design Measures (**PD AES-02** and **PD AES 03**) have been incorporated into the Project since submittal of the Opt-in Application to further minimize the potential for light pollution and reflectance:

PD AES-02: An outdoor lighting control and management plan will be implemented to provide the minimum illumination needed to achieve safety and security. Illumination shall be downward-facing and shielded to focus illumination in the immediate area.

New outdoor light and glare emitted from the project site and construction laydown area shall not result in light being a pollutant offsite and skyward, “light pollution.” The project owner shall include use of luminaires that:

a. Are only on when needed.

b. Only light the area that needs it.

c. Illuminate no brighter than necessary.

d. Minimize blue light emissions.

e. Are fully shielded (BUG Rating U0).

f. Are DarkSky International “DarkSky Approved” program products where feasible.

The project owner shall submit to the Compliance Project Manager (CPM) for approval and simultaneously to the Director of Planning and Development Services for the County of Solano for review and comment a final outdoor lighting control and management plan prepared for the Project that satisfy the above requirements and include the following:

1. Supply one set of product brochures and/or printouts (e.g., diagram, drawing) showing and describing the types of outdoor luminaires to be applied/installed to buildings, equipment, structures, and other locations on the project site (lighting schedule).

2. A diagram(s) or drawing(s) of the project site showing the approximate location of the installation/placement of the luminaire and its direction and angle (luminaire location).

PD AES-03: The project owner shall use exterior surface coatings, colors, finishes, materials, and a gloss level that diffuse illumination or collection, reflectance and scattering offsite and skyward from the exterior surfaces of the project buildings, structures, and equipment, and specifically include:

a. An exterior surface coating, color, finish, material, and gloss level that minimize contrast and do not introduce specular reflection in the existing physical landscape.

b. An exterior surface coating, color, finish, material, and gloss level that is in conformance with applicable adopted architectural design and site development related policies and ordinances of the County of Solano.

The project owner shall submit to the Compliance Project Manager (CPM) for approval an exterior surface coatings, colors, finishes, and materials plan for the Project buildings, structures, and equipment that satisfy the above requirements and include the following:

1. A list of the large/major buildings, equipment, structures; perimeter wall and/or fence; transmission line towers and/or poles; above ground pipelines serving the facility onsite and offsite in public view, and a list of their proposed exterior surface coatings, colors, finishes, and materials identified by vendor, name and number, and according to the RAL color matching system or similar universal designation system;
2. One set of brochures showing coating/color chips, and/or samples of the coatings/colors or finish, materials to be applied/installed to buildings, equipment, and structures;
3. A time schedule for the completion of the application/installation of the coating, color, finish, and materials; and
4. A maintenance plan that includes procedures for the upkeep of the coatings, colors, finishes, and materials for the life of the Project.

The Project owner shall not purchase product or service from a vendor for the Project exterior surface coatings, colors, finishes, and materials prior to CPM approval of the exterior surface coating, color, finish, and materials plan.

10.8 Data Request DR VIS-8

DR VIS-8. Please provide the appropriate page references to application Table 4.1- 3 where conformance with each law or standard during both construction and operation of the facility is discussed.

Response: Table 10-2 replaces Table 4.1-3 in the Application, and provides additional information related to Project conformance with the applicable law, regulation, ordinance, or standard.

Table 10-2. Application of Solano County and City of Vacaville Policies (Replaces Table 4.1-3 in Application)

No.	Policy / Regulation	Application[1/]
Solano County General Plan		
RS.P-35	Protect the unique scenic features of Solano County, particularly hills, ridgelines, wetlands, and water bodies.	**As stated on page 4.1-12**, there are no hills, ridgelines, wetlands, and water bodies within the Project site.
RS.P-36	Support and encourage practices that reduce light pollution and preserve views of the night sky.	**As stated on page 4.1-18**, Project lighting will be designed to provide the minimum illumination needed to

No.	Policy / Regulation	Application[1/]
		achieve safety and security and will be downward-facing and shielded to focus illumination in the immediate area.
RS.P-37	Protect the visual character of designated scenic roadways.	**As stated on pages 4.1-12 and 4.1-19**, due to the orchards and residential and agricultural structures in the surrounding area, the Project battery energy storage system facility will not be substantially visible, if visible at all, from County scenic roadways Interstate 80 and State Route 113, and the Project generation tie line will be consistent in appearance with existing transmission lines.
RS.I-20	Amend the Zoning Ordinance to: • Include the area, policies and programs of the Tri-City and County Cooperative Plan for Agriculture and Open Space Preservation. • Direct the use of lighting fixtures that reduce glare and light pollution. The ordinance should provide standards for the type and location of lighting fixtures in development projects.	• **As stated on pages 4.1-13 and 4.1-18,** due to intervening vegetation and structures, most of the Project will not be visible from the Vacaville-Dixon Greenbelt. If the Project generation tie line can be seen, it will not attract attention of the casual viewer and will be consistent with the other transmission lines in the area. • See RS.P-36.
RS.I-21	Preserve the visual character of scenic roadways as shown in Figure RS-5 through design review, designating alternate routes for faster traffic, regulating off-site advertising, limiting grading in the view corridor through the grading ordinance, limiting travel speeds, and providing pullover areas with trash and recycling receptacles.	See RS P-37.
RS.I-22	In new developments, require the use of fixtures that direct light toward target areas and shield it from spillage.	See RS.P-36.
City of Vacaville General Plan		
COS-P8.1	Preserve scenic features and the feel of a city surrounded by open space, and preserve view corridors to the hills and other significant natural areas.	**As stated on page 4.1-13,** due to intervening vegetation and structures, most of the Project will not be visible from the Vacaville. If the Project generation tie line can be seen, it will not attract attention of the casual viewer and will be consistent with the other transmission lines in the area.
COS-P8.2	Retain major ridgelines and hillsides as open space.	**As stated on page 4.1-12,** the Project does not involve any ridgelines or open space.
Solano County Zoning Code		
28.21.30 – Setbacks	The setback requirements in an A district are as follows, subject to the general provisions of Section 28.21.30: A. Depth of front setback: not less than 30 feet; but at least 50 feet from the street centerline. B. Depth of rear setback: not less than 25 feet; Width of side setbacks: not less than 20 feet.	Consistent; the proposed Project exceeds the minimum required depth of the front, rear, and side setbacks.
3 – Height limit	35 feet, and as allowed by Section 28.93, special regulations:	Consistent; all onsite Project components will be less than 35 feet in height, with the exception of the gen-tie poles and Project substation riser structure and shield poles, which are exempt per Section 28.93 as discussed below.
28.93 – General Height Regulations and Exceptions	Towers, poles, water tanks and similar structures may be erected to a greater height than the limit established for the district in which they are to be located.	Consistent; the Project will include poles associated with the gen-tie line, which will reach approximately 90 to 130 feet in height. Project substation riser structure and shield poles will reach approximately 65-70 feet in height. All other on-site Project components will be less than 35 feet in height, consistent with the height restrictions of the A district.
28.94 – Parking Requirements	I. Fencing A minimum six-foot high, solid wall or fence shall be constructed pursuant to a design approved by the Zoning	Consistent; the Project is separated from the nearest residence by Kilkenny Road. The Project will also include a 15-foot-tall solid sound barrier along Kilkenny Road.

No.	Policy / Regulation	Application[1/]
	Administrator to separate parking and other commercial, industrial and nonresidential uses abutting residential districts or residences. Upon good cause shown by the applicant, the Zoning Administrator may waive the requirement for fencing.	
2024-1859 – Water Efficient Landscape Regulations	Solano County requires landscaping projects to comply with the State of California's Chapter 2.7. Model Water Efficient Landscape Ordinance.	Consistent; the Project will comply with the State of California's Chapter 2.7. Model Water Efficient Landscape Ordinance; see response to DR VIS-6.

1/ Page references provided are from Section 4.1 of the original Application.

10.9 Data Request DR VIS-9

DR VIS-9. Identify each agency with jurisdiction to issue applicable permits and/or approvals, but for the exclusive authority of the CEC, pertaining to the required project-specific, conceptual, outdoor lighting control and management plan and landscape plan.

Response: But for the exclusive authority of the CEC, the Solano County Department of Resource Management, Planning Services Division, would have jurisdiction to issue a Conditional Use Permit (CUP) and the Solano County Department of Resource Management, Building and Safety Services Division, would have jurisdiction to issue a Building Permit for the Project. Lighting plan and landscape plan review would be components of the CUP and Building Permit review processes.

10.10 Data Request DR VIS-10

DR VIS-10. Application subsection 4.1.7 states that no agencies were contacted. Please provide the name, title, phone number, address (required), and email address (if known) of each official who will be contacted within each agency and provide the name of the official who will serve as a contact person for CEC staff, with respect to review and comment of the project-specific, conceptual, outdoor lighting control and management plan and landscape plan.

Response: While no agencies were contacted specifically about the lighting plan or landscape plan during Application development, the Applicant did coordinate with Solano County during development of the Project and received input on landscaping requirements in the form of a pre-application comment letter, which was provided in Appendix 4.11-A of the original Application.

Table 10-3. Agency Contacts for Visual Resources

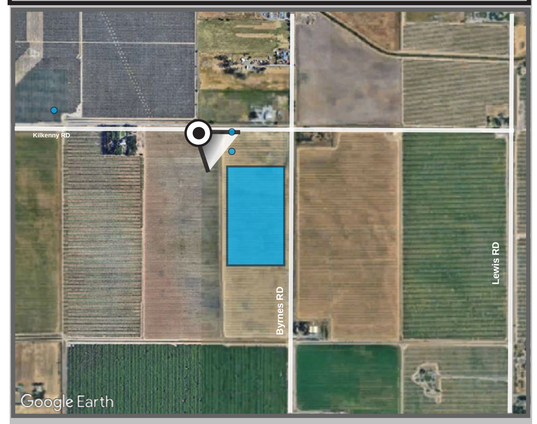
Agency	Contact	Permit/Issue
Solano County Department of Resource Management, Planning Services Division	Nedzlene Ferrario, Principal Planner 675 Texas Street, Suite 5500 Fairfield, CA 94533 (707) 784-3170 NNFerrario@solanocounty.com	Land Use Plans and Permits
Solano County Department of Resource Management, Building and Safety Services Division	675 Texas Street, Suite 5500 Fairfield, CA 94533 RMHelp@solanocounty.com	Building Permits
City of Vacaville Community Development Department, Planning and Development Division	Erin Morris, Director of Community Development 650 Merchant Street Vacaville, CA 95688 (707) 449-5307 erin.morris@cityofvacaville.com Albert Enault, Senior Planner 650 Merchant Street Vacaville, CA 95688 (707) 449-5364 Albert.Enault@cityofvacaville.com	Land Use Planning/Coordination (as needed)

CORBY BATTERY ENERGY STORAGE SYSTEM PROJECT

Figure 10-1
KOP 7a

Simulation Conditions
With Landscaping After 1 Year

Kilkenny Road



VICINITY MAP

LEGEND

SIMULATED EQUIPMENT

KOP LOCATION WITH SIMULATION

PHOTOGRAPH INFORMATION

TIME:	2:38 PM
DATE:	01/22/2025
WEATHER CONDITION:	SUNNY
VIEWING DIRECTION:	SOUTHEAST
LATITIUDE:	38.395317°
LONGITUDE:	-121.919325°
DISTANCE TO BESS:	.16 MILES
CAMERA TYPE:	CANON EOS R5
LENS FOCAL LENGTH:	50MM

Preliminary Visualization

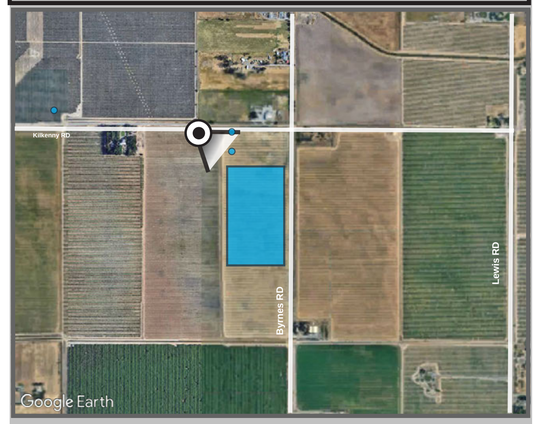
DISCLAIMER: PRELIMINARY VISUALIZATIONS ARE FOR REFERENCE ONLY; PROJECT LAYOUT IS IN DEVELOPMENT AND SUBJECT TO CHANGE.

CORBY BATTERY ENERGY STORAGE SYSTEM PROJECT

Figure 10-2
KOP 7a

Simulation Conditions
With Landscaping After 5 Years

Kilkenny Road



VICINITY MAP

LEGEND

SIMULATED EQUIPMENT

KOP LOCATION WITH SIMULATION

PHOTOGRAPH INFORMATION

TIME:	2:38 PM
DATE:	01/22/2025
WEATHER CONDITION:	SUNNY
VIEWING DIRECTION:	SOUTHEAST
LATITIUDE:	38.395317°
LONGITUDE:	-121.919325°
DISTANCE TO BESS:	.16 MILES
CAMERA TYPE:	CANON EOS R5
LENS FOCAL LENGTH:	50MM

Preliminary Visualization

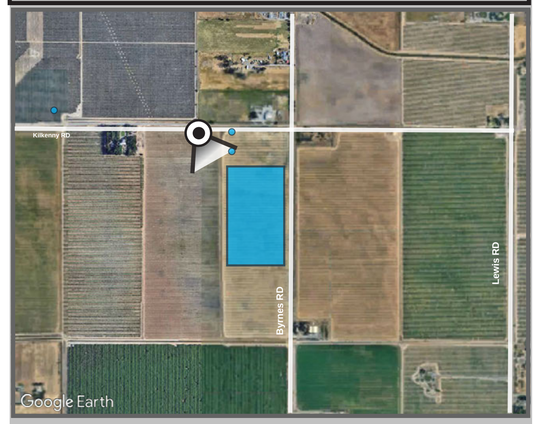
DISCLAIMER: PRELIMINARY VISUALIZATIONS ARE FOR REFERENCE ONLY; PROJECT LAYOUT IS IN DEVELOPMENT AND SUBJECT TO CHANGE.

CORBY BATTERY ENERGY STORAGE SYSTEM PROJECT

Figure 10-3
KOP 7b

Simulation Conditions
With Landscaping After 1 Year

Kilkenny Road



VICINITY MAP

LEGEND

SIMULATED EQUIPMENT

KOP LOCATION WITH SIMULATION

PHOTOGRAPH INFORMATION

TIME:	2:38 PM
DATE:	01/22/2025
WEATHER CONDITION:	SUNNY
VIEWING DIRECTION:	SOUTHEAST
LATITIUDE:	38.395317°
LONGITUDE:	-121.919325°
DISTANCE TO BESS:	.16 MILES
CAMERA TYPE:	CANON EOS R5
LENS FOCAL LENGTH:	50MM

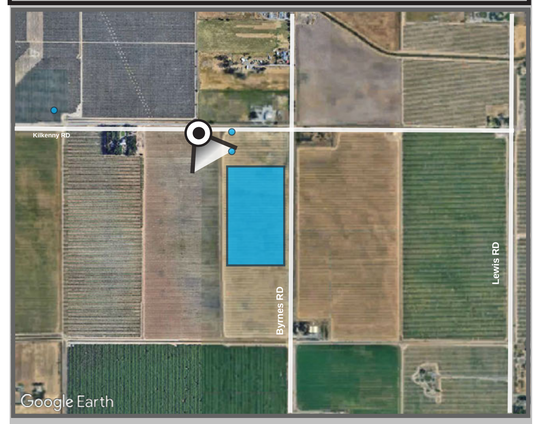
Preliminary Visualization

DISCLAIMER: PRELIMINARY VISUALIZATIONS ARE FOR REFERENCE ONLY; PROJECT LAYOUT IS IN DEVELOPMENT AND SUBJECT TO CHANGE.

CORBY BATTERY ENERGY STORAGE SYSTEM PROJECT

Figure 10-4
KOP 7b
Simulation Conditions
With Landscaping After 5 Years

Kilkenny Road



VICINITY MAP

LEGEND

SIMULATED EQUIPMENT

KOP LOCATION WITH SIMULATION

PHOTOGRAPH INFORMATION

TIME:	2:38 PM
DATE:	01/22/2025
WEATHER CONDITION:	SUNNY
VIEWING DIRECTION:	SOUTHEAST
LATITIUDE:	38.395317°
LONGITUDE:	-121.919325°
DISTANCE TO BESS:	.16 MILES
CAMERA TYPE:	CANON EOS R5
LENS FOCAL LENGTH:	50MM

Preliminary Visualization

DISCLAIMER: PRELIMINARY VISUALIZATIONS ARE FOR REFERENCE ONLY; PROJECT LAYOUT IS IN DEVELOPMENT AND SUBJECT TO CHANGE.

11.0 WATER RESOURCES

11.1 Data Request DR WATER-1

DR WATER-1. There is an apparent contradiction between the two statements. Please clarify if no water would be required for project operations or if water would be needed for uses such as irrigation. Section 2.3.3 of the application states, *"Following construction, temporary irrigation will be required to support establishment of the proposed drought-tolerant perimeter landscaping. Approximately 664,000 gallons (2.0 acre-feet) will be required during the first year following installation. Required irrigation volumes are expected to be scaled back by 20 to 30 percent each year to allow for complete shutoff of irrigation by year 3 through 5".*

Response: The Project will require water during the initial 5 years of operation to support temporary landscape irrigation. However, no other operational water other than filling of the new 24,000-gallon fire-water storage tank, will be required. Drought-tolerant plant irrigation is estimated to be scaled back approximately 30 percent each year during years 2 through 5 with irrigation removed after year 5 as outlined in Table 11-1 below. No irrigation is planned for year 6 and beyond. The exact schedule and amounts of water reduction in each year will depend on various site-specific factors. If drought stress is observed, the irrigation schedule would be adjusted accordingly.

Table 11-1. Temporary Irrigation Water Usage

Irrigation Year	Estimated Amount of Water Use (gallons)	Estimated Reduction in Water Use
1	664,000	0%
2	464,800	30%
3	325,360	30%
4	227,752	30%
5	159,426	30%
6	0	No water use in year 6

11.2 Data Request DR WATER-2

DR WATER-2. Please clarify how drought-tolerant plant irrigation would be scaled back and confirm that landscape irrigation would be shut-off by year 5 or 6.

Response: Drought-tolerant plant irrigation is estimated to be scaled back approximately 30 percent each year during years 2 through 5 with irrigation removed after year 5 as outlined in Table 11-1 above. No irrigation is planned for year 6 and beyond.

11.3 Data Request DR WATER-3

DR WATER-3. Please clarify this apparent contradiction and revise the conclusion regarding the impact to the Solano Groundwater Subbasin accordingly.

Response: Aside from a minimal amount of water needed to establish site landscaping (approximately 2 acre-feet of water for the first year, and 30 percent less water use every subsequent year through year 5), no additional water use, beyond initial filling of the fire-water storage tank, will

be required during operation of the Project. As discussed in the Application, water for the Project will be secured from either an onsite groundwater well or from the SID. Water from either an onsite well or the SID would ultimately be sourced from the Solano Subbasin. The estimated operational water demand of 2 acre-feet for temporary irrigation would represent a small fraction (about 0.001 percent) of the annual average groundwater extraction within the Solano Subbasin (180,000 acre-feet per year), which has also been stable to increasing based on the observed groundwater levels and model simulated water budget results. Additionally, the Solano Subbasin is not expected to decline in the future and no groundwater supply shortage is anticipated anytime during the next 50 years. Therefore, operational water demand for temporary irrigation would not negatively impact the groundwater resource in the Solano Subbasin by depleting groundwater through use.

11.4 Data Request DR WATER-4

DR WATER-4. Please provide a description and figure of how project water supply would be connected to the SID canal along Kilkenny Road and conveyed to the project site.

Response: If SID canal water is available and approved for construction use by SID at the time of construction, the construction contractor would withdraw water from the canal using a temporary pumping, conveyance, and storage system. The system would include an intake screen, flexible pump intake hose, pump, shutoff valve, flexible conveyance hose, and a temporary storage tank located approximately 100 feet south of the canal within the construction laydown area. Alternately, the water may be pumped directly into water trucks in lieu of using a temporary storage tank. The system would be manually operated as needed to fill the temporary water tank or water trucks throughout the construction phase. A conceptual layout showing the system components and approximate location is provided in Figure 11-1. A similar system could be used to fill water trucks for landscape irrigation during the first 5 years of operation, if necessary. Additional information is provided in a separate Project Description Update, which will be filed concurrently with this Data Request Response #1.

11.5 Data Request DR WATER-5

DR WATER-5. Please include design elements to address possible erosion at transitions between the drainage ditches and the stormwater ponds, stormwater pond overflow to the Brynes Road drainage ditch, and the berm/substation gap. Please show these design elements on applicable application figures.

Response: A sediment and erosion control plan drawing is provided in Appendix 11-A showing erosion control features. Riprap aprons are provided to protect the transitions between the drainage ditches and stormwater ponds. Riprap spillways are provided at the stormwater pond overflow spillways, after which the flow will disperse and travel overland in sheet flow to the Byrnes Road drainage ditch. Any overland flow from of stormwater that enters the gap between the 3-foot berm along the western boundary of the BESS array and the elevated substation grade would enter the eight-foot flat bottom ditch and would be channeled to the northern stormwater pond.

11.6 Data Request DR WATER-6

DR WATER-6. Please provide the physical and chemical characteristics of local water bodies such as Ulatis Creek and the Sacramento-San Joaquin Delta per California Code of Regulations, title 20, Appendix B (g) (14) (B)(ii).

Response: The Ulatis Creek subwatershed, part of the Lower Sacramento River Watershed, is drained by a series of major stream courses that discharge into the Cache Slough and ultimately into the Sacramento River. These major stream courses include Alamo Creek, Ulatis Creek, Horse Creek, Gibson Canyon Creek, Sweany Creek, and McCune Creek (Kennedy/Jenks Consultants 2013[7]). Common sources for chemical constituents from agriculture that are found within the Ulatis Creek subwatershed include sediment, nutrients (nitrate), pathogens, pesticides, metals, salts (total dissolved solids), and organic carbon (Tetra Tech 2006a[8]; Tetra Tech 2006b[9]). Contaminants commonly found in urban runoff include trash, sediment, oil, grease, and toxic chemicals from motor vehicles as well as pesticides and nutrients from laws and gardens, viruses, bacteria, and nutrients from pet waste and failing septic systems. This can also include heavy metals from roof shingles, motor vehicles, and other sources (EPA 2003;[10] Tetra Tech 2006b[11]).

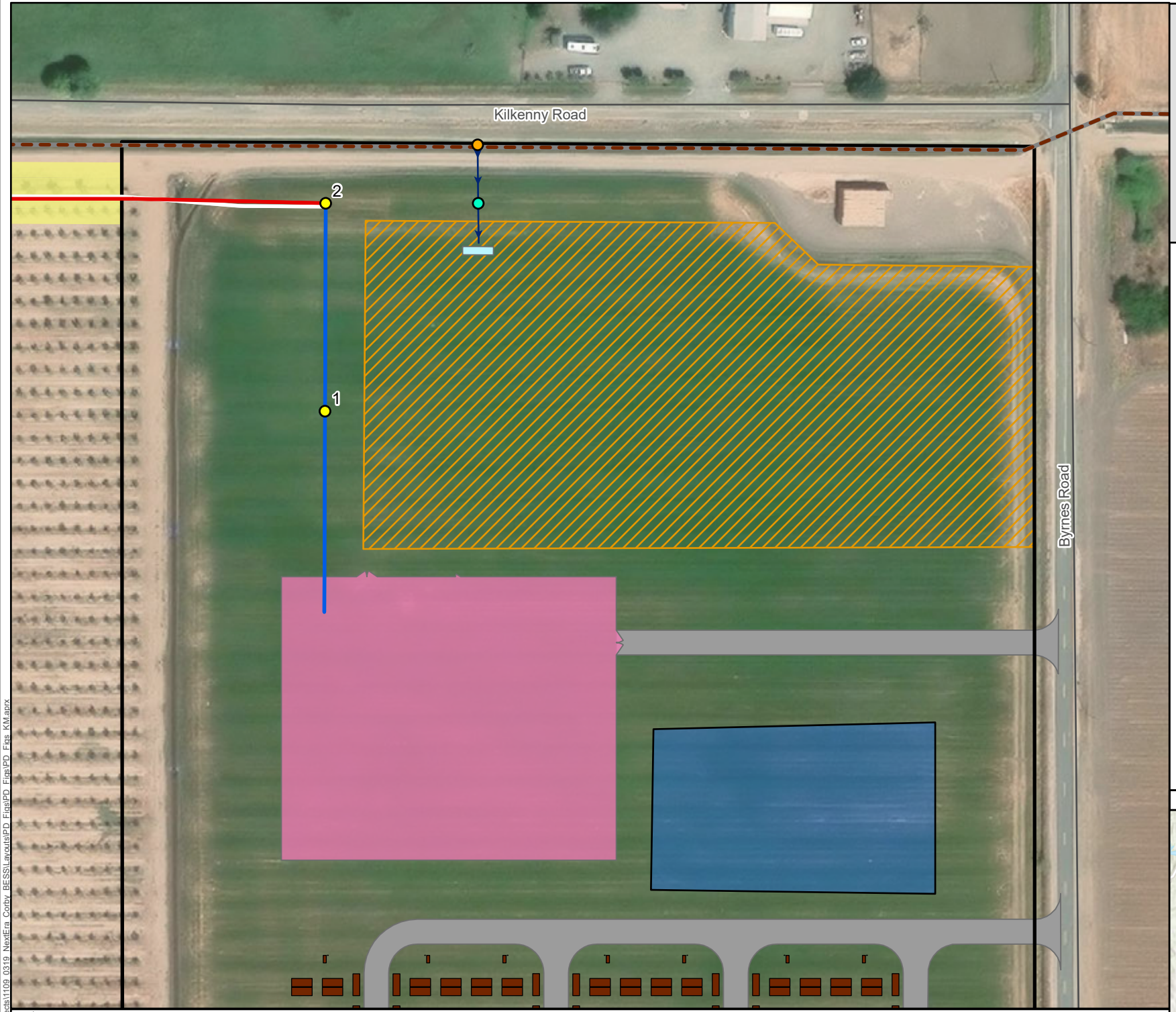
The California 303(d) Integrated Report for 2024 (SWQRCB 2024a[12]) documents surface waters that are defined as chemically impaired under Clean Water Act section 303(d). Gibson Canyon Creek, which intersects the Project site, is not listed; however, portions of the two adjacent National Hydrography Dataset surface waterbodies to the Project site, Ulatis Creek and Sweany Creek, are both listed. A portion of Ulatis Creek is listed for the following pollutants: Bifenthrin, Chlorpyrifos, Imidacloprid, Indicator Bacteria, Metolachlor, Specific Conductivity, and Toxicity. Sweany Creek is listed for Toxicity. The toxicity tests included survival of *Ceriodaphnia dubia*, total cell count of *Selenastrum capricornutum*, and survival of *Pimephales promelas* (SWQRCB 2024b[13]).

Water quality data samples taken at Ulatis Creek at Browns Road, approximately 8.5 miles from the Project site, detected a total of 41 pesticides. These included 13 herbicides, 12 insecticides, 10 fungicides, and 6 breakdown products. Imidacloprid was detected in the samples collected on August 17, 2016 (11 nanograms per liter [ng/L]), October 18, 2016 (28 ng/L), November 14, 2016 (30 ng/L), and

[7] Kennedy/Jenks Consultants. 2013. Westside Sacramento Integrated Regional Water Management Plan. Draft. Available online at: https://scwa2.com/documents/publications/Westside_IRWMP_Vol-I_Draft_2013.pdf
[8] Tetra Tech. 2006a (April). Conceptual Model for Organic Carbon in the Central Valley and Sacramento-San Joaquin Delta Final Report. Lafayette, CA. Prepared for U.S. Environmental Protection Agency, Region IX and Central Valley Drinking Water Policy Workgroup.
[9] Tetra Tech. 2006b (September). Conceptual Model for Nutrients in the Central Valley and Sacramneto-San Joaquin Delta. Lafayette, CA. Prepared for U.S. Environmental Protection Agency, Region IX and Central Valley Drinking Water Policy Workgroup.
[10] EPA (U.S. Environmental Protection Agency). 2003 (February). *Protecting Water Quality from Urban Runoff.* EPA 841-F-03-003. Nonpoint Source Branch: Washington, DC.
[11] Tetra Tech. 2006b. California Nonpoint Source Encyclopedia. Fairfax, VA. Prepared for California State Water Resources Control Board, Sacramento, CA.
[12] SWQRCB (California State Water Quality Resources Control Board). 2024a. 2024 Integrated Report Map: Downloadable Shapefiles. Available online at: https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=f0e4ac76fd0e4a53bebead89339ef3c9
[13] SWQRCB. 2024b. Integrated Report (303(d) List/305(b) Report) Supporting Information. Available online at: https://www.waterboards.ca.gov/water_issues/programs/tmdl/2023_2024state_ir_reports/apx-b-factsheets/02873.shtml

December 16, 2016 (29 ng/L), at concentrations above the aquatic life benchmark for chronic toxicity to invertebrates of 10 ng/L. Bifenthrin was detected in the samples collected on July 13, 2016 (12 ng/L), March 14, 2017 (2.3 ng/L), and April 25, 2017 (3.4 ng/L), at concentrations above the aquatic life benchmark for chronic toxicity to invertebrates of 1.3 ng/L. Cyhalothrin was detected in the sample collected on July 13, 2016 (9 ng/L), at a concentration above the aquatic life benchmark for acute toxicity invertebrates of 3.5 ng/L (USGS 2019[14]).

[14] USGS (U.S. Geological Survey). 2019. Pesticide Mixtures in the Sacramento–San Joaquin Delta, 2016–17: Results from Year 2 of the Delta Regional Monitoring Program. Prepared in cooperation with the Delta Regional Monitoring Program. Data Series 1120. Available online at: https://pubs.usgs.gov/ds/1120/ds1120.pdf



NextEra Energy Corby Battery Energy Storage System Project

Figure 11-1 Irrigation Canal Temporary Water Supply Conceptual Layout

Solano County, CA

- Existing SID Irrigation Canal
- Road

Proposed Features

- Proposed Pole
- Intake Screen
- Pump (with Secondary Containment)
- Gen-tie (Overhead)
- Gen-tie (Underground; Option 1)
- Gen-tie (Underground; Option 2)
- Flexible Hose
- Access Road
- Construction Laydown Area
- Gen-tie Corridor (Option 1)
- BESS Array
- Project Site
- Stormwater Pond
- Project Substation
- Temporary Water Tank

TETRA TECH

NOT FOR CONSTRUCTION

Reference Map

1:1,500 NAD 1983 StatePlane California II FIPS 0402 Feet

0 100 200 Feet

Source: ESRI, USDA NAIP, US CENSUS, BTS

Z:\Projects\1109_0319_NextEra_Corby_BESS\Layouts\PD_Figs\PD_Figs_KM.aprx

APPENDIX 3-A: BURROWING OWL SURVEY RESULTS

Memorandum

To:	Corby Energy Storage, LLC
From:	Kaitlin Kozlowski, ICF Wildlife Biologist
CC:	Brad Schafer, ICF Project Manager and Lead Biologist
Date:	February 18, 2025
Subject:	**Burrowing Owl 2024-2025 Winter and 2025 Breeding Season Survey 1 Methods and Results for the Corby Battery Energy Storage System Project**

Introduction

The Corby Battery Energy Storage System (BESS) Project (Project) is located in Solano County, California. ICF conducted non-breeding (winter) and one 2025 breeding season protocol-level surveys for western burrowing owl (*Athene cunicularia hypugaea*) on behalf of Corby Energy Storage, LLC (Corby), to inform the Project's California Environmental Quality Act documentation for biological resources.

Corby proposes to construct and operate the Project to store 300 megawatts of energy. The Project includes a 300-megawatt BESS facility with associated on-site substation, inverters, and other ancillary facilities such as fencing, roads, supervisory control and data acquisition system, storage containers, and trailers. The Project also includes a 230-kilovolt overhead generation tie line (gen-tie), which would extend approximately 1 mile to interconnect with the Pacific Gas & Electric (PG&E) Vaca-Dixon Substation.

Western burrowing owl prefers open grasslands and shrublands with perches and burrows. The species usually lives and nests in the old burrows of California ground squirrels (*Otospermophilus beecheyi*) or other small mammals (Zeiner et al. 1990:332) but also can nest in piles of wood or other debris. Burrows can be found on the sides of hills, along roadside embankments, on levees, along irrigation canals, near fence lines, and on or near other raised areas of land.

Methods

Surveys

ICF wildlife biologists conducted surveys in accordance with the recommendations in Appendix D of the California Department of Fish and Game's (now California Department of Fish and Wildlife's) (2012) *Staff Report on Burrowing Owl Mitigation*. Recommended timing for winter (non-breeding) and breeding season surveys are presented in Table 1.

Table 1. Recommended Survey Timing for Non-breeding and Breeding Season Surveys.

Season	Survey Date	Notes
Non-breeding	September 1 to January 31	Conduct at least four surveys spread evenly throughout the non-breeding season.
Breeding	February 15 to April 15	Conduct at least one survey.
	April 15 and July 15	Conduct a minimum of three surveys, spaced at least 3 weeks apart. At least one visit must occur after June 15.

Source: California Department of Fish and Game 2012.

Non-breeding season surveys were initiated in December 2024 and were conducted over a two-month period, with a total of four surveys. 2024 breeding season surveys were requested by Corby in May 2024 after the recommended survey window for the initial 2024 breeding season survey had passed. Thus, ICF conducted an additional survey during the initial 2025 breeding season survey window to complete the fourth breeding season survey for the Project. Burrowing owl non-breeding and breeding season survey dates and surveyors are presented in Table 2.

Table 2. Survey Dates and Surveyors.

Survey Number	Survey Date	Surveyors
2024-2025 Non-Breeding Season		
1	December 23, 2024	Michael Scaffidi
2	January 7, 2025	Michael Scaffidi and Arin Phillips
3	January 17, 2025	Kaitlin Kozlowski and Michael Scaffidi
4	January 31, 2025	Austin Kozlowski and Michael Scaffidi
2025 Breeding Season		
1	February 18, 2025	Austin Kozlowski

The survey area consisted of a 500-foot buffer of all Project components, including the Corby Bay Expansion Area (PG&E), transmission and gen-tie lines/corridors, gen-tie laydown areas, and the area within the Project boundary (Figure 1 in Appendix A). The biologists conducted the survey primarily on foot with transects spaced approximately 23 to 65 feet (7 to 20 meters) or 15-25 feet apart and adjusted as needed depending on vegetation height and density, and by vehicle (known as a windshield survey) by driving Kilkenny Road and accessible orchard access

roads. The biologists used binoculars (10x42 and 8x42 power) throughout the surveys as needed to maximize visual coverage of inaccessible portions of the survey area and to aid in wildlife identification. Access to select parcels within the 500-foot buffer along Kilkenny Road and Byrnes Road were restricted due to private property, so these portions of the survey area were assessed from the road and adjacent parcels where access was provided.

The biologists assessed any changes in the suitability of habitat within the survey area to support burrowing owl use. In addition, observations of burrowing owls, burrows of sufficient size for burrowing owl use, and any burrow surrogates (e.g., culverts or pipes large enough to allow owl use but small enough to exclude predators, rubble piles) were documented, if present. Any sign of burrowing owl presence (e.g., tracks, feathers, whitewash, cast pellets, prey remains, egg and shell fragments, nest burrow decoration materials, and possible perches) at or near the burrow(s) and/or burrow surrogates were also recorded. Opportunistic observations of other special-status species were also noted. GPS coordinates of suitable and occupied burrows and burrow surrogates and burrowing owl observations were recorded from an iPhone 13 mini, iPhone 16 Pro, or iPad using the ArcGIS Field Maps application. Photographs were taken on an iPhone 13 mini, iPhone 12, iPhone 16 Pro, and Canon SX60 HS Power Shot camera to aid in documentation of habitat, burrowing owls and/or signs of their presence, and observations of other special-status species.

Results

Non-Breeding Season Surveys

No suitable or occupied burrows or burrow surrogates of sufficient size or burrowing owls were observed within the survey area (Figure 1 in Appendix A) during any of the non-breeding season surveys. Survey details for non-breeding season surveys are presented in Table 3.

Table 3. 2024-2025 Non-Breeding Season Survey Details.

Survey Number	Time	Weather Conditions[1]
1	0700 – 0945	Start: 52°F, 100% cloud cover, 3 mph End: 58°F, 100% cloud cover, 5 mph
2	0710 – 0945	Start: 47°F, <5% cloud cover, 10 mph End: 59°F, <5% cloud cover, 30 mph
3	0700 – 0930	Start: 38°F, 0% cloud cover, 1 mph WNW End: 45°F, 0% cloud cover, 2 mph S
4	0700 – 1015	Start: 43°F, 100% cloud cover, 2 mph End: 48°F, 100% cloud cover, 8 mph *Note: periods of rain occurred throughout the survey.*

[1]Temperatures are in degrees Fahrenheit (°F). Wind speed is documented in miles per hour (mph).

Various potential predators of burrowing owls were observed within the survey area, including red-tailed hawk (*Buteo jamaicensis)* and coyote (*Canis latrans*). A full list of wildlife species observed within and in the vicinity of the survey area during non-breeding season surveys is presented in Appendix B, Table 1. Representative photographs of habitat conditions within the survey area across all surveys are presented in Appendix C. Suitable burrows were observed just north/west of the western extent of the survey area under two transmission towers.

Breeding Season Surveys

No suitable or occupied burrows or burrow surrogates of sufficient size or burrowing owls were observed within the survey area (Figure 1 in Appendix A) during the 2025 breeding season survey. Survey details for the breeding season survey are presented in Table 4.

Table 4. 2025 Breeding Season Survey Details.

Survey Number	Time	Weather Conditions[1]
1	0830 – 1115	Start: 50°F, 20% cloud cover, 0 mph End: 57°F, 20% cloud cover, 4 mph N

[1]Temperatures are in degrees Fahrenheit (°F). Wind speed is documented in miles per hour (mph).

California ground squirrels were observed at the suitable burrows (Figure 1 in Appendix A) located under the transmission towers located just north/west of the western extent of the survey area. A full list of wildlife species observed within and in the vicinity of the survey area during the breeding season survey is presented in Appendix B, Table 2. Representative photographs of habitat conditions within the survey area across all surveys are presented in Appendix C.

Appendices

Appendix A: Figure 1

Appendix B: Wildlife Species Observed

Appendix C: Photograph Documentation

References

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Appendix A

Figure 1

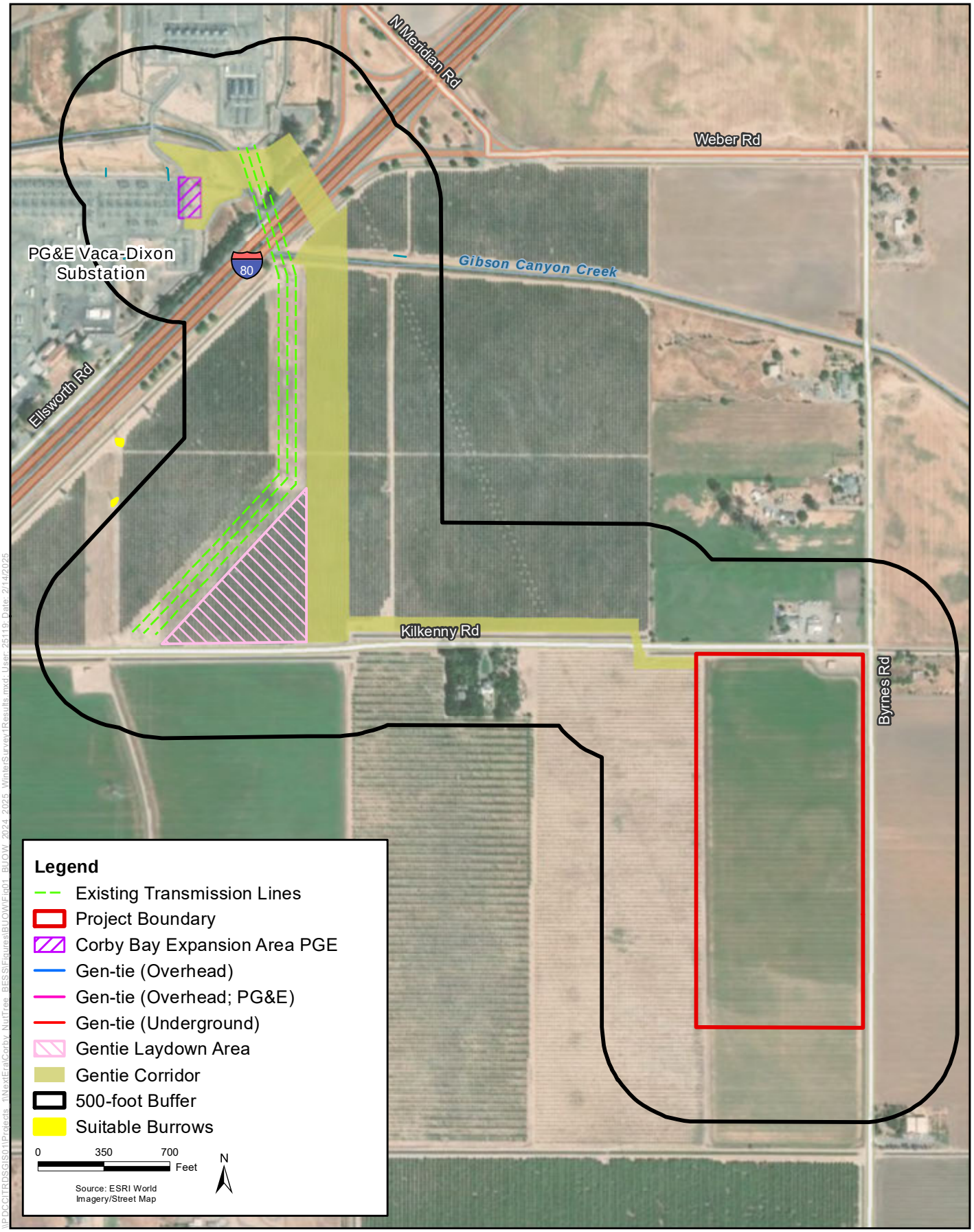


Figure 1
Burrowing Owl 2024-2025 Winter and 2025 Breeding Survey Results
Corby BESS Project

Appendix B

Wildlife Species Observed

Table 1. Wildlife Species Observed within or in the Vicinity of the Survey Area During 2024-2025 Non-Breeding Season Surveys.

Common Name	Scientific Name
Amphibians	
Pacific tree frog	*Pseudacris regilla*
Birds	
American crow	*Corvus brachyrhynchos*
American kestrel	*Falco sparverius*
American pipit	*Anthus rubescens*
American robin	*Turdus migratorius*
Bald eagle	*Haliaeetus leucocephalus*
Black phoebe	*Sayornis nigricans*
Brewer's blackbird	*Euphagus cyanocephalus*
California scrub-jay	*Aphelocoma californica*
Cliff swallow	*Petrochelidon pyrrhonota*
Eurasian collared-dove	*Streptopelia decaocto*
European startling	*Sturnus vulgaris*
Great egret	*Ardea alba*
Horned lark	*Eremophila alpestris*
House finch	*Haemorhous mexicanus*
Killdeer	*Charadrius vociferus*
Loggerhead shrike	*Lanius ludovicianus*
Mourning dove	*Zenaida macroura*
Northern mockingbird	*Mimus polyglottos*
Red-tailed hawk	*Buteo jamaicensis*
Red-winged blackbird	*Agelaius phoeniceus*
Ruby-crowned kinglet	*Corthylio calendula*
Savannah sparrow	*Passerculus sandwichensis*
Say's phoebe	*Sayornis saya*
Turkey vulture	*Cathartes aura*
Western meadowlark	*Sturnella neglecta*
White-crowned sparrow	*Zonotrichia leucophrys*
White-tailed kite	*Elanus leucurus*
Yellow-billed magpie	*Pica nuttalli*
Yellow-rumped warbler (Audubon's)	*Setophaga coronata auduboni*
Mammals	
Black-tailed jackrabbit	*Lepus californicus*
Coyote	*Canis latrans*

Table 2. Wildlife Species Observed within or in the Vicinity of the Survey Area During the 2025 Breeding Season Survey.

Common Name	Scientific Name
Birds	
American crow	*Corvus brachyrhynchos*
American robin	*Turdus migratorius*
Anna's hummingbird	*Calypte anna*
Brewer's blackbird	*Euphagus cyanocephalus*
California scrub-jay	*Aphelocoma californica*
House finch	*Haemorhous mexicanus*
Killdeer	*Charadrius vociferus*
Mourning dove	*Zenaida macroura*
Northern flicker	*Colaptes auratus*
Savannah sparrow	*Passerculus sandwichensis*
Turkey vulture	*Cathartes aura*
Western meadowlark	*Sturnella neglecta*
Mammals	
Audubon's cottontail	*Sylvilagus audubonii*
California ground squirrel	*Otospermophilus beecheyi*

Appendix C

Photograph Documentation

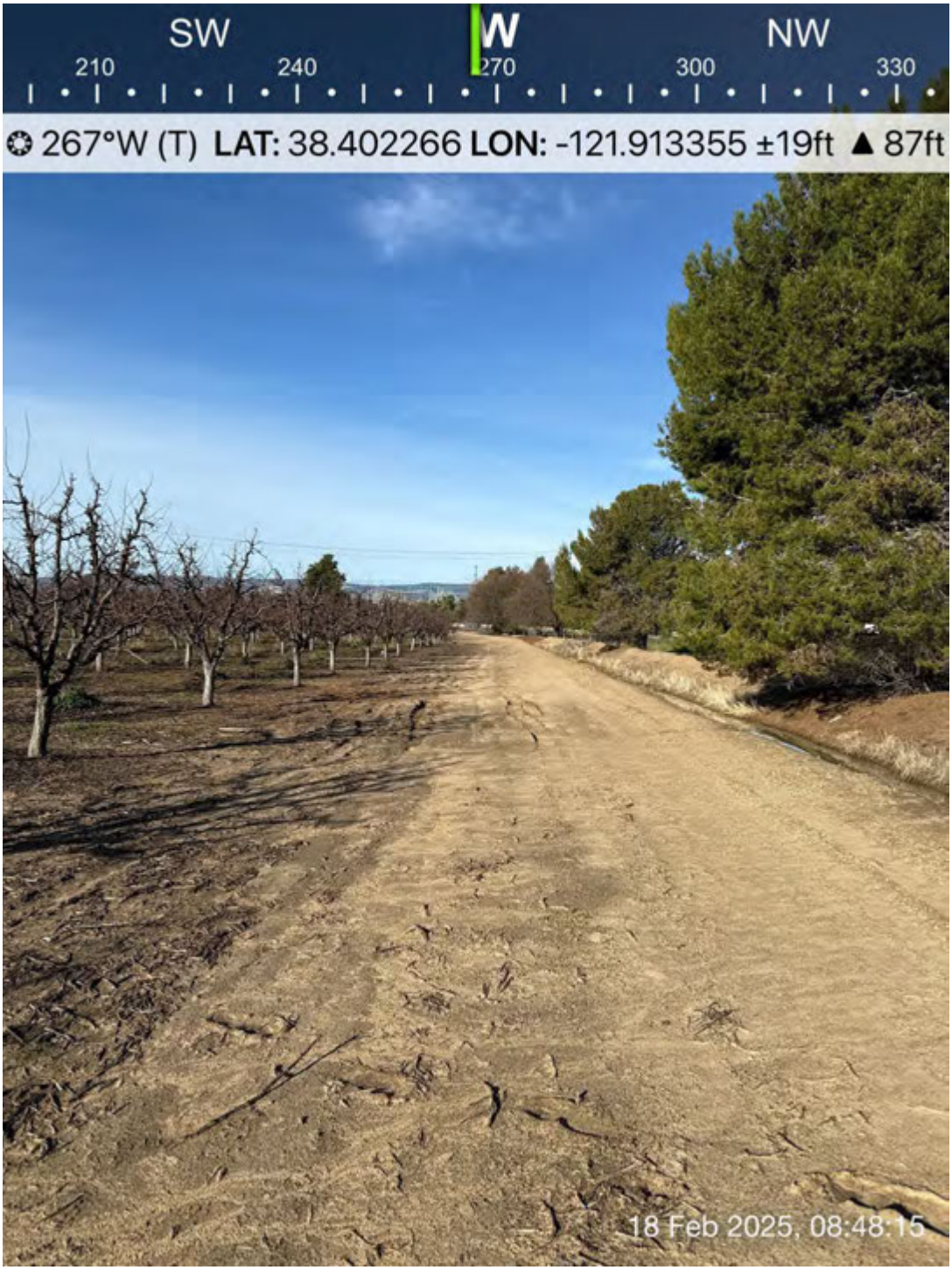


Photo 1. View looking west along an orchard access road parallel to Weber Road. Photo taken February 18, 2025.

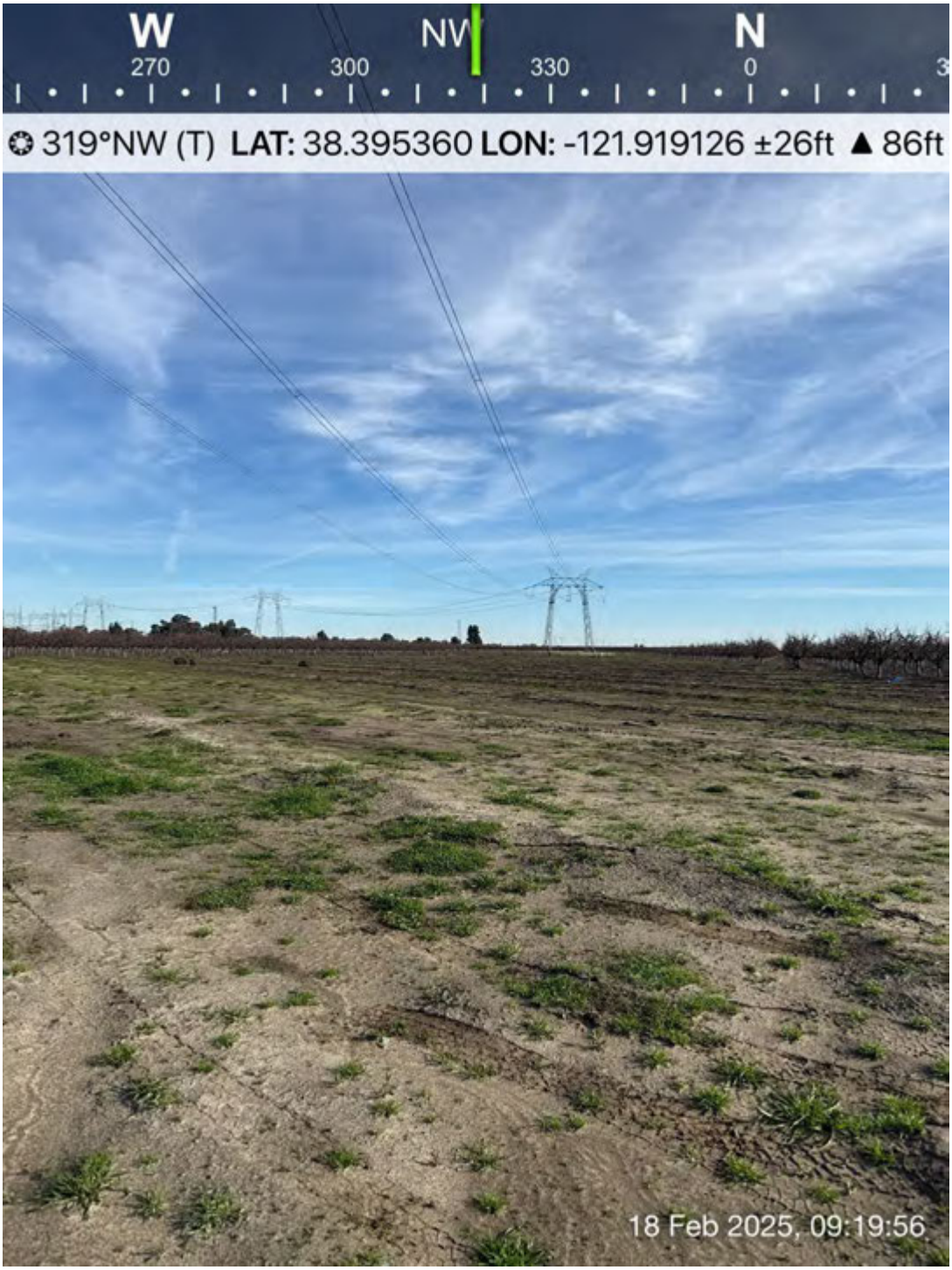


Photo 2. View looking northwest at the existing transmission corridor. Photo taken February 18, 2025.

Photo 3. View looking south at the existing transmission corridor with Gibson Canyon Creek in the foreground. Photo taken January 17, 2025.

Photo 4. View looking east along Gibson Cayon Creek, just south of Interstate 5. Photo taken January 31, 2025.

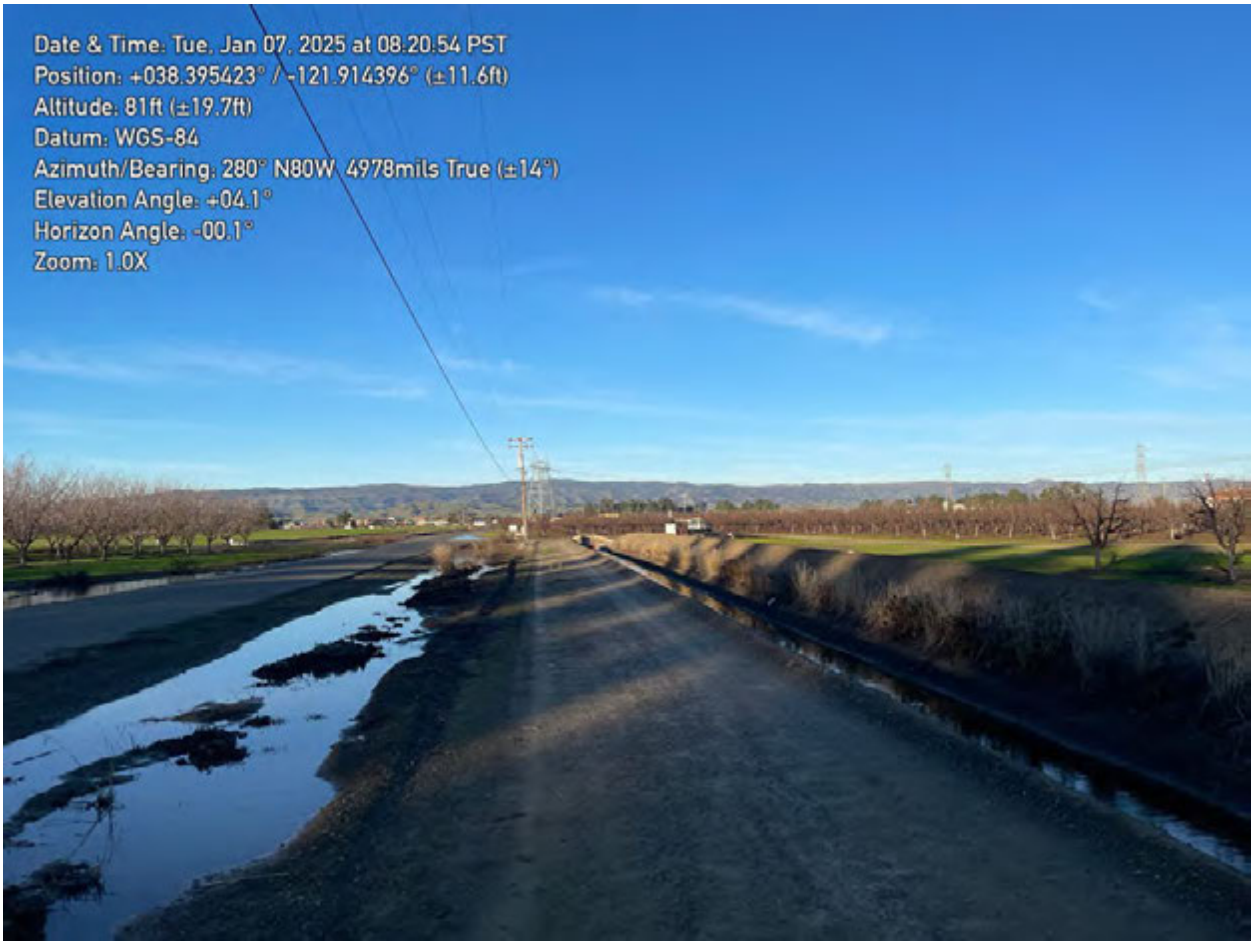


Photo 5. View looking west along Kilkenny Road. Photo taken January 7, 2025.

Photo 6. View looking east along Kilkenny Road with the BESS site visible off to the right behind the orchard. Photo taken February 18, 2025.

Photo 7. View looking north-northwest at the BESS site. Photo taken January 17, 2025.

Photo 8. View looking northeast at the parcel to the northeast of the BESS site within the survey area. Photo taken January 17, 2025.

Photo 9. View looking southeast of the parcel to the east of the BESS site within the survey are. Photo taken January 17, 2025.

APPENDIX 3-B: SWAINSON'S HAWK AND BUOW STUDY AREAS AND RESULTS

This Appendix is filed under a request for confidential designation

APPENDIX 3-C: ICF BIOLOGIST RESUMES

Areas of Expertise

- Giant garter snake
- Foothill yellow-legged frog
- California tiger salamander
- California red-legged frog
- Western pond turtle
- Chinook salmon
- Burrowing owl

Education

- BS, Wildlife Conservation & Applied Vertebrate Ecology, Humboldt State University, 2015

Years of Experience

- Professional start date: 05/2016
- ICF start date: 05/2023

Certifications

- USFWS 10(a)(1)(A) permit TE-795934-14 for GGS (all activities) and CTS (aquatic surveys)
- CDFW SCP Specific Use: Giant garter snake permit pending
- Yolo HCP/NCCP Approved Biologist for GGS pre-construction surveys and monitoring, WPT pre-construction surveys and monitoring, and CTS planning-level surveys.
- First Aid/AED/CPR, Exp. 2026

Rachel Bennett

Wildlife Biologist

Rachel Bennett is a wildlife biologist with 8 years of professional experience throughout the Central Velley and other parts of California. Her experience ranges from project management, permitting and document preparation to special status species surveys, eDNA collection, and construction monitoring. Rachel spent four years focused on giant garter snake (GGS), for which she has conducted visual encounter and aquatic funnel trap surveys, collected eDNA, delineated both aquatic and upland habitat, developed and delivered WEAP training, and monitored construction. Rachel also has experience delineating habitat, conducting aquatic surveys, and monitoring construction for CTS, CRLF, FYLF, WPT, and salmonids.

PROJECT EXPERIENCE

Sutter Pipeline Emergency Repair, CPN Pipeline, Sutter County, California, 2024
Wildlife Biologist. Rachel conducted a land cover delineation and mapping to identify any areas of concern for special status species including Swainson's hawk, giant garter snake, valley elderberry longhorn beetle, western pond turtle, chinook salmon, and central valley steelhead. No giant garter snake or other special status species were observed during the survey. *4 survey hours.*

Las Camas Solar Burrowing Owl Surveys, EDP Renewables, Merced County, California, 2024
Wildlife Biologist. Rachel conducted burrowing owl surveys for the Las Camas Mitigation site. The surveys conducted were modified from the CDFW Burrowing Owl Protocol in order to fit client and project needs. Four-hour morning surveys, and three-hour evening surveys were conducted for over a span of four days. The survey team walked sweeping transects through the project area to obtain visual clearance of the entire mitigation area. *32 survey hours; 22 burrowing owls were identified during these surveys.*

Middle Mile Broadband Network (MMBN) Support, Caltrans, District 4, Sonoma, Napa, Marin, and Alameda Counties, California, 2024–Ongoing

Wildlife Biologist. Rachel is providing biological support to Caltrans MMBN projects within Sonoma, Napa, Marin, and Alameda counties. She is drafting the

no effect and minimal impacts memoranda, providing wildlife habitat and aquatic resource mapping, providing support for Section 1600 permits, reviewing design plans, identifying areas of biological concern, and working with the team to find agreeable solutions. 16 survey hours.

Upper Swanston Ranch Irrigation and Fish Passage Project, Department of Water Resources, Yolo County, California, 2024
USFWS-Approved Project Biologist. Rachel monitored construction, maintained wildlife exclusion fence, and implemented avoidance and mitigation measures (AMMs) and conservation measures (CMs) to ensure compliance with all project permits with respect to giant garter snake (GGS). Water quality measurements were also taken during construction. No GGS were observed during construction. *40 monitoring hours.*

Foothill Yellow-legged Frog Master Class (with Jeff Alvarez), Multiple Counties, California 2024
Wildlife Biologist. This field-only master workshop took place over four meeting dates in 2024. Included a breeding site survey at Uvas Creek in Santa Clara County and 8 egg masses were observed. Sessions 2-4 were aimed at seeing all other life stages in different habitats. *20 survey hours.*

Gustine Biogas Cluster Project, California Bioenergy, LLC, Merced County, California, 2023
Wildlife Biologist. Rachel conducted a land cover delineation and mapping to identify any areas of concern for special status species including SWHA, CTS, GGS, TRBB, and SJKF. Rachel also prepared a biological resource assessment to support CEQA. The project consists of an approximately 20-mile pipeline with a biogas processing plant at its southern end. *12 survey hours.*

Corby Battery Energy Storage System Project, NextEra Energy Resources, Solano County, California, 2023
Wildlife Biologist. Rachel conducted a general biological resource assessment and land cover delineation for potential special status species including Swainson's hawk, burrowing owl, and giant garter snake in western Sacramento County. Areas of focused included those with potential to support giant garter snake and Swainson's hawk. The areas were delineated in subsequent reports. *8 survey hours.*

Arboleda Battery Energy Storage System Project, NextEra Energy Resources, Sacramento County, California, 2023
Wildlife Biologist. Rachel conducted a general biological resource assessment and land cover delineation for potential special status species including Swainson's hawk, burrowing owl, and giant garter snake in western Sacramento County. Areas of focused included those with potential to support giant garter snake and Swainson's hawk. The areas were delineated in subsequent reports. *4 survey hours*

Tudor Flood Risk Reduction Project, Sutter Butte Flood Control Agency, Sutter County, California, 2022-2023
Wildlife Biologist. Rachel performed a general biological resource assessment survey, aquatic resource delineation survey, and special status species land cover delineation with a focus on areas that might support giant garter snake (GGS; *Thamnophis gigas*) along the Sutter Bypass.

No special status species were observed during these surveys. Suitable habitat for giant garter snake was delineated in subsequent reports. *8 survey hours.*

Years of Experience

Professional start date: 07/2015

ICF start date: 11/2022

Education

BS, Wildlife, Fish, and Conservation Biology (minors in Animal Science and English), University of California, Davis, 2019

Certifications/Registrations

USFWS 10(a)(1)(A) Permit for giant gartersnake – Expected in 2025

Adult and Pediatric First Aid/CPR/AED – Expires 4/9/2026

California Boater Card – Issued in 2020

Professional Affiliations

Member, The Wildlife Society (TWS), 2017 – Present

Member, TWS–Western Section, 2019 – Present

Member, TWS Sacramento-Shasta Chapter, 2018 – Present

Professional Development

Yosemite Toad Construction Monitor Training, U.S. Forest Service, 2023

Western Purple Martin Biology, Conservation, and Survey Techniques Workshop, Sacramento-Shasta Chapter of TWS, 2023

California Tiger Salamander and Large Branchiopods Survey Techniques, ICF, 2023

Developing and Writing CEQA and NEPA Documents, ICF, 2023

CEQA for Biologists, ICF, 2023

Kaitlin Kozlowski, BS

Wildlife Biologist

Kaitlin Kozlowski has over 9 years of experience as a biologist and biological compliance monitor. She is experienced in conducting special-status wildlife surveys and biological compliance monitoring throughout California for birds, mammals, reptiles, amphibians, and fish. She has performed bank swallow, northern harrier, Swainson's hawk, purple martin, burrowing owl, and general nesting bird surveys, has performed Yosemite toad breeding surveys, has performed roosting bat habitat assessments, and has experience trapping raptors, small mammals, and giant gartersnakes, and with passive wildlife monitoring using camera traps and audio recorders. Kaitlin is also familiar with visual and auditory identification of California birds. In addition, Kaitlin has experience implementing passive wildlife monitoring with camera traps for both general wildlife occupancy studies and for research specific to wildlife movement and connectivity assessments. She has experience writing survey protocols, analyzing survey results, and preparing various environmental reports including wildlife connectivity assessments, an environmental impact report (EIR), biological assessments, natural environment studies, biological resources technical reports (BRTRs), and species habitat assessments. She has assisted with the preparation of a biological evaluation report.

Key Relevant Skills

Avian Surveys. Kaitlin identifies California birds by sight and sound. She has conducted nesting surveys throughout California for bank swallows; has trapped, handled, and processed northern harriers including measuring, banding, and outfitting adults with radio transmitters; has conducted purple martin, protocol-level Swainson's hawk and burrowing owl, and general bird nesting surveys; has experience mist netting and handling various other small bird species; and has conducted mortality surveys at solar farms. Observations of Swainson's hawks include all three morphs (dark, intermediate, and light), adults, immatures, juveniles, and chicks. Burrowing owl observations include adults and juveniles.

Relevant Project Experience

Energy and Fuels

Corby Battery Energy Storage—NextEra Energy Resources, Solano County, California, 05/2024 – Present

Wildlife Biologist. Kaitlin is conducting burrowing owl protocol-level surveys to determine nesting presence and habitat use at the project site and in the project vicinity. Incidental special-status wildlife observations include adult and juvenile (starting at chick life stage) Swainson's hawks.

Number of Survey Days Completed on the Project – 5 days

Rosemary Solar and Storage System Complex Project—Longroad Energy, Fresno County, California, 05/2024 – Present

Wildlife Biologist. Kaitlin is conducting burrowing owl breeding and non-breeding protocol-level surveys to determine nesting presence and habitat use at the project site and in the project vicinity. Observations include adult burrowing owls and successful nesting with maturation of juveniles, in addition to foraging behaviour. Incidental special-status wildlife observations include northern harriers, loggerhead shrikes, a kangaroo rat, and adult, immature, and juvenile Swainson's hawks.

Number of Survey Days Completed on the Project – 9 days

Arboleda Battery Energy Storage—NextEra Energy Resources, Sacramento County, California, 03/2024 – 10/2024

Wildlife Biologist. Kaitlin conducted Swainson's hawk and burrowing owl breeding protocol-level surveys to determine nesting presence at the project site and in the project vicinity. Adult dark morph, intermediate morph, and light morph Swainson's hawks were observed, along with successful nesting and chick maturation and fledging.

Number of Survey Days Completed on the Project – 15 days

Las Camas Solar Development Project—EDP Renewables, Merced County, California, 11/2022 – Present

Wildlife Biologist. Kaitlin prepared the wildlife section of the biological resources chapter for the EIR. She prepared the environmental setting and analyzed and developed mitigation measures for seven special-status species. Kaitlin also conducted protocol-level nesting surveys for Swainson's hawk. Kaitlin is continuing to provide biological resources technical support throughout development of the EIR.

Number of Survey Days Completed on the Project – 3 days

Wright Solar Park Project—Clenera Renewables, Merced County, California, 11/2022 – 04/2023

Wildlife Biologist. Kaitlin conducted avian mortality surveys—including for western burrowing owl—and protocol-level Swainson's hawk nesting surveys at the project site and mitigation lands to fulfil monitoring requirements.

Number of Survey Days Completed on the Project – 3 days

Transportation—Roads, Bridges, Highways, and Railroads

Madera High Speed Rail Station Full Build Project—RailPros, Inc., Madera County, California, 03/2024 – Present

Wildlife Biologist. Kaitlin conducted the general wildlife survey and habitat assessment and is supporting preparation of the BRTR. Special-status wildlife observed during field work included Swainson's hawks.

Number of Survey Days Completed on the Project – 1 day

Water

Upper Swanston Ranch Irrigation Improvements Project—Department of Water Resources, Yolo County, California, 01/2023 – Present

Wildlife Biologist. Kaitlin co-authored the wildlife section of the BRTR and prepared the environmental setting, species accounts, and biological constraints for eight special-status species. Currently she is conducting the second season of Swainson's hawk protocol-level breeding surveys to determine nesting presence at the project site and in the vicinity of the project. Observations include adult dark morph, intermediate morph, and light morph Swainson's hawks, along with successful nesting and chick maturation and fledging.

Number of Survey Days Completed on the Project – 3 days

Healthcare Infrastructure

UC Davis Health Sacramento Campus North-South Tower, California Hospital Tower Phase 3A, and Parking Structure 7 Projects—University of California, Davis, Sacramento, California, 03/2024 – 07/2024

Wildlife Biologist. Kaitlin conducted surveys to fulfill pre-construction monitoring requirements for multiple projects at the UC Davis Sacramento Campus. Surveys included pre-demolition clearance surveys and habitat assessments for structure-nesting birds and roosting bats, and tree and vegetation removal clearance surveys for tree- and ground-nesting birds at and in the vicinity of the project site. Avian species of concern included western burrowing owl, purple martin, Swainson's hawk, and white-tailed kite.

Number of Survey Days Completed on the Project – 3 days

Employment History

ICF. Wildlife Biologist. Sacramento, California. 11/2022 – Present.

U.S Geological Survey. Biological Science Technician. Dixon, California. 04/2022 – 08/2022.

California Department of Fish and Wildlife. Scientific Aide. Rancho Cordova, California. 01/2020 – 04/2022.

ICF. Biologist Intern. Sacramento, California. 07/2015 – 09/2015 and 06/2019 – 05/2020.

UC Davis and U.S. Geological Survey. Northern Harrier Research Intern. Dixon, California. 01/2019 – 07/2019.

UC Davis and California Department of Fish and Wildlife. Salt Marsh Harvest Mouse Research Intern. Davis, California. 01/2018 – 11/2018.

UC Davis School of Veterinary Medicine. Curriculum Development Student Intern. Davis, California. 09/2015 – 09/2018.

Years of Experience
Professional start date: 09/2016
ICF start date: 04/2022

Education
B.S., Biology, Hobart College, 2016

Certifications/Registrations
Certified Ecological Restoration Practitioner (CERP; No. 0578)

CDFW Plant Voucher Collecting Permit (No. 2081(a)-21-006-V)

California Rapid Assessment Method (CRAM) Certified

Trainings
Wetland Delineation Training – Wetland Training Institute

Advanced Wetland Delineation Training – WRA

Joe Sanders, CERP

Botanist / Restoration Ecologist / Wetland Ecologist

Joe is trained in habitat restoration and wetland and plant ecology and has extensive experience planning, implementing, monitoring, and adaptively managing numerous native vegetation restoration efforts (e.g., grassland, riparian, oak woodland, vernal pool, and tidal marsh). Joe conducts restoration feasibility and approach studies and prepares habitat mitigation and monitoring plans. Joe also leads complex floristic surveys and aquatic resource delineations. His focused field survey experience includes special-status and invasive plants, aquatic resource delineations, and restoration monitoring.

Project Experience

Caltrans San Joaquin, Calaveras, Merced – Madera, Stanislaus, and Alpine Broadband Projects. 05/2022 – 03/2023

Wetland Ecologist. Botanist. Joe led multiple crews to perform aquatic resources delineations and special-status plant surveys of approximately 4,647 acres of land, consisting of uplands, drainages, seeps, vernal pools and alkali wetlands.

Number of Survey Days Completed on the Project – 50

Sunol Valley Upland Tree Replacement, San Francisco Public Utilities Commission, Sunol Valley, CA. 2018- 2022

Restoration Ecologist. Joe conducted monitoring of oak woodland plantings in the Sunol Valley from 2018-2021. Joe oversaw contractors that worked on tree basin maintenance and irrigation removal and provided guidance to successfully transplant 20, 5-year-old oak tree plantings. Joe wrote the restoration monitoring annual reports and provided adaptive management solutions to meet restoration performance criteria.

Number of Survey Days Completed on the Project – 30

Mill Site OU-E Mitigation Monitoring, Kennedy Jenks, Fort Bragg, CA. 2018 – 2022.

Restoration Ecologist. Over 30 acres of wetland and riparian habitat were restored after soil remediation activities occurred. Joe led the restoration monitoring of this area from 2018 to 2021, mainly studying hydroseed establishment and invasive plant encroachment. Joe also performed special-status plant surveys and aquatic resources delineation of the site. Joe wrote the annual monitoring reports and provided adaptive management solutions to meet performance criteria. Joe also oversaw contractors implementing adaptive management activities, including invasive plant treatments and supplemental seeding.

Number of Survey Days Completed on the Project – 24

Los Vaqueros Reservoir Expansion Phase II — Contra Costa Water District, Contra Costa County, CA, 07/2018 – 03/2022

Botanist, Wetland Ecologist, Restoration Ecologist. Joe performed special-status plant surveys for the project, mapping new populations of San Joaquin spearscale and Crownscale. Joe also

performed the aquatic resources delineation of the site. Lastly, Joe wrote the restoration and adaptive management for the project, helping plan the restoration of vernal pool, riparian and stream habitats.

Number of Survey Days Completed on the Project – 40

Lookout Slough Restoration Project — Ecosystem Investment Partners, Liberty Island, CA, 08/2021 – 10/2021

Botanist, Wetland Ecologist. Joe performed an aquatic resources delineation survey for an added portion of the project. Joe performed a special-status plant survey of this area, documenting a new population of Suisun Marsh aster. Lastly, Joe documented existing vegetation along elevation gradients to inform restoration design.

Number of Survey Days Completed on the Project – 5

Sites Reservoir Project – Maxwell, CA, 2023 - Current

Botanist, Wetland Ecologist. Joe has been leading the aquatic resources delineation and special-status plant surveys to support project permitting and mitigation strategies.

Number of Survey Days Completed on the Project – 50

DWR Storm Damage Emergency Repairs — Department of Water Resources, Sacramento County, CA, 03/2019 – 08/2020

Botanist, Wetland Ecologist. Joe led the aquatic resources delineation and special status plant surveys within 15 of the Phase 4 and 5 repair sites. Joe also assisted in preparing a biological assessment (BA) to assess potential effects on special status species.

Number of Survey Days Completed on the Project –26

San Anselmo Flood Risk Reduction Project — Marin County Flood Control and Water Conservation District, Fairfax and San Anselmo, CA. 04/2019 – 03/2022

Botanist, Wetland Ecologist, Restoration Ecologist. Joe conducted special-status plant surveys and an aquatic resources delineation of the site, helped inform the planting design for the restoration components of the project, and wrote the restoration and adaptive management plan.

Number of Survey Days Completed on the Project – 10

Gallagher EWP Stream Channel Repair and Restoration Project. North Marin Water District, Point Reyes Station, CA. 10/2021-11/2021

Botanist, Wetland Ecologist. Joe led the special-status plant surveys and reporting. Joe also led the aquatic resources delineation survey and reporting.

Number of Survey Days Completed on the Project – 3

Zone 7 2020 Maintenance Repairs, Zone 7 Water Agency, Livermore, CA. 10/2019-12/2022

Wetland Ecologist, Restoration Ecologist. Joe led the aquatic resources delineation and reporting for the repair sites. Joe also wrote the restoration and adaptive management plan, helping restore wetland and riparian habitats impacted by the project.

Number of Survey Days Completed on the Project – 50

Lower Elkhorn Bypass Levee Setback Project, Department of Water Resources, Sacramento, CA, 2019 – 2022

Restoration Ecologist. The department of Water Resources set back levees protecting the Lower Elkhorn Basin, including the Sacramento Bypass North Levee and a portion of the Yolo Bypass East Levee, thereby increasing the capacity of the Yolo and Sacramento bypasses and reducing flood risk. This project also implemented ecosystem elements designed to increase ecological integrity functions and values within the project footprint. Joe oversaw the planning and implementation of over 600 acres of

native grassland and riparian restoration, reviewing restoration designs and plans, experimental studies, contractor submittals, and restoration activities.

Number of Survey Days Completed on the Project – 100

Geysers Panicum Monitoring — Calpine Corporation, Middletown, CA, 09/2018– 09/2021

Botanist, Biologist. Joe monitored existing populations of Geyser's panicum in the Sulphur Creek watershed as part of a Memorandum of Understanding by and between Geysers Power Company, LLC. And the California Department of Fish and Wildlife.

Number of Survey Days Completed on the Project – 10

Lower American River Resource Assessment — Sacramento, CA, 09/2018 – 11/2021

Botanist, Biologist. This project involved documenting natural resources along the first 14 miles of the Lower American River. Joe mapped vegetation to the alliance level according to the Manual of California Vegetation (MCV). Joe performed elderberry surveys for the valley elderberry longhorn beetle according to USFW guidelines, and conducted habitat mapping using Standard Assessment Methodology (SAM) and Shaded Riverine Aquatic (SRA) cover. Joe performed special-status plant surveys bank repair sites, mapping new populations of Sanford's arrowhead. Joe also conducted the aquatic resources delineations and tree inventories.

Number of Survey Days Completed on the Project – 200

Austin Kozlowski, BS

Wildlife Biologist

RELEVANT EXPERIENCE

Austin is a wildlife biologist on ICF's Biological Sciences team with over nine years of experience conducting wildlife and biodiversity surveys to inform resource assessment and management projects throughout California. Austin's project experience includes conducting protocol level surveys for sensitive species, including burrowing owl, Swainson's hawk, and San Joaquin kit fox. Additionally, he has experience performing biological monitoring on construction sites, nesting bird and report surveys, and amphibian surveys (including California red-legged frog, foothill yellow-legged frog, and western pond turtle). In addition to his survey experience, Austin has experience preparing various environmental reports, including biological resources technical reports, Initial Studies (IS), and Mitigated Negative Declarations (MNDs). Austin has also attended trainings and workshops on the ecology and survey techniques for various wildlife species, including California red-legged frog, foothill yellow-legged frog, western pond turtle, California tiger salamander, and Yosemite toad.

RELEVANT PROJECT EXPERIENCE

Rosemary Solar and Storage System Complex Project, Longroad Energy, Fresno County, California, 06/2024–Present

Wildlife Biologist. Conducting burrowing owl protocol-level surveys (breeding and non-breeding) to determine nesting presence at the project site and in the project vicinity. Adult burrowing owls have been observed, including adults and successful nesting with maturation of chicks. Incidental special-status wildlife observations include northern harriers, loggerhead shrikes, and adult and immature Swainson's hawks.

Number of Survey Days Completed on the Project – 6 days

Corby Battery Energy Storage, NextEra Energy Resources, Solano County, California, 05/2024–Present

Wildlife Biologist. Conducting burrowing owl and Swainson's hawk protocol-level surveys (breeding and non-breeding) to determine nesting presence at the project site and in the project vicinity. Incidental special-status wildlife including adult and chick Swainson's hawks were also observed.

Number of Survey Days Completed on the Project – 2 days

Las Camas Solar Park Project, Las Camas Solar Park LLC, Los Banos, CA, 03/2024–Present

Wildlife Biologist. Conducted wildlife surveys and habitat assessments on proposed mitigation lands to support mitigation planning for the main project site. Species surveyed for included

Years of Experience

ICF start date: 06/2017

Professional start date: 10/2015

Education

BS, Wildlife, Fish, and Conservation Biology, University of California, Davis, 2019

Certification and Trainings

Wilderness First Aid and CPR/AED certification, 2023

Scuba Open Water certification, 2013

ICF approved Snorkel Surveyor, 2024

Flying in the Wire and Obstruction Environment & Crew Resource Management, 2019

Professional Affiliations

Member, The Wildlife Society (TWS), 2017 – Present

Member, TWS–Westen Section, 2019 – Present

Member, TWS Sacramento-Shasta Chapter, 2018 – Present

Professional Development

CEQA for Biologists, ICF, 2023

Developing and Writing CEQA and NEPA Documents, ICF, 2024

Rare Pond Species Survey Techniques Workshop, Laguna de Stanta Rosa Foundation, 2024

Yosemite Toad approved monitor, Sierra and Eldorado National Forests, 2024

Swainson's hawk, burrowing owl, San Joaquin kit fox, and elk. Surveys included general habitat assessments and deploying baited trail cameras. Additionally, conducting western burrowing owl surveys at the proposed development and substation expansion sites.

Number of Survey Days Completed on the Project – 7 days

Arboleda Battery Energy Storage, NextEra Energy Resources, Sacramento County, California, 03/2024–10/2024

Wildlife Biologist. Conducted burrowing owl protocol-level surveys (breeding and non-breeding) to determine nesting presence at the project site and in the project vicinity. Incidental Swainson's hawks observed included adult dark, intermediate, and light morphs, as well as successful nesting and chick maturation and fledging.

Number of Survey Days Completed on the Project – 4 days

Wright Solar Park Environmental Impact Monitoring, Wright Solar Park LLC, Los Banos, CA, 02/2024–Present, 03/2020

Wildlife Biologist. Performing burrow surveys for potential San Joaquin kit fox burrows to mark burrows for avoidance during weed treatment and mowing operations. Incidental special-status wildlife observed included Swainson's hawk, loggerhead shrike, and burrowing owl. Additionally, Performed avian carcass surveys to monitor the impact of the solar farm on resident and migratory birds. Duties included conducting carcass surveys along rows of solar panels and adjacent wildlife corridors, recording areas searched in daily logs, and identifying detected carcasses to species. Additionally, surveyed adjacent wildlife corridors for mammal burrows before mowing work was to be completed.

Number of Survey Days Completed on the Project – 28 days

Mid California Well Waterline Infrastructure project, AKT Investments, Inc, Santa Nella, CA, 11/2023–12/2023

Wildlife Biologist. Performed surveys for San Joaquin kit fox and burrowing owls in accordance with environmental permits. Work involved surveying along transects for active burrow sites within the project area and surrounding buffer zone, deploying remote cameras to monitor burrow activity, plugging inactive burrows within the project area, and providing WEAT trainings to the construction crews. Additionally, prepared memos detailing survey results and mitigation measures taken for candidate burrows in the project area.

Number of Survey Days Completed on the Project – 4 days

EMPLOYMENT HISTORY

ICF. Wildlife Biologist. Sacramento, California. 11/2023 – Present.

ICF. On-Call Biologist. Sacramento, California. 06/2017 – 11/2023.

California Department of Fish and Wildlife. Scientific Aide. West Sacramento, California. 03/2022 – 11/2023.

California Department of Fish and Wildlife. Scientific Aide. Rancho Cordova, California. 09/2020 – 03/2022.

California Department of Fish and Wildlife. Scientific Aide. Sacramento, California. 06/2019 – 09/2020.

Cache Creek Conservancy. Field Intern. Woodland, California. 01/2019 – 06/2019.

U.C. Davis Canine Diversity Lab. Field Intern. Davis, California. 10/2015 – 06/2016.

Years of Experience

Professional start date: 12/2007

ICF start date: 06/2024

Education

- BS, Environmental Biology and Management (minor in Medical/Veterinary Entomology), University of California, Davis, 2007

Certifications/Registrations

- USFWS Section 10(a)1(A) Recovery Permit for Large Listed Vernal Pool Branchiopods and California red-legged frog, No. TE-32290D
- Qualified SWPPP Practitioner, No. 26879
- Certified Erosion, Sediment, and Stormwater Inspector, No. 00005089
- Basic Wetland Delineation Certificate, Wetland Training Institute
- Xerces Society Workshop Scientific Collector's Permit for State-Listed Bumble Bees. No. 210530001-21053-001

Michael Scaffidi

Senior Biologist

RELEVANT EXPERIENCE

Michael Scaffidi is a biologist with 16 years of experience conducting special-status species surveys, nesting bird surveys, and habitat assessments for a variety of special-status plants, invertebrates, amphibians, reptiles, birds, and mammals. He is a USFWS 10(a)(1)(A) permit holder for California red-legged frog and vernal pool branchiopods and is in the process of adding California tiger salamander to his list of authorized species. Michael's background includes conducting protocol endangered species surveys, pre-construction nesting bird monitoring, and wetlands delineations; providing stormwater and environmental compliance inspections and preparing reports for regulatory and resources agencies; and developing incidental take permit applications and Section 7 biological evaluations.

PROJECT EXPERIENCE

Mulqueeney Ranch Wind Project, California, 2024–Ongoing
Senior Biologist. Mike provides up to 60 hours of construction monitoring and conducts 30 hours of surveys for nesting birds, special-status wildlife, including San Joaquin kit fox, California tiger salamander, burrowing owl, Alameda whipsnake, American badger, and rare plants. Up to 30 occurrences of burrowing owl were observed.

Number of survey days completed on the Project: 3
Number of monitoring days completed on the Project: 5

Undergrounding Program, Pacific Gas and Electric Company (PG&E), Service Territory, California, 2024–Ongoing
Senior Biologist. Mike conducts 100's of hours of surveys for nesting birds, special-status wildlife, and plant species, wetland assessments, ERTC trainings, mapping, walkdowns, and report writing in Salesforce.

Number of survey days completed on the Project: 10
Number of monitoring days completed on the Project: 7

Fuel Leak Preconstruction Surveys, APTIM, Travis Air Force Base, California, 2023–2024
Senior Biologist. Mike provided 100 hours of construction monitoring for California tiger salamander, vernal pool fairy shrimp, western pond turtle, burrowing owl, and Contra Costa Goldfields habitat. He performed instream kick net surveys for macroinvertebrates.

Number of survey days completed on the Project: 5
Number of monitoring days completed on the Project: 12

Tracy Hills Phase 2 Biological Permitting, Integral Communities, Tracy, California, 2022–2024
Senior Biologist. Mike conducted 100's of hours of construction monitoring and special-status species surveys including burrowing owl and CTS burrow excavations and California red-legged frog, California tiger salamander, San Joaquin kit fox, Swainson's hawk, loggerhead shrike, northern harrier, western spadefoot toad, and American badger habitat. Up to six burrowing owls were observed with many occurrences. Conducted WEAP trainings and prepared daily monitoring reports.

Number of survey days completed on the Project: 20
Number of monitoring days completed on the Project: 75

San Pablo Reservoir Tree Removal, East Bay Municipal Utility District (EBMUD), Contra Costa County, California, 2021 - 2024
Senior Biologist. Mike conducted routine special-status species surveys and monitoring for 100's of hours for Alameda whipsnake, California red-legged frog, pallid bat, bald eagle, golden eagle, and western pond turtle for the removal of Monterey pine trees throughout the San Pablo Reservoir in the City of Orinda East Bay Municipal Utility District's Habitat Conservation Plan. Monitored golden eagle nesting and documented fledging of young.

Number of survey days completed on the Project: 40
Number of monitoring days completed on the Project: 10

Carson Creek Village Housing Development, Lennar Communities, Sacramento County, California, April 2022 – 2024
Senior Biologist. Mike provided 100+ hours of construction monitoring, nesting bird and special-status species surveys for tricolored blackbird, burrowing owl, Swainson's hawk, western pond turtle, and western spadefoot toad. Conducted WEAP trainings and prepared daily monitoring reports. Burrowing owl was present on the project.

Number of survey days completed on the Project: 6
Number of monitoring days completed on the Project: 20

The Ranch Housing Development, K. Hovnanian Homes, Sacramento County, California, May 2022 – Nov 2023
Senior Biologist. Mike provided up to 80 hours of construction monitoring, nesting bird and special-status species surveys for burrowing owl, Swainson's hawk, and western spadefoot toad in Rancho Cordova. Conducted WEAP trainings and prepared daily monitoring reports.

Number of survey days completed on the Project: 5
Number of monitoring days completed on the Project: 15

Natomas Fountains Apartments Preconstruction Survey, Hines Construction, Sacramento, California, 2022
Senior Biologist. Mike conducted 24 hours of habitat assessments and preconstruction special-status Natomas Basin Habitat Conservation Plan (NBHCP) species including giant garter snake, burrowing owl, Swainson's hawk, bank swallow, tricolored blackbird, valley elderberry longhorn beetle, white-faced ibis, cackling goose, loggerhead shrike, and large listed vernal pool branchiopods. Prepared preconstruction survey report for submission to NBHCP.

Number of survey days completed on the Project: 2
Number of monitoring days completed on the Project: 4

PG&E Wildfire Safety Inspection Program, PG&E, North Valley, California, 2018 - 2020
Senior Biologist/Lead Environmental Inspector. Mike conducted 100's of hours of wildlife surveys for dozens of transmission lines in Butte, Plumas, Placer, Sacramento, Solano, and Yolo Counties. Performed nesting bird, special-status species surveys, biological monitoring, and environmental inspection. Conducted surveys and biological monitoring in California red-legged frog (Placer County) and California tiger salamander habitat (Solano County). Performed osprey nest monitoring and other raptor nest surveys around Lake Oroville. Led a team of inspectors developing the schedules and providing tasks and guidance to team members. Conducted WEAP trainings and prepared daily monitoring reports.

Number of survey days completed on the Project: 20
Number of monitoring days completed on the Project: 75

Byron Airport Habitat Management Lands, Contra Costa County Airports, Contra Costa County, California, 2021
Senior Biologist. Mike conducted 48 hours of surveys for burrowing owl, San Joaquin kit fox and California tiger salamander for sections of 814 acres of conservation easement surrounding Byron Airport in Contra Costa County as part of the Airport's Habitat Management Land Management Plan. Conducted data collection for detected burrowing owl and SJKF signs. Performed larval dip netting surveys in CTS habitat.

Number of survey days completed on the Project: 4
Number of monitoring days completed on the Project: 0

AT&T Airline Highway Telecommunications, AT&T, San Benito County, California, 2021 - 2022
Senior Biologist/Lead Environmental Inspector. Mike was the Senior Biologist and Lead EI and provided 100's of hours for special-status species surveys, wetlands assessment, vernal pool dry sampling, and reporting for project located in Paicines. Project located in California red-legged frog Critical Habitat, as well as habitat for California tiger salamander, San Joaquin kit fox, California condor, burrowing owl, and large listed vernal pool branchiopods. Wrote the Biological Evaluation (BE). Performed protocol branchiopod dipnet surveys, biological monitoring for vernal pool branchiopods and California tiger salamander. Detected CTS eggs in ponds on site and salvaged one dead CTS. Conducted WEAP trainings and prepared daily monitoring reports.

Number of survey days completed on the Project: 10
Number of monitoring days completed on the Project: 20

Missouri Flat-Gold Hill 115 kV Powerline Reconductoring, PG&E, Sacramento and El Dorado Counties, California, 2016 - 2018
Environmental Compliance Manager, Senior Biologist, and Lead EI. Mike was the Environmental Compliance Manager, Senior Biologist, and Lead EI and provided 1000's of hours of construction monitoring and special-status species surveys for this two-year construction project to upgrade 26 miles of poles and conductor in Sacramento and El Dorado Counties. Responsibilities included conducting or arranging all pre-construction nesting bird and special-status species surveys, including Swainson's hawk and burrowing owl; preparing associated reports for regulatory and resource agencies; creating the Worker Environmental Awareness Program (WEAP) trainings; providing formal and tailboard WEAP for all crews working on the project; participating in weekly construction meetings and representing all environmental interests; scheduling Environmental Inspectors and biologists; conducting or arranging all necessary construction monitoring; interfacing and problem-solving with construction crews to avoid impacts to environmental resources; and otherwise ensuring compliance with the project's permit terms and conditions.

Number of survey days completed on the Project: 75
Number of monitoring days completed on the Project: 100

South Bay Substation Relocation, SDG&E, San Diego County, California, 2015
Environmental Inspector/Biologist. Mike conducted 100's of hours of environmental inspections and biological monitoring for the 12-acre Bay Boulevard Substation located in Chula Vista. Documented construction activities, environmental and biological mitigation, archaeological and paleontological mitigation, storm water mitigation, hazardous materials

mitigation, and waste management mitigation. Conducted nesting bird surveys, including for burrowing owl, and nest monitoring for active nests during the nesting season.

Number of survey days completed on the Project: 4
Number of monitoring days completed on the Project: 60

East County Substation, SDG&E, San Diego County, California, 2013 - 2014
Environmental Inspector/Biologist. Mike conducted 1000's of hours of environmental inspection and biological monitoring for the 14-mile long East County Substation project located in Jacumba and Boulevard in San Diego County. Monitored the construction of a 90-acre substation, a 10-acre substation, two underground transmission lines totaling over 14 linear miles, and 7 linear miles of overhead transmission lines. Documented construction activities, environmental and biological mitigation, archaeological and paleontological mitigation, storm water mitigation, hazardous materials mitigation, and waste management mitigation. Conducted nesting bird surveys and nest monitoring during bird nesting season. Provided oversight of the restoration phase of the project.

Number of survey days completed on the Project: 20
Number of monitoring days completed on the Project: 200

Freeport Regional Water Authority Pipeline, Freeport Regional Water Authority, Sacramento County, California, 2008
Wildlife Biologist/Biological Monitor. Mike provided 100's of hours of biological monitoring for an 18-mile pipeline stretching from the Sacramento River to the South Folsom Canal in Sacramento County. Conducted compliance monitoring; special-status species surveys, including burrowing owl; best management practices inspection; and restoration inspection. Documented daily inspections onto environmental compliance forms submitted to the project manager and periodically submitted evaluations of the Storm Water Pollution Prevention Plan (SWPPP).

Number of survey days completed on the Project: 4
Number of monitoring days completed on the Project: 100

ROSS WILMING

Senior Wildlife Biologist

Ross Wilming is a senior wildlife biologist with over 20 years of experience. He holds a 10(a) federal Recovery Permit for California clapper rail (also known as California Ridgway's rail and is included on the List of Authorized Individuals (LAI) for ICF's USFWS 10(a)1(A) recovery permit to independently conducted surveys for California tiger salamander and California red-legged frog. He works with a wide range of clients including local, state, and federal governments; private developers; public utilities; and military installations. Ross prepares a variety of environmental documents including Environmental Impact Reports (EIRs), Initial Studies (ISs), Mitigated Negative Declarations (MNDs), and biological resources technical reports. He conducts wildlife and plant surveys, including preconstruction and protocol-level surveys for special-status species (including western burrowing owl and Swainson's hawk), habitat assessments, and provides Worker's Environmental Awareness Trainings (WEAT) and environmental compliance monitoring on construction projects. Ross is familiar with the species, habitats, and vegetation communities within California, especially those within the San Francisco Bay Area and Central Valley, and has worked in most counties from Mendocino to San Diego. Ross has participated in specialized training for numerous special-status species including western burrowing owl. He experienced with avian species identification and nesting bird behavior and conducts nesting bird surveys and nest monitoring.

Years of Experience

- Professional start date: 02/2004
- ICF start date: 01/2017

Education

- BS, Biology, University of Iowa, 1998

Certifications/Registrations

- USFWS 10(a)1(A) recovery permit (PER0045259) to conduct surveys for California clapper rail
- Authorized individual on ICF's USFWS 10(a)1(A) recovery permit (TE-795934-13.2) to conduct aquatic survey for California red-legged frog and California tiger salamander; renewal in process

Professional Development

- Purple Martin in the Sacramento Valley Workshop- Western Purple Martin Biology, Conservation, and Survey Techniques Workshop, Sac-Shasta Chapter of the Wildlife Society, 5/24/2023
- Amphibians of the San Francisco Bay Area Workshop, Laguna de Santa Rosa Foundation, 12/2022
- Master-level California Red-Legged Frog Workshop, The Wildlife Project, 2020-2022

Recent Relevant Project Experience

Las Camas Substation Expansion Project—PG&E, Santa Nella, California, 11/2024 – Ongoing

Senior Wildlife Biologist. Ross conducted surveys for western burrowing owl and San Joaquin kit fox prior to the approximate 10-acre expansion of the Las Camas substation located near Santa Nella. Den monitoring that included using tracking medium and remote cameras for four consecutive days was carried out at 18 potential San Joaquin kit fox dens. Two burrowing owls were observed during the survey.

Number of Survey Days Completed on the Project – 6 days

Number of Monitoring Days Completed on the Project – 3 days

U.S. Wind Vasco Herdlyn 60kV Project—PG&E, Livermore, California, 11/2024 – 12/2024

Senior Wildlife Biologist. Ross conducted preconstruction surveys and monitoring for western burrowing owl prior to the replacement of 13 poles located northeast of Livermore. He provided WEAT to project personnel and prepared a daily monitoring log documenting compliance of all construction-related activities.

Number of Survey Days Completed on the Project – 5 days

Number of Monitoring Days Completed on the Project – 5 days

Brighton-Davis 115kV Idle Removal Project—PG&E, Fairfield, California, 10/2024 – 11/2024

Senior Wildlife Biologist. Ross conducted preconstruction surveys for western burrowing owl prior to the burial of tower footings along a 4.5-mile section of removed powerline located east of Fairfield. Ross was CDFW-approved as a 'Designated Biologist' to conduct preconstruction surveys and biological construction monitoring for California tiger salamander. He provided WEAT to project personnel and prepared a daily monitoring log documenting compliance of all construction-related activities. Two burrowing owls were observed during the surveys.

Number of Survey Days Completed on the Project – 3 days

Number of Monitoring Days Completed on the Project – 2 days

Corby Battery Energy Storage Project—NextEra Energy, Vacaville, California, 3/2023- 6/2023

Senior Wildlife Biologist. Ross conducted protocol-level surveys (Period I, III, & V) for Swainson's hawk related to the installation of an electricity storage facility near Vacaville. He recorded quality raptor nesting habitat, nests with raptor potential (during Period I Survey), and active raptor nests including two Swainson's hawk nests within 0.5-mile of facility and related electrical tie-ins; an additional Swainson's hawk nest and an incidental sighting of three burrowing owls were observed just outside the survey area. Ross prepared a biological technical report documenting survey methods and results.

Number of Survey Days Completed on the Project – 7 days

PSP-Jameson 1105 LR466348 PH 1.4—PG&E, Fairfield, California, 3/2023 – 3/2023

Senior Wildlife Biologist. Ross conducted preconstruction surveys for Swainson's hawk prior to operation and maintenance activities (e.g., pole and conductor replacement, undergrounding line) on a 1.4-mile section of electrical distribution line located west of Fairfield. Ross observed two Swainson's hawks and one active nest during the survey.

Number of Survey Days Completed on the Project – 3 days

Longroad Rosemary Solar Project- Longroad Energy 9/2023- 5/2024

Senior Wildlife Biologist. Ross conducted a reconnaissance survey of the 1,312-acre proposed project area to conduct a general habitat delineation, confirm wetland and hydrography data obtained from a desktop review, and determine whether areas of potential biological sensitivity were present. Specific features documented on the project site included locations of water features, mammal burrows with potential for burrowing owl, San Joaquin kit fox, and American badger,

Professional Development (Cont'd)

- Foothill Yellow-legged Frog Ecology and Conservation Workshop, Laguna de Santa Rosa Foundation, 2018
- Salt Marsh Harvest Mouse Symposium, Wildlife Society, 2017
- California Ridgway's Rail Survey Training and Calibration Session State Coastal Conservancy's Invasive Spartina Project (ISP), 2017
- California Tiger Salamander Terrestrial Ecology Workshop, Laguna de Santa Rosa Foundation, 2016
- Western Burrowing Owl Workshop, Elkhorn Slough National Estuarine Research Reserve, 2013
- Giant Garter Snake Workshop, The Wildlife Society (Sacramento-Shasta Chapter), 2011
- Western Pond Turtle Workshop, Elkhorn Slough National Estuarine Research Reserve, 2009
- Rare Pond Species Survey Techniques Workshop (California tiger salamander, California red-Rare Pond Species Survey Techniques Workshop (California tiger salamander, California red-

Professional Affiliations

- The Wildlife Society (TWS): Western Section; California Central Coast and San Francisco Bay Area Chapters

monarch butterfly host plants including narrow leaf milkweed (Asclepias fascicularis). Additionally, Ross recorded quality raptor nesting habitat (including Swainson's hawk) within 1-mile of the project site. During the survey, one Swainson hawk and two burrowing owls were observed and documented. Ross prepared a biological technical report documenting survey methods and results. Ross also conducted Phase I and Phase II (one site visit) surveys for burrowing owl; fourteen burrowing owls and fifteen Swainson's hawks were observed d while conducting the Phase II survey.

Number of Survey Days Completed on the Project – 5 days

California Department of Water Resources (DWR) West False River Emergency Drought Salinity Barrier Arundo Removal Project, Rio Vista, California, 11/2021 – 11/2021

Senior Wildlife Biologist. Ross conducted monitoring for Mason's lilaeopsis (*Lilaeopsis masonii*), pallid and western red bat, giant garter snake, western pond turtle, burrowing owl, song sparrow ("Modesto" population), Swainson's hawk, white-tailed kite, and fish species including delta and longfin smelt, green sturgeon, Sacramento splittail, pacific and river lamprey, starry flounder, steelhead (Central Valley DPS Steelhead) and salmonids (i.e., Central Valley ESU spring-run Chinook Salmon, Central Valley ESU fall- / late fall-run Chinook Salmon, Sacramento River ESU winter-run Chinook Salmon) during giant reed (*Arundo donax)* removal activities along a 0.5-mile section of the Sacramento River southwest of the city of Rio Vista. He prepared a monitoring log documenting compliance of all construction-related activities.

Number of Monitoring Days Completed on the Project – 2 days

Electric Transmission Access Road Maintenance (ARM) Lynch Canyon Roadwork—PG&E, Fairfield, California, 09/2021 – 9/2021

Senior Wildlife Biologist. Ross conducted environmental compliance monitoring, including monitoring for American badger, California red-legged frog, California tiger salamander, burrowing owl, golden eagle, tricolored blackbird, and western pond turtle, during vegetation removal and access road maintenance activities located at Lynch Canyon Open Space and adjacent private property near Fairfield. He provided WEAT to all project personnel and prepared a daily monitoring log documenting compliance of all construction-related activities.

Number of Monitoring Days Completed on the Project – 1 day

North Dublin Substation Grading Plan—PG&E, Dublin, California, 05/2020 – 05/2020

Wildlife Biologist. Ross conducted surveys for burrowing owl around a substation prior to erosion and drainage improvements located north of Dublin. The breeding season survey was conducted following survey methods specified in Appendix D of the CDFW 2012 Burrowing Owl Staff Report.

Number of Survey Days Completed on the Project – 1 day

Lower Yolo Restoration Project—California Department of Water Resources (DWR), Dixon, California, 04/2020 – 05/2020

Wildlife Biologist. Ross conducted California black rail surveys for a wetland restoration project located southeast of Dixon. Surveys were conducted for six minutes at predetermined survey locations adjacent to potential black rail habitat. The three rounds of surveys were conducted at least 10 days apart. Ross was CDFW-approved to survey for black rail. Ross also aided a biologist in monitoring Swainson's hawk nests to confirm nesting activity; four Swainson's were observed, and one nest was confirmed active.

Number of Survey Days Completed on the Project – 2 days

Rooney Ranch Wind Repowering Project—Sustainable Power Group (sPower), Tracy, California, 10/2019 – 10/2019

Wildlife Biologist. Ross conducted a survey to document land cover and aquatic features and assess habitat for special-status wildlife species potential along a proposed 1.1-mile access road located in the Altamonte Pass Wind Resource Area (APWRS) west of Tracy. In addition to nesting birds and raptors, special-status species included in the assessment were longhorn fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, California tiger salamander, Blainville's (coast) horned lizard. San Joaquin kit fox, American badger, western burrowing owl, golden eagle, Swainson's hawk, northern harrier, white-tailed kite, loggerhead shrike, and tri-colored blackbird. Ross prepared a report documenting survey methods and results.

Number of Survey Days Completed on the Project – 1 day

Department of Water Resources (DWR) Bridge Seismic Retrofit Project (EA 10-0P550)—Caltrans (District 10), Merced and Stanislaus Counties, California, 06/2019 – 03/2020

Wildlife Biologist. Ross conducting nesting bird surveys and preconstruction surveys and environmental compliance monitoring for San Joaquin kit fox and Swainson's hawk during bridge seismic retrofit activities at three project sites located near Gustine and Los Banos. Ross conducted daily monitoring at two sites during initial ground-disturbing activities, and then weekly at the three sites for the remainder of the project. Ross monitored active bird nests at two sites, provided WEAT training to construction personnel, prepared daily monitoring logs documenting compliance of all construction-related activities, and prepared the post-construction final monitoring report. Ross was USFWS and CDFW-approved to conducted monitoring for San Joaquin kit fox and Swainson's hawk. One Swainson's hawk was observed while monitoring.

Number of Monitoring Days Completed on the Project – 32 days

Peninsula Corridor Electrification Project (PCEP) —Joint Power Board (JPB), San Francisco to San Jose, 08/2018 – 05/2020.

Wildlife Biologist. Ross carried out oversite of environmental compliance activities (e.g., nesting bird surveys, burrowing owl surveys, construction monitoring) conducted by Dudek during the installation of overhead catenary system (OCS) being installed to provide electric power to Caltrain along the 51-mile corridor between San Francisco and San Jose. Ross prepared daily monitoring logs documenting ongoing construction and monitoring activities and problems observed with monitoring implementation (if any) and provided recommendations to ensure compliance. Ross also monitored two, non-breeding burrowing owls adjacent to the project site to ensure that they were not affected by project activities.

Number of Monitoring Days Completed on the Project – 10 days

Routine Maintenance Agreement (RMA) Project—Contra Costa County Public Works (CCCPW), Brentwood, California, 10/2019 – 10/2019

Wildlife Biologist. Ross was USFWS and CDFW-approved as to conduct preconstruction surveys and biological construction monitoring for California red-legged frog, California tiger salamander, burrowing owl, and western pond turtle during aquatic vegetation (i.e.: cattail and bulrush) removal activities related to flood control at the Deer Creek Basin site in Brentwood. Ross also completed the RMA Species Habitat Assessment Checklists for special-status species (including potential for California red-legged frog, California tiger salamander, burrowing owl, and western pond turtle) for the Lower Sand Creek Basin site in Brentwood.

Number of Monitoring Days Completed on the Project – 2 days

Forebay Wind Decommissioning Project— Sustainable Power Group (sPower), Tracy, California, 07/2018 – 10/2018

Wildlife Biologist. Ross conducted nesting bird surveys and preconstruction surveys and monitoring for California tiger salamander, and monitored for California tiger salamander, California red-legged frog, burrowing owl, and San Joaquin kit fox during the removal of 135 wind turbines located in the Altamont Hills west of Tracy. Ross conducted environmental compliance monitoring, provided WEAT to project personnel, and prepared daily monitoring logs and monthly compliance reports. Ross also aided a botanist conducting plant species cover surveys at 3 project laydown areas. Ross was CDFW-approved to conduct preconstruction surveys, monitor, and handle California tiger salamander. Seven burrowing owls were observed during the surveys.

Number of Monitoring Days Completed on the Project – 29 days

Sand Hill Wind Electrical Line Reroute Project — Sustainable Power Group (sPower), Tracy, California, 09/2018 – 09/2018

Wildlife Biologist. Ross conducted a survey to document land cover and aquatic features and assess habitat for special-status wildlife species potential along a proposed 0.74-mile electrical line reroute located in the Altamonte Pass west of Tracy. In addition to nesting birds and raptors, special-status species included in the assessment were California tiger salamander, California red-legged frog, western pond turtle, San Joaquin kit fox, American badger, western burrowing owl, golden eagle, Swainson's hawk, northern harrier, and white-tailed kite. Ross prepared a report documenting survey methods and results. One Swainson's hawk was observed during the survey.

Number of Survey Days Completed on the Project – 1 day

Rooney Ranch and Sand Hill Meteorological Tower Installation Project — Sustainable Power Group (sPower), Tracy, California, 07/2018 – 07/2018

Wildlife Biologist. Ross conducted preconstruction surveys for burrowing owl prior to construction activities relating to the installation of two meteorological towers located in the Altamont Hills west of Tracy. Ross prepared a report documenting survey methods and results.

Number of Survey Days Completed on the Project – 2 days

Shell Pipeline North 20 Replacement Project, Butts to Gustine- Shell, Gustine, California, 04/2018 – 04/2018

Wildlife Biologist. Ross conducted nesting bird surveys and preconstruction surveys for special-status species including California red-legged frog, California tiger salamander, western burrowing owl, Swainson's hawk, and San Joaquin kit fox prior to construction activities (i.e., potholing and repair) at 18 locations along an existing pipeline corridor located near Gustine. Ross was USFWS-approved to conduct preconstruction surveys for California tiger salamander and San Joaquin kitfox, and CDFW-approved to identify California tiger salamander and San Joaquin kit fox. Ross prepared a report documenting survey methods and results. Eleven Swainson's hawks were observed during the survey.

Number of Survey Days Completed on the Project – 1 day

Shell Pipeline North 20 Replacement Project, Tracy to Windmill— Shell, Tracy, California, 09/2017 – 01/2018

Wildlife Biologist. Ross conducted preconstruction surveys for burrowing owl, San Joaquin kit fox, California tiger salamander, and California red-legged frog prior to construction activities during the replacement of a 3.1-mile section of pipeline located in the Altamont Hills west of Tracy. Conducted passive relocation by using one-way doors on 2 active burrowing owl burrows and 3 burrows with

potential for kit fox; tracking medium was used at the 3 burrows with potential for kit fox prior to installing one-way doors to ensure foxes were not using burrows. Ross provided WEAT to project personnel, conducted environmental compliance monitoring, prepared daily and weekly monitoring logs documenting compliance of all construction-related activities, and conducted Storm Water Pollution Prevention Plan (SWPPP) related inspections. Ross also monitored water levels of Mountain House Creek near a bore pit being continually dewatered. Ross was approved by USFWS to conduct preconstruction surveys and monitor for California tiger salamander and San Joaquin kitfox, and CDFW-approved to handle California tiger salamander and identify San Joaquin kit fox. Eleven burrowing owls were observed during the surveys.

Number of Survey Days Completed on the Project – 1 day

Number of Monitoring Days Completed on the Project – 55 days

Employment History

ICF. Wildlife Biologist. San Francisco, California. 01/2017 – Present.

Garcia and Associates. Wildlife Biologist. San Francisco, California. 09/2005 – 01/2006 and 08/2006 – 12/2016.

U.S. Geological Survey. Biological Science Technician. Vallejo, California. 02/2005 – 07/2005 and 02/2006 – 07/2006.

Conservancy of Southwest Florida. Wildlife Rehabilitation Conservation Associate. Naples, Florida. 02/2004 – 12/2004.

Ellicott Slough National Wildlife Refuge. Biological Science Technician. Watsonville, California. 09/2000 – 10/2000.

Don Edwards San Francisco Bay National Wildlife Refuge. Conservation Associate. Fremont, California. 12/1999 – 08/2000.

APPENDIX 3-D: UPDATED ARDR MAPS

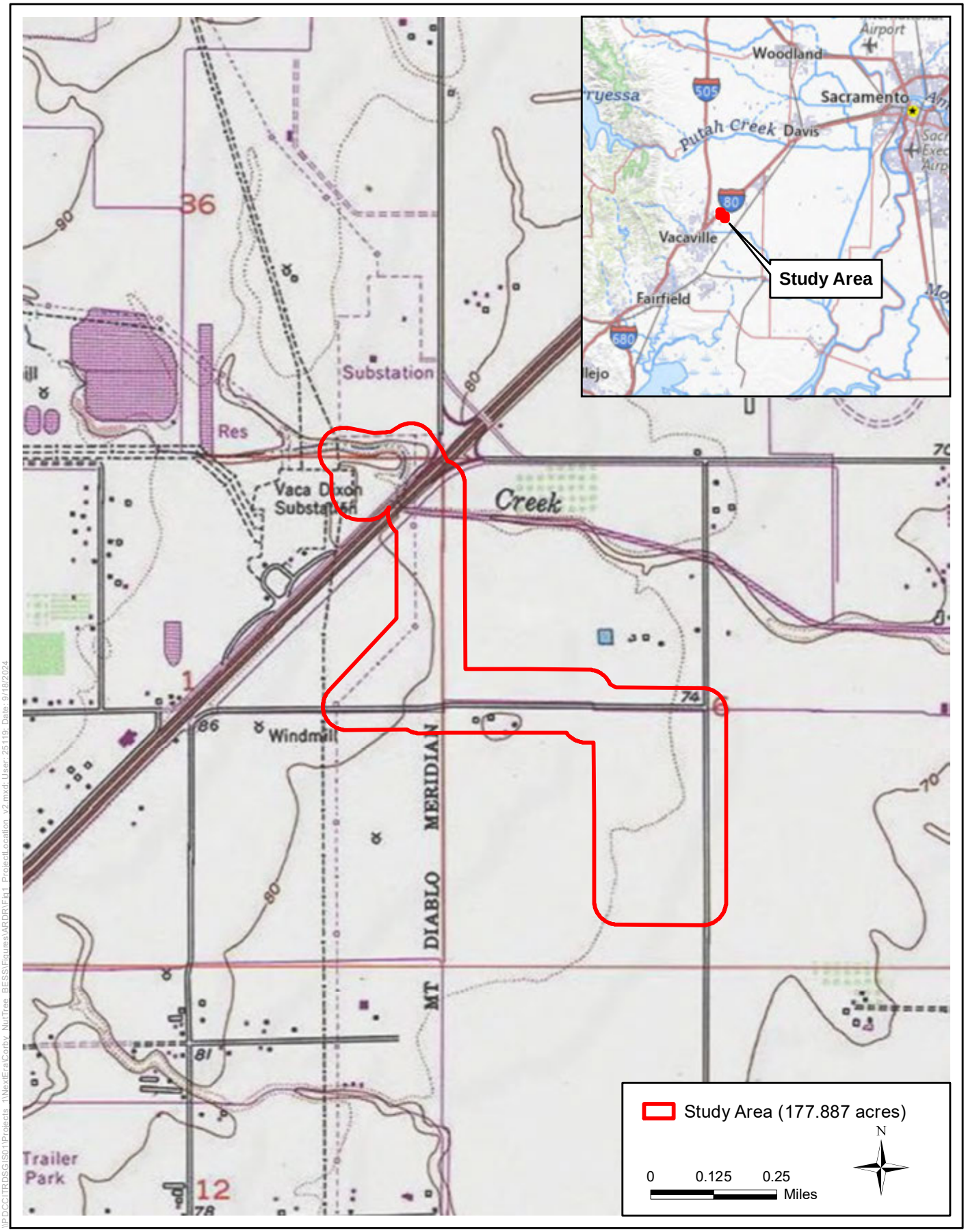


Figure 1-1
Study Area USGS Map

121°55'10"W
121°55'0"W
121°54'50"W
38°24'10"N
38°24'0"N

PG&E Vaca Dixon Substation
PG&E Vaca Dixon Substation
D-10
D-12
D-11
SW-2
D-2
P02
I-80
Weber Road
Flow Direction
IR-1
B-1
D-3
SW-1
P03
D-16
P01
D-15
Gibson Canyon Creek
D-4

Feature ID	Acres	Linear Feet
B-1	0.020	
D-2	0.123	370
D-3	0.170	585
D-4	0.032	130
D-5	0.427	1243
D-7	0.491	1569
D-8	0.316	1133
D-9	0.039	181
D-10	0.022	152
D-11	0.055	237
D-12	0.042	160
D-14	0.021	171
D-15	0.096	1013
D-16	0.098	194
IR-1	0.932	1909
SW-1	0.042	
SW-2	0.034	

Corby Battery Energy Storage System Project
9/18/2024

Study Area (177.887 acres)

Data Point

PhotoPoints

Aquatic Resources

Basin (0.020 acre)

Ditch (1.932 acres; 7,138 linear ft)

Intermittent Riverine (0.932 acre; 1,909 linear ft)

Seasonal Wetland (0.076 acre)

0 100 200
Feet
1 inch = 200 feet

Source: ICF, 2024
Imagery Source: NAIP, 05/20/2022
Datum/Projection: California State Plane II US Ft
Page: 1 of 4

Delineated By: J. Sanders
Delineation Date: May 28, 2024

Path: \\PDC01\RDSGIS01\Projects_1\NextEra\Corby_NutTree_BESS\Figures\ARDR\Fig04_AquaticResourceDelineation.mxd; Author: ; Date: 9/18/2024

ICF

Appendix A
Aquatic Resources Delineation Map

121°55'10"W 121°55'0"W 121°54'50"W

38°23'50"N

38°23'40"N

I-30

D-15

D-14

P05

D-7

Kilkenny Road

D-5

P07

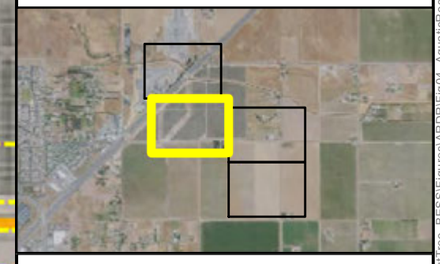
Feature ID	Acres	Linear Feet
B-1	0.020	
D-2	0.123	370
D-3	0.170	585
D-4	0.032	130
D-5	0.427	1243
D-7	0.491	1569
D-8	0.316	1133
D-9	0.039	181
D-10	0.022	152
D-11	0.055	237
D-12	0.042	160
D-14	0.021	171
D-15	0.096	1013
D-16	0.098	194
IR-1	0.932	1909
SW-1	0.042	
SW-2	0.034	

Corby Battery Energy Storage System Project
9/18/2024

- Study Area (177.887 acres)
- Data Point
- PhotoPoints

Aquatic Resources

- Basin (0.020 acre)
- Ditch (1.932 acres; 7,138 linear ft)
- Intermittent Riverine (0.932 acre; 1,909 linear ft)
- Seasonal Wetland (0.076 acre)



0 100 200
Feet
1 inch = 200 feet

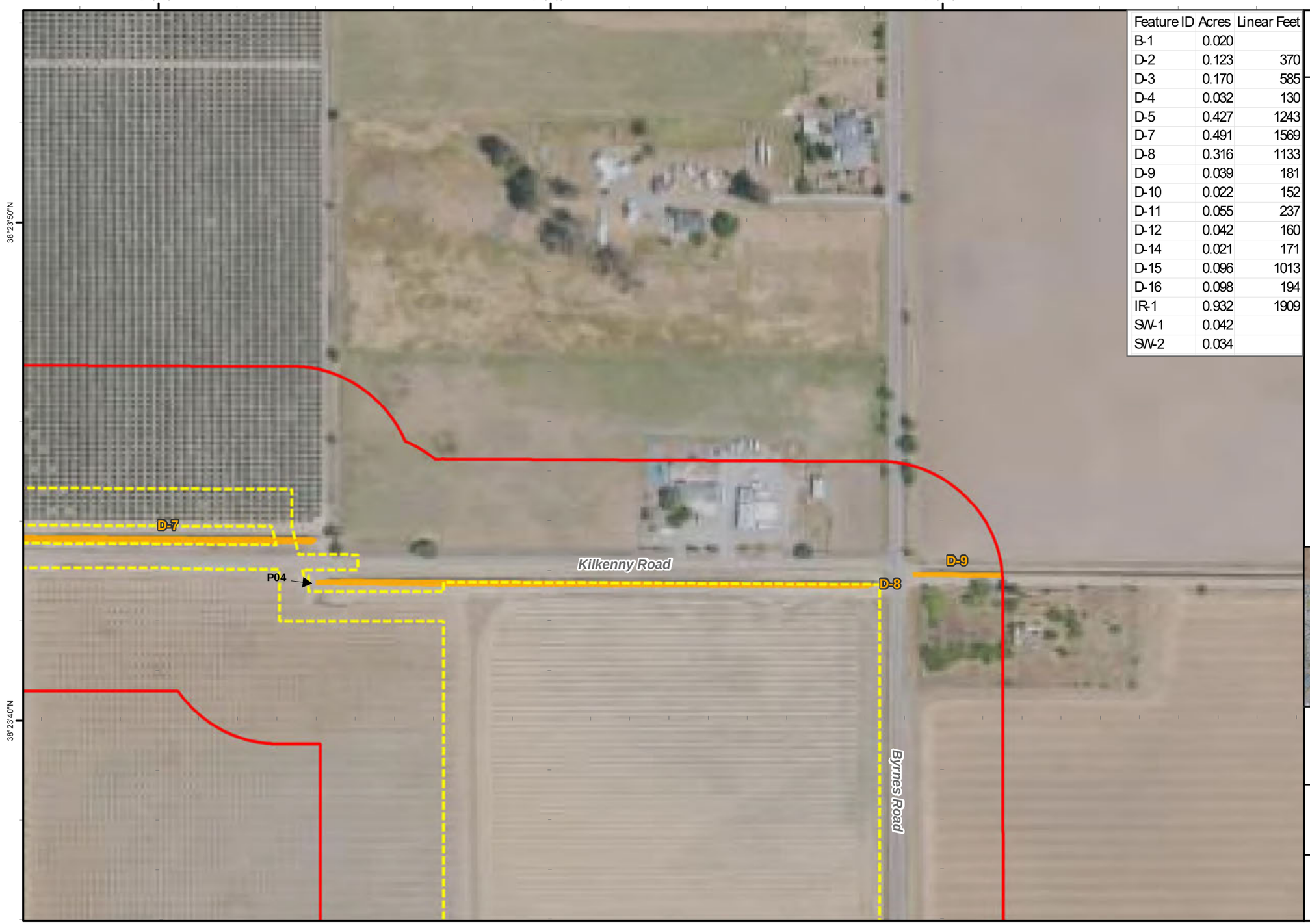
Source: ICF, 2024
Imagery Source: NAIP, 05/20/2022
Datum/Projection: California State Plane II US Ft
Page: 2 of 4

Delineated By: J. Sanders
Delineation Date: May 28, 2024

Path: \\PDCIITRDSGIS01\Projects_1\NextEra\Corby_Nut Tree_BESS\Figures\ARDR\Fig04_AquaticResourceDelineation.mxd; Author: ; Date: 9/18/2024

ICF

Appendix A
Aquatic Resources Delineation Map



Feature ID	Acres	Linear Feet
B-1	0.020	
D-2	0.123	370
D-3	0.170	585
D-4	0.032	130
D-5	0.427	1243
D-7	0.491	1569
D-8	0.316	1133
D-9	0.039	181
D-10	0.022	152
D-11	0.055	237
D-12	0.042	160
D-14	0.021	171
D-15	0.096	1013
D-16	0.098	194
IR-1	0.932	1909
SW-1	0.042	
SW-2	0.034	

Corby Battery Energy Storage System Project
9/18/2024

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- Basin (0.020 acre)
- Ditch (1.932 acres; 7,138 linear ft)
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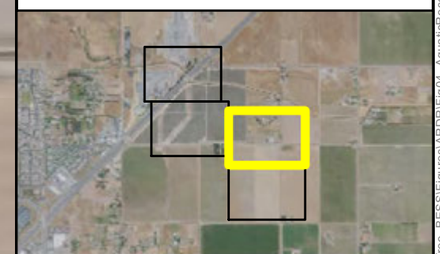
- Seasonal Wetland (0.076 acre)



0 100 200
Feet
1 inch = 200 feet

Source: ICF, 2024
Imagery Source: NAIP, 05/20/2022
Datum/Projection: California State Plane II US Ft
Page: 3 of 4

Delineated By: J. Sanders
Delineation Date: May 28, 2024

Path: \\PDCIITRDSGIS01\Projects_1\NextEra\Corby_NutTree_BESS\Figures\ARDR\Fig04_AquaticResourceDelineation.mxd; Author: ; Date: 9/18/2024

ICF

Appendix A
Aquatic Resources Delineation Map

121°54'40"W

121°54'30"W

121°54'20"W

38°23'30"N

38°23'20"N

P06

Data Point 001

Byrnes Road

Feature ID	Acres	Linear Feet
B-1	0.020	
D-2	0.123	370
D-3	0.170	585
D-4	0.032	130
D-5	0.427	1243
D-7	0.491	1569
D-8	0.316	1133
D-9	0.039	181
D-10	0.022	152
D-11	0.055	237
D-12	0.042	160
D-14	0.021	171
D-15	0.096	1013
D-16	0.098	194
IR-1	0.932	1909
SW-1	0.042	
SW-2	0.034	

Corby Battery Energy Storage System Project
9/18/2024

Study Area (177.887 acres)

Data Point

PhotoPoints

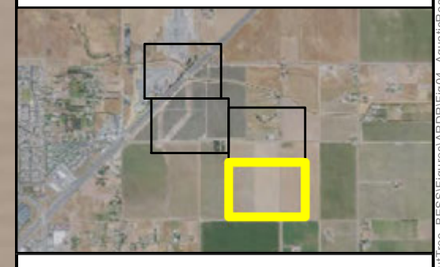
Aquatic Resources

Basin (0.020 acre)

Ditch (1.932 acres; 7,138 linear ft)

Intermittent Riverine (0.932 acre; 1,909 linear ft)

Seasonal Wetland (0.076 acre)



0 100 200
Feet
1 inch = 200 feet

Source: ICF, 2024
Imagery Source: NAIP, 05/20/2022
Datum/Projection: California State Plane II US Ft
Page: 4 of 4

Delineated By: J. Sanders
Delineation Date: May 28, 2024

Path: \\PDCOR\RDSGIS01\Projects_1\NextEra\Corby_NutTree_BESS\Figures\ARDR\Fig04_AquaticResourceDelineation.mxd; Author: ; Date: 9/18/2024

ICF

Appendix A
Aquatic Resources Delineation Map

APPENDIX 3-E: REVEGETATION PLAN

Draft Revegetation Plan

Corby Battery Energy Storage System Project

March 2025

Prepared for

NEXTera ENERGY RESOURCES

700 Universe Boulevard
Juno Beach, FL 33408

Prepared by

TETRA TECH

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Table of Contents

Tables

Figures

Acronyms and Abbreviations

Applicant	North Bay Interconnect, LLC and Corby Energy Storage, LLC
Cal-IPC	California Invasive Plant Council
CEC	California Energy Commission
gen-tie	generation-tie
Plan	Revegetation Plan
Project	Corby Battery Energy Storage System Project

1.0 INTRODUCTION

North Bay Interconnect, LLC and Corby Energy Storage, LLC (Applicant), wholly-owned subsidiaries of NextEra Energy Resources, propose to construct, own, and operate the Corby Battery Energy Storage System Project (Project) located on approximately 40.3 acres of privately owned land in Solano County, California (Figure 1). The Project will include construction of a 300-megawatt, 1,200-megawatt-hour battery energy storage system, associated Project substation, inverters, and other ancillary facilities, such as fencing, sound barrier, access roads, stormwater retention basins, storage containers, and a supervisory control and data acquisition system. The Project will interconnect to the Pacific Gas and Electric Vaca-Dixon Substation, northwest of the Project site, via a 1.1-mile-long, 230-kilovolt generation tie (gen-tie) line. Portions of this gen-tie line would be installed overhead and underground, sited on a gen-tie corridor of approximately 19.4 acres. A gen-tie laydown area of 7.2 acres will be located adjacent to the gen-tie corridor (Figure 2). The 40.3-acre Project site consists of a fallow agricultural field, and the gen-tie corridor and gen-tie laydown area are sited on an existing orchard that will be removed to facilitate construction.

This Draft Revegetation Plan (Plan) has been prepared to address comments received from the California Energy Commission (CEC) in the Project's *Determination of Incomplete Application and Request for Information for the Corby Battery Energy Storage System Project*, dated December 9, 2024. The comment received from the CEC reads as follows:

> ***DR BIO-18:*** *Please submit a draft revegetation plan that includes a comprehensive list of proposed plant species, including quantities and monitoring plan. The revegetation plan should include flowering plants appropriate for monarch butterfly (Danaus plexippus) and Crotch's bumble bee use.*

This Plan includes a summary of proposed restoration for areas temporarily affected during construction of the Project and identifies criteria and reporting to determine whether restoration efforts have been successful.

2.0 RESTORATION AREAS

Restoration areas associated with construction of the Project that would be subject to this Plan are shown on Figure 3 and include:

- Non-permanently impacted areas surrounding the battery energy storage system facility, Project substation, and access roads;
- Laydown areas including areas that will be used for construction trailers, employee parking, and storage of construction materials or equipment;
- Stormwater retention ponds; and
- The gen-tie laydown area and gen-tie corridor from Kilkenny Road to the Vaca-Dixon Substation.

3.0 STABILIZATION AND SEEDING

Upon completion of the Project, the restoration efforts will focus on areas where post-construction conditions have been temporarily degraded due to construction activities, erosion, and vegetation removal. Restoration of construction areas will occur as feasible once construction activities in those areas are completed and no additional non-restoration related ground-disturbing activities would occur. Restoration of temporarily impacted construction areas may occur in a phased fashion as work is completed. Following construction completion, temporarily disturbed areas will be recontoured as needed to match preconstruction conditions, as feasible. After areas are recontoured, the areas may be disked or aerated to aid in revegetation. Reseeding may occur manually through hand-spreading, or mechanically with seed spreaders, blowers, hydroseeders, or in a similar fashion that promotes a largescale broadcast of the seed mix. Reseeded areas may be stabilized as needed with erosion control measures such as jute netting or mulch until the vegetation is established.

An approved weed-free native seed mix will be used on all restoration areas. The seed mix will include a mix of quick-growing, locally native species with an emphasis on grassland species and native wildflowers important to the monarch butterfly (*Danaus plexippus*) and Crotch's bumble bee (*Bombus crotchii*).

A typical mix of quick-growing, perennial native grasses that would be appropriate for the Project that are included in the proposed seed-mix include:

- California brome (*Bromus carinatus*);
- Blue wildrye (*Elymus glaucus*);
- California barley (*Hordeum californicum*); and
- Red fescue (*Festuca rubra*).

Additionally, this Plan includes an assortment of nectar- and pollen-producing plants that may be used by monarch butterflies and Crotch's bumble bees. Monarch butterflies require a diverse assemblage of blooming nectar resources, as well as the presence of their obligate host plant, milkweed (primarily *Asclepias* spp.) for their egg laying (USFWS 2024). Crotch's bumble bees forage on a wide variety of flowering plants and are known to be associated with the plants in the following families: Asclepiadaceae, Compositae (Asteraceae), and Leguminosae (Fabaceae) (Thorp et al. 1983). Crotch's bumble bees also feed on a variety of widely distributed plant genera, including *Asclepias*, *Eschscholzia*, and *Lupinus* (Koch et al. 2012; Williams et al. 2014).

As such, the Plan includes five proposed floral species that are known to be used as nectar, pollen, or host plants for Crotch's bumble bees and/or monarch butterflies. Based on the blooming phenology of these plants, they are expected to be blooming during the colony active season for Crotch's bumble bees (approximately April through August) and be available as a host plant for monarch butterflies. These species include:

- Tomcat clover (*Trifolium willdenovii*; family Leguminosae [Fabaceae]);
- California poppy (*Eschscholzia californica*);
- Bicolor lupine (*Lupinus bicolor*; family Leguminosae [Fabaceae]);

- Yarrow (*Achillea millefolium*; family Compositae [Asteraceae]); and
- Narrowleaf milkweed (*Asclepias fascicularis*; family Asclepiadaceae).

The proposed seed mix, as well as quantities of each seed, is included in Table 1. This seed mix and the pounds per acre may be altered by the Applicant depending on what seeds are locally available for purchase at the time of restoration activities, as long as similar native plant species and pollinator-friendly species are used.

Table 1. Proposed Seed Mix

Common Name	Scientific Name	Pounds Per Acre
California brome	*Bromus carinatus*	12
Blue wildrye	*Elymus glaucus*	10
California barley	*Hordeum californicum*	8
Red fescue	*Festuca rubra*	6
Tomcat clover	*Trifolium willdenovii*	5
California poppy	*Eschscholzia californica*	2
Bicolor lupine	*Lupinus bicolor*	3
Yarrow	*Achillea millefolium*	2
Narrowleaf milkweed	*Asclepias fascicularis*	1

Following application of seeds, all restoration areas would be designated as temporary avoidance areas for all construction and operations and maintenance personnel to allow for timely seed germination and soil stabilization. Avoidance areas may be marked using temporary signage or fencing, as determined necessary by the Applicant.

4.0 MONITORING

The Applicant will monitor the restoration areas to evaluate their recovery status and to identify the need for potential remedial activities. The Applicant is responsible for monitoring and maintaining the restored areas for a period of up to 2 years unless the success criteria are met during the first annual monitoring survey. Once the success criteria are met, subsequent surveys will not be required or completed. Restoration monitoring will be conducted by qualified biologists with experience in California flora identification and vegetation mapping.

Data collected during the monitoring surveys will include, but may not be limited to the following:

- Percent cover of vegetation;
- Percent cover of vegetation in adjacent undisturbed areas with similar habitat;
- Recommendations for maintenance actions (weeding, etc.); and
- Photographs taken from established photograph points.

The following survey schedule will be implemented:

- During the first year following the completion of construction activities, one monitoring event should be conducted in the spring or summer; and

- During the second year following completion of construction activities, one monitoring event should be conducted in the spring or summer.

5.0 SUCCESS CRITERIA

The Applicant shall conduct qualitative surveys that measure percent cover from 0 to 100 percent (measured at 5-percent intervals) for vegetation throughout the restored areas and compare it to percent cover of adjacent undisturbed areas with similar habitat. The Applicant will also assess percent cover of "high" invasive plants identified in the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory Database (https://www.cal-ipc.org/plants/inventory/). The following success criteria will be implemented for the Project:

- The restored areas shall have 70 percent or greater vegetative cover, relative to adjacent undisturbed areas with similar habitat; and
- No more than 15 percent of the vegetation cover shall consist of species designated as "high" invasive plants in the Cal-IPC California Invasive Plant Inventory.

If these success criteria are not reached at the end of the monitoring period, then additional coordination with the CEC will take place to determine appropriate remedial activities.

Establishment of native vegetation and/or establishment of pollinator plant species are not included as success criteria for the Project. This is due to the extremely limited potential for long-term establishment of native plant species given the long history of disturbance on the Project site, large non-native seedbank present, and dominance of non-native vegetation that completely surrounds the small Project site.

6.0 REPORTING

After each monitoring event, a monitoring report documenting the data and results against success criteria will be prepared and provided to the CEC. The monitoring reports will be submitted to the CEC with Annual Compliance Reports.

7.0 REFERENCES

California Invasive Plant Council (Cal-IPC). 2024. Cal-IPC Inventory. Available online at: https://www.cal-ipc.org/plants/inventory/. Accessed on January 29, 2025.

Koch, J., J. Strange, and P. Williams. 2021. *Bumble Bees of the Western United States*. The U.S. Forest Service and the Pollinator Partnership.

Thorp, R.W., D.S. Horning Jr., and L.L. Dunning. 1983. *Bumble Bees and The Cuckoo Bumble Bees of California*. Bulletin of the California Insect Survey 23:1-79.

USFWS (U.S. Fish and Wildlife Service). 2024. Monarch Butterfly (*Danaus plexippus*) Species Status Assessment Report. Version 2.3. Midwest Regional Office. December 2024.

Williams, P.H., R.W. Thorp, L.L. Richardson, and S.R. Colla. (2014). *The Bumble Bees of North America: An Identification Guide.* Princeton University Press, Princeton.

FIGURES

NextEra Energy Corby Battery Energy Storage System Project

Figure 1
Project Location

Solano County, CA

Proposed Features

- Gen-tie (Overhead)
- Gen-tie (Underground; Option 1)
- Gen-tie (Underground; Option 2)
- Gen-tie (Overhead; PG&E)
- Project Site

TETRA TECH

NOT FOR CONSTRUCTION

Reference Map

1:24,000 NAD 1983 StatePlane California II FIPS 0402 Feet

0 1 2 Miles

Source: ESRI, USDA NAIP, US CENSUS, BTS

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NextEra Energy
Corby Battery Energy Storage System Project

Figure 2
Project Layout

Solano County, CA

Proposed Features

- Proposed Pole
- Gen-tie (Overhead)
- Gen-tie (Underground; Option 1)
- Gen-tie (Underground; Option 2)
- Sound Barrier
- Access Road
- Construction Laydown Area
- Gen-tie Corridor (Option 1)
- Gen-tie Corridor (Option 2)
- Gen-tie Laydown Area
- BESS Array
- Project Site
- Stormwater Pond
- Project Substation
- New Corby Bay

PG&E Features

- Pole Locations (PG&E)
- Gen-tie (Overhead; PG&E)

TETRA TECH

NOT FOR CONSTRUCTION

Reference Map

1:6,500 NAD 1983 StatePlane California II FIPS 0402 Feet

0 0.25 0.5 Miles

Source: ESRI, USDA NAIP, US CENSUS, BTS

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NextEra Energy
Corby Battery Energy Storage System Project

Figure 3
Project Impacts

Solano County, CA

Proposed Features

Permanent Impacts

- Stormwater Pond
- Project Substation
- BESS Area
- Access Road

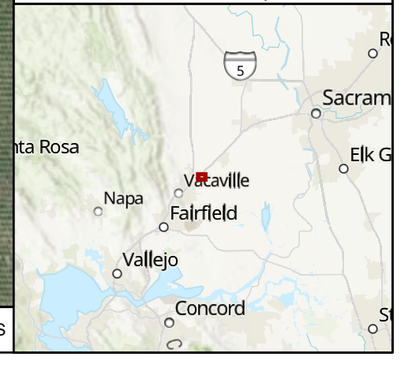
Temporary Impacts

- Construction Laydown Area
- Gen-tie Corridor
- Gen-tie Laydown Area
- Project Site Temporary Impacts
- Substation Area Temporary Impacts

TETRA TECH

NOT FOR CONSTRUCTION

Reference Map



1:6,500 NAD 1983 StatePlane California II FIPS 0402 Feet

0 0.25 0.5 Miles

Source: ESRI, USDA NAIP, US CENSUS, BTS

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APPENDIX 3-F: CNDDB SPECIAL STATUS PLANTS WITHIN A 3-MILE RADIUS OF THE PROJECT SITE (REPLACES APPENDIX 4.4-B)

This Appendix is filed under a request for confidential designation

APPENDIX 3-G: CNDDB SPECIAL STATUS WILDLIFE WITHIN A 3-MILE RADIUS OF THE PROJECT SITE (REPLACES APPENDIX 4.4-C)

This Appendix is filed under a request for confidential designation

APPENDIX 5-A: UPDATED LAND EVALUATION AND SITE ASSESSMENT (REPLACES APPENDIX 4.2-B)

California Land Evaluation and Site Assessment for the Corby Battery Energy Storage System Project in Solano County, California

Prepared for:

Corby Energy Storage, LLC
700 Universe Boulevard
Juno Beach, FL 33408
Contact: Nadan Omercajic
415.770.8214

Prepared by:

ICF
980 9th Street, Suite 1200
Sacramento, CA
Contact: Brad Schafer
916.752.0923

February 2025 (Revision 1)

ICF. 2025. *California Land Evaluation and Site Assessment for the Corby Battery Energy Storage System Solar Project in Solano County, California*. February. (ICF 104188.0.011.) Prepared by ICF, Sacramento, CA. Prepared for Corby Energy Storage, LLC, Juno Beach, FL.

Contents

Tables

Figures

Acronyms and Abbreviations

AE-40	Exclusive Agricultural District, 40-acre minimum parcel size
BESS	battery energy storage system
CEQA	California Environmental Quality Act
Corby	Corby Energy Storage, LLC
DOC	California Department of Conservation
FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act
gen-tie line	generation tie line
I-80	Interstate 80
LCC	Land Capability Classification
LESA	Land Evaluation and Site Assessment
MW	megawatts
NRCS	Natural Resources Conservation Service
PG&E	Pacific Gas and Electric
Project or Proposed Project	Corby Battery Energy Storage System Project
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
ZOI	Zone of Influence

Chapter 1
Project Setting

1.1 Purpose of the Assessment

The purpose of this California Land Evaluation and Site Assessment (LESA) is to provide agencies and decision makers with a succinct and technically developed optional methodology to use in ensuring that potentially significant impacts or effects on the environment, exclusively related to agricultural land conversions, are quantitatively considered in the environmental review process (Public Resources Code Section 21095), including in the California Environmental Quality Act (CEQA).

The California LESA Model was developed in 1997 after the 1981 Land Evaluation and Site Assessment Guidebook prepared for the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Model. The California LESA Model evaluates measures of soil resource quality, a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. In application to a specific project, the factors are rated, weighted, and combined, resulting in a single numeric score. The project score becomes the basis for determining a project's potential significance.

1.2 Introduction and Project Background

Corby Energy Storage, LLC (Corby) proposes to construct and operate the Corby Battery Energy Storage System Project (Project or Proposed Project). The Project would involve developing a battery energy storage system (BESS) facility on approximately 40 acres of agriculturally zoned, privately owned land in unincorporated Solano County, California (APN: 0141030090) to store 300 megawatts (MW) of energy. The Project would include the 300-MW BESS facility with an on-site substation, inverters, and other ancillary facilities such as fencing, roads, a supervisory control and a data-acquisition system, storage containers, and trailers. The Project would also include a 230-kilovolt overhead generation tie line (gen-tie line), which would extend approximately 1 mile to interconnect with the Pacific Gas and Electric (PG&E) Vaca-Dixon Substation.

The project site is in Solano County, approximately 0.85 mile east of I-80, Specifically, the project site is bounded by Kikenny Road to the north and Brynes Road to the east.

The project site is in Solano County, approximately 0.85 mile east of Interstate 80 (I-80) approximately 0.1 mile east of the City of Vacaville. It is bounded by Kilkenny Road to the north and Byres Road to the east. Surrounding land uses include agricultural land to the east south and west, and a rural residence to the north.

The project site is zoned Exclusive Agricultural District, 40-acre minimum parcel size (AE-40) and has been intermittently dry-farmed or lain fallow in recent years.

Figure 1 and Figure 2 show the Project's regional location and project site, respectively.

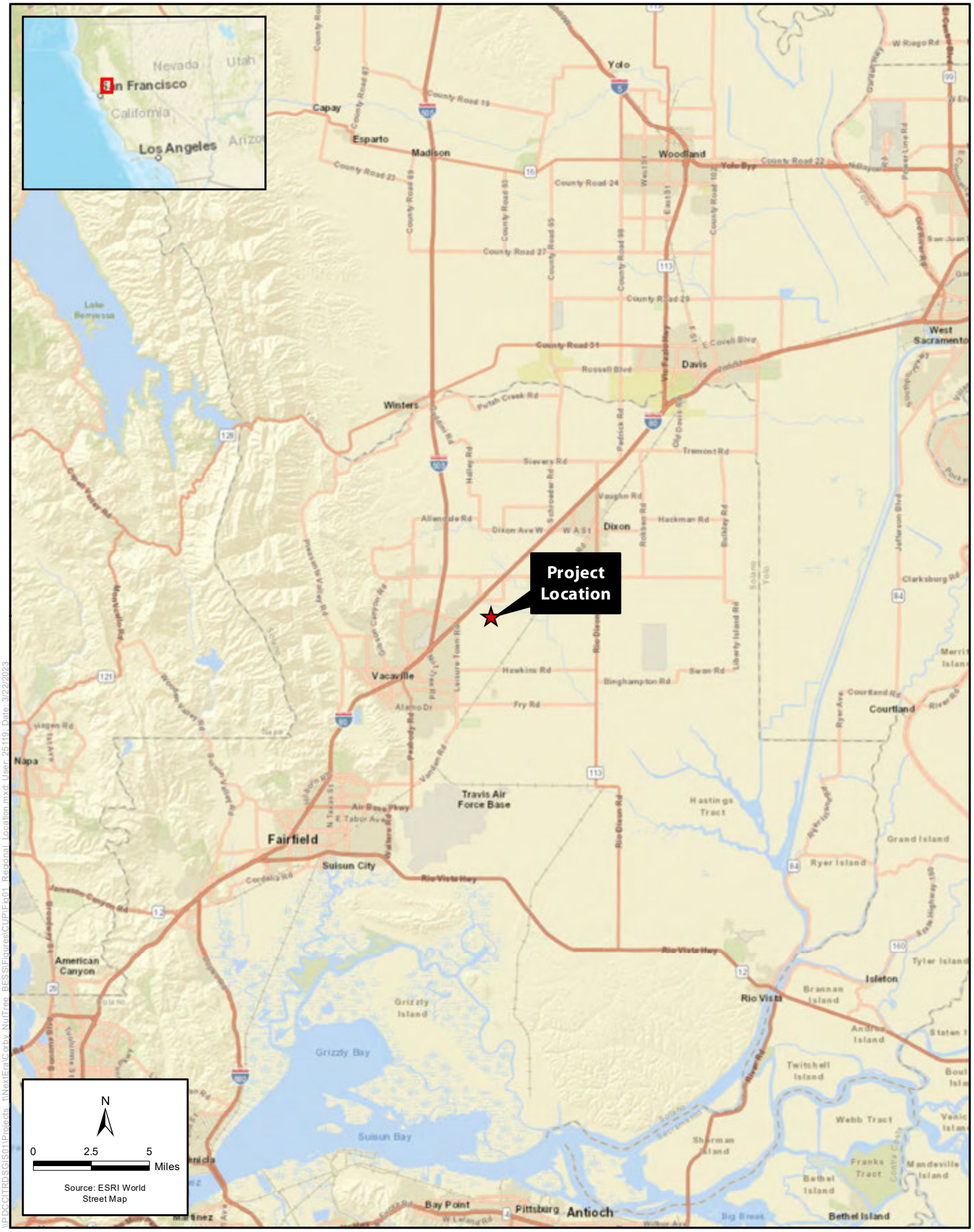


Figure 1
Regional Location

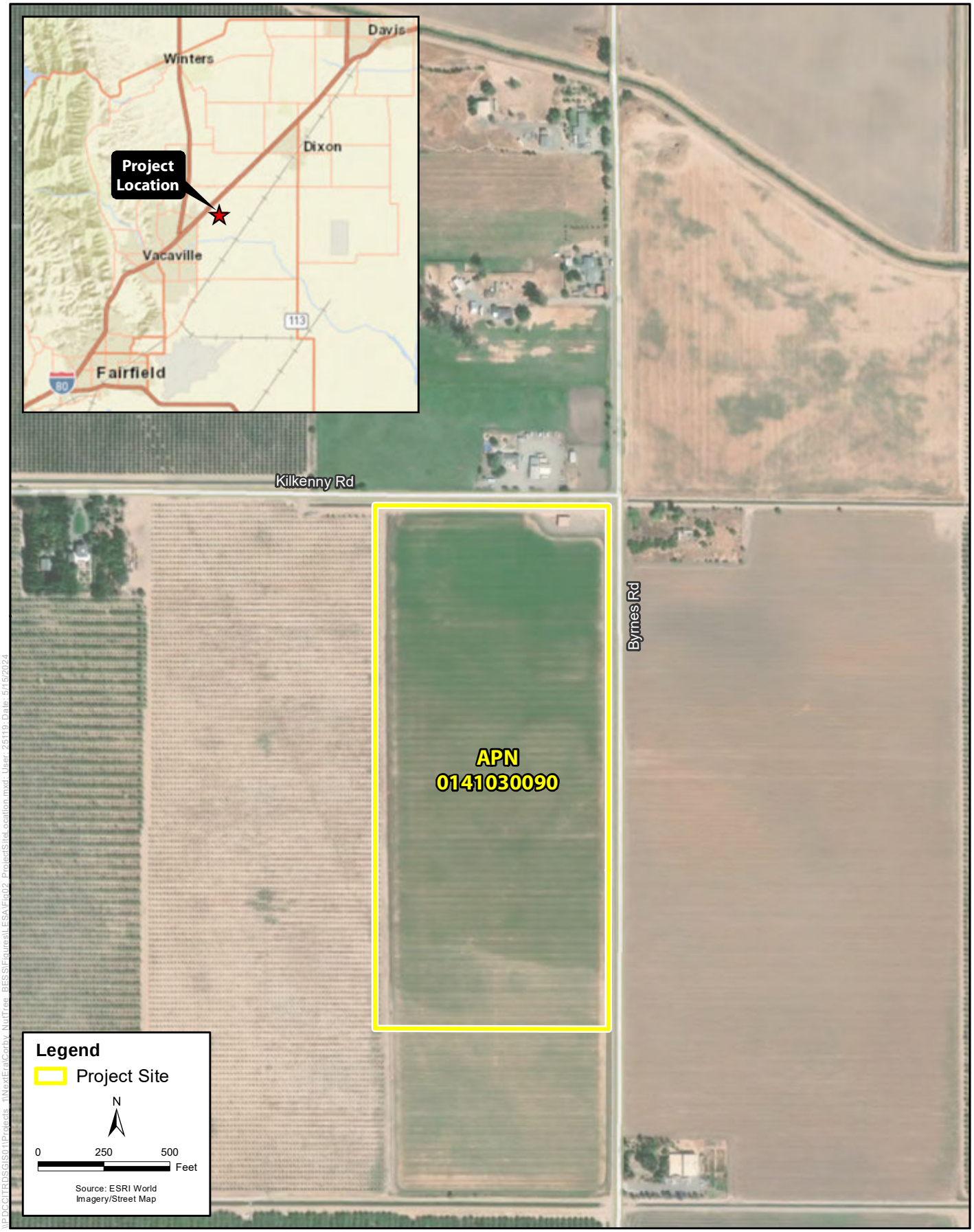


Figure 2
Project Site, Project Location

Chapter 2
Regulatory Setting

2.1 Federal

2.1.1 Farmland Protection Policy Act

The purpose of the Farmland Protection Policy Act (FPPA) (7 United States Code [U.S.C.] Section 4201) is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. Further, the FPPA directs federal programs to be compatible with state and local policies for the protection of farmlands. The FPPA does not authorize the federal government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners of such land. Information regarding the FPPA is provided for background information in this agricultural technical report.

The FPPA is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that, to the extent possible, federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. Federal agencies are required to develop and review their policies and procedures to implement the FPPA every 2 years.

For the purpose of the FPPA, farmland includes prime farmland, unique farmland, and farmland of statewide or local importance, defined as follows in 7 U.S.C. Section 4201:

> Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion, as determined by the Secretary. Prime farmland includes land that possesses the above characteristics but is being used currently to produce livestock and timber. It does not include land already in or committed to urban development or water storage; unique farmland is land other than prime farmland that is used for production of specific high-value food and fiber crops, as determined by the Secretary. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops when treated and managed according to acceptable farming methods. Examples of such crops include citrus, tree nuts, olives, cranberries, fruits, and vegetables; and Farmland, other than prime or unique farmland, that is of statewide or local importance for the production of food, feed, fiber, forage, or oilseed crops, as determined by the appropriate State or unit of local government agency or agencies, and that the Secretary determines should be considered as farmland for the purposes of this chapter.

Projects are subject to the FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency (NRCS 2020). Because the Project would not include federal involvement, the FPPA is not applicable.

2.2 State

2.2.1 California Department of Conservation

The California Department of Conservation (DOC) is the state agency that administers both the Farmland Mapping and Monitoring Program (FMMP) and the California Land Conservation Act, or more commonly known as the Williamson Act. The Important Farmland Mapping Program compiles information of the state's important farmlands, including tracking farmland proposed for development, and provides this information to state and local government agencies for use in planning and for decision makers and decision-making bodies. The FMMP Important Farmland Maps are based on a classification system that combines technical soil ratings and current land use. Important Farmland categories include Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built-Up Land, and Other Land.

The FMMP's Important Farmland maps require that Prime Farmland meet the following criteria.

- Prime Farmland must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date, which equates to 4 years. Therefore, the land must have been used for irrigated agricultural production at some point during a 4-year period prior to the most recent date of the Important Farmland Map date.
- The soil must meet the physical and chemical criteria for Prime Farmland or Farmland of Statewide Importance as determined by the USDA NRCS (DOC 2023a). NRCS compiles lists of the soils in each survey area that meet the quality criteria. The following factors are considered by NRCS in the qualification of a soil.
    - Water moisture regimes, available water capacity, and developed irrigation water supply
    - Soil temperature range
    - Acid–alkali balance
    - Water table
    - Soil sodium content
    - Flooding (uncontrolled runoff from natural precipitation)
    - Erodibility
    - Permeability rate
    - Rock-fragment content
    - Soil rooting depth

The soils information presented in this analysis is derived from statewide soils maps that have been prepared by both state and federal government entities. The DOC Division of Land Resource Protection and the NRCS both conduct regular and ongoing assessments of soil types and then prepare detailed soil maps. Once soils are mapped, they are grouped into the following categories that have specific definitions.

- **Prime Farmland.** In California, the FMMP maps all statewide farmlands. The FMMP's soils study area is contiguous with modern soil surveys developed by the USDA. The FMMP requires that any land designated as Prime Farmland must meet the following criteria related to land use and

soils. As such, farmland with the optimal combination of physical and chemical features to sustain long-term agriculture is described as Prime Farmland. The land has been determined to have the soil quality, growing season, and moisture supply needed to produce sustained high crop yields (DOC 2023b).

- **Farmland of Statewide Importance.** Farmland of Statewide Importance is similar to Prime Farmland and must also meet both the criteria described above regarding land use and soils. The difference between the two categories is that Farmland of Statewide Importance tolerates greater shortcomings of the soil, such as greater slopes or less ability to store moisture (DOC 2023b).
- **Unique Farmland.** Unique Farmland is categorized as having lesser-quality soils but is still used for the production of leading agricultural crops. This farmland is typically irrigated but can also include nonirrigated orchards or vineyards found in some climatic zones in the state. These lands must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date (DOC 2023b).
- **Farmland of Local Importance.** Lands that have been determined by local jurisdictional authorities such as county boards of supervisors or local advisory committees to have a specific importance to the local agricultural economy are considered Farmland of Local Importance (DOC 2023b).

The FMMP has three other categories of land: Grazing Land, Urban and Built-Up Land, and Other Land.

- **Grazing Land.** Grazing Land is land particularly suited to the grazing of livestock given existing vegetation. This particular designation was developed in concert with the California Cattlemen's Association, UC Cooperative Extension, and a host of other groups with an interest in grazing and livestock (DOC 2023b).
- **Urban and Built-Up Land.** This category refers to land that is occupied by structures with a building density of at least one unit to 1.5 acres or six structures to a 10-acre parcel. This category includes land uses such as residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other developed purposes (DOC 2023b).
- **Other Land.** All other lands that do not fall into the previous categories are subsumed into this category. Examples of these lands include low-density rural developments, brush, timber wetland, riparian areas not suitable for livestock grazing, confined livestock poultry or aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. In addition, vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land (DOC 2023b).

DOC developed the California LESA Model (Model). Embedded within the Model is the NRCS soils information upon which the FMMP is based. Hence, since the soils data are already included in the LESA Model and analysis, no further discussion is presented here except to state that there is prime soil on the site; therefore, the soil is mapped as Prime Farmland. Soils on the site are mapped by the FMMP as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Grazing Land, and Other Land.

2.2.2 California Land Conservation Act of 1965/Williamson Act

The California Land Conservation Act of 1965, better known as the Williamson Act, provides for reduced property taxation on agricultural land in exchange for a 10-year continuously rolling agreement. The purpose of the Williamson Act is the long-term conservation of agricultural and open-space lands. The act establishes a program in which to enroll land whereby the land is restricted to agricultural, open space, or recreational uses or uses deemed to be compatible with the agricultural land uses or compatible recreational uses as outlined in the act, in exchange for reduced property tax assessments.

The Williamson Act requires that each participating local government have a set of uniform rules for administering Williamson Act and Farmland Security Zone contracts within its jurisdiction. The county's rules[1] establish the basic requirements of all contracts and are incorporated as a part of each contract. To qualify for a Williamson Act contract, parcels must meet certain criteria such as zoning, minimum parcel size, availability of agricultural water, and minimum acreage (DOC 2023c). None of the project site is under a Williamson Act contract (Figure 4)

2.2.3 Farmland Security Zone Act

The Farmland Security Zone Act is similar to the Williamson Act and was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy (Government Code sections 51296–51297.4). Farmland Security Zone Act contracts are sometimes referred to as Super Williamson Act contracts. Under the provisions of this act, a landowner already under a Williamson Act contract can apply for Farmland Security Zone status by entering into a contract with the county. Farmland Security Zone contracts must be for an initial term of at least 20 years. As with Williamson Act contracts, each year an additional year is automatically added to the contract term unless a notice of nonrenewal is given. In return for a further 35% reduction in the property tax value of land and growing improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to develop the property into nonagricultural uses during the term of the contract. Farmland Security Zone contracts may also be canceled, but only upon finding that cancelation would both service the purposes of the Williamson Act, and that cancelation would be in the public interest (Government Code Section 51297). None of the project site is under a Farmland Security Zone contract.

2.3 County

2.3.1 Solano County General Plan

The Solano County General Plan Agriculture Element (Solano County 2008) is an overarching, comprehensive framing document that provides for the long-term protection of Solano County's agricultural resources, as well as for development within the county. In conformance with the state's General Plan requirements, the Solano County General Plan outlines policies, standards, and programs to guide day-to-day land use decisions, which directly affect the county's future.

[1] Full rules and procedures are available at https://www.solanocounty.com/civicax/filebank/blobdload.aspx?blobid=2492.

The following policy in the agricultural chapter of the General Plan is applicable where a project may have impacts on agricultural lands.

AG.P-4: Require farmland conversion mitigation for either of the following actions:

a. A General Plan amendment that changes the designation of any land from an agricultural to a nonagricultural use or,

b. An application for a development permit that changes the use of the land from production agriculture to a nonagricultural use, regardless of the General Plan designation.

The following implementation regulation in the agricultural chapter of the General Plan is applicable where a project may have impacts on agricultural lands.

AG.1-1: Create and adopt a farmland conversion mitigation program and ordinance. Require compensation for loss of agricultural land. Establish appropriate mitigation ratios for the program or utilize a graduated mitigation mechanism. The mitigation ratio shall be a minimum of 1.5:1 (1.5 acres of farmland protected through mitigation for each acre of farmland converted). The program shall not present regulatory barriers to agritourism, agricultural services, and agricultural processing in regions and within land use designations where such uses are permitted and encouraged. The program shall also establish mitigation within the same agricultural region as the proposed development project, or within the Agricultural Reserve Overlay district, as a preferred strategy. The program shall incorporate a fee option, and shall provide an exemption for farmworker housing. Mitigation lands shall be of similar agricultural quality to the lands being converted.

Chapter 3
Land Evaluation and Site Assessment

The LESA Model (DOC 1997, 2011) is split into two parts: the Land Evaluation factors and the Site Assessment factors.

3.1 Scoring of Land Evaluation Factors

The California LESA Model includes two Land Evaluation factors that are separately rated: the Land Capability Classification and the Storie Index ratings.

- **Land Capability Classification**. The USDA Land Capability Classification (LCC) indicates the suitability of soils for most crops. Groupings are made according to the limitations of the soils when used to grow crops and the risk of damage to soils when they are used in agriculture. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receiving the highest rating (Class I). Specific subclasses are also used to further characterize soils. An expanded explanation of the LCC is included in most soil surveys.
- **Storie Index**. The Storie Index provides a numeric rating (based on a 100-point scale) of the relative degree of suitability or value of a given soil for intensive agriculture. The rating is based on soil characteristics only. Four factors that represent the inherent characteristics and qualities of the soil are considered in the Storie Index rating: profile characteristics, texture of the surface layer, slope, and other factors (e.g., drainage, salinity).

Pursuant to the LESA Model, Table 3-1 summarizes the numeric conversions of Land Capability Classification Units, Table 3-2 lists the soils on the project site with associated acreages, and Figure 3 provides an overview of the soil types on the project site.

Table 3-1. Numeric Conversions of Land Capability Classification Units

LCC	LCC Point Rating
I	100
IIe	90
IIs,w	80
IIIe	70
IIIs,w	60
IVe	50
IVs,w	40
V	30
VI	20
VII	10
VIII	0

LCC = Land Capability Classification

Table 3-2. Soils on the Project Site

Soil Symbol	Soil Name	Farmland Classification	Acreage	Storie Index	LCC
Cc	Capay clay, 0% slopes, MLRA 17 total	Prime Farmland	4.0	Grade 3	IIs
CeA	Clear Lake clay, 0–2% slopes, MLRA 17 total	Prime Farmland	3.8	Grade 3	IIs
SeA	San Ysidro sandy loam, 0–2% slopes	Non-Prime	18.4	Grade 3	IVs
SfA	San Ysidro sandy loam, thick surface, 0–2% slopes	Farmland of Statewide Importance	9.0	Grade 3	IIIs
Yr	Yolo loa, clay substratum	Prime Farmland	5.0	Grade 1	I
Total			**40.3**		

Source: USDA 1977

MLRA = Major Land Resource Area; LCC = Land Capability Class

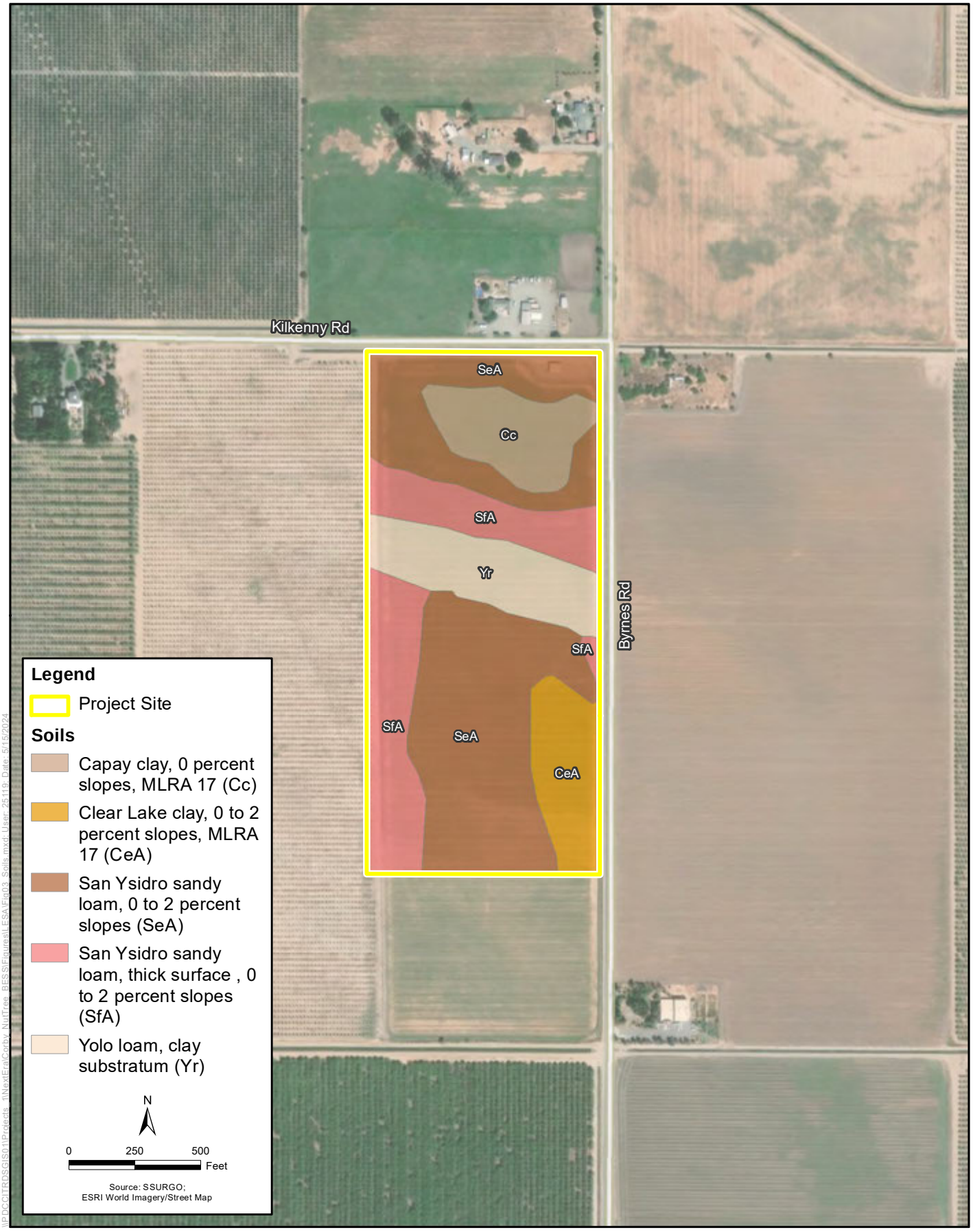
Table 3-3 equates to Table 1A of the *California Agricultural Land Evaluation and Site Assessment Model Instruction Manual* (DOC 2011). The application of the Land Evaluation Tool results in an LCC score of 58.8 and a Storie Index score of 51.7.

Table 3-3. Land Capability Classification and Storie Index Scores

Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
Capay clay, 0% slopes, MLRA 17 total	4.0	0.10	IIs	80	8.0	46	4.6
Clear Lake clay, 0–2% slopes, MLRA 17 total	3.8	0.10	IIs	80	7.2	54	5.4
San Ysidro sandy loam, 0–2% slopes	18.5	0.46	IVs	40	18.4	45	20.7
San Ysidro sandy loam, thick surface, 0–2% slopes	9.0	0.22	IIIs	60	13.2	49	10.8
Yolo loa, clay substratum	5.0	0.12	I	100	12	85	10.2
TOTALS	**40.3**	**1.0**	**N/A**	**N/A**	**58.8**	**N/A**	**51.7**

Source: USDA 1977

MLRA = Major Land Resource Area; LCC = Land Capability Classification



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ICF

Figure 3
Soils

3.2 Scoring of Site Assessment Factors

The California LESA Model includes the following four Site Assessment factors that are rated separately.

- Project Size Rating
- Water Resources Availability Rating
- Surrounding Agricultural Land Use Rating
- Surrounding Protected Resource Land Rating

3.2.1 Project Size Rating

The LESA relies on the following Project Size Scoring rubric included in Table 3-4, which corresponds to Table 3 in the *Land Evaluation and Site Assessment Model Instruction Manual* (DOC 2011).

Table 3-4. Project Size Scoring

	LCC Class I or II Soils		LCC Class III Soils		LCC Class IV or Lower	
	Acres	**Score**	**Acres**	**Score**	**Acres**	**Score**
	80 or above	100	160 or above	100	320 or above	100
	60–79	90	120–159	90	240–319	80
	40–59	80	80–119	80	160–239	60
	20–39	50	60–79	70	100–159	40
	10–19	30	40–59	60	40–99	20
	Fewer than 10	0	20–39	30	Fewer than 40	0
			10–19	10		
			Fewer than 10	0		
TOTALS for the Project	**12.9**	**30**	**9.0**	**0**	**18.4**	**0**

Source: DOC 1997
LCC = Land Capability Classification

According to the Land Evaluation and Site Assessment Model Instruction Manual (DOC 2011),

> The inclusion of the measure of a project's size in the California Agricultural LESA Models is a recognition of the role that farm size plays in the viability of commercial agricultural operations. In general, larger farming operations can provide greater flexibility in farm management and marketing decisions. Certain economies of scale for equipment and infrastructure can also be more favorable for larger operations. In addition, larger operations tend to have greater impacts upon the local economy through direct employment, as well as impacts upon support industries (e.g., fertilizers, farm equipment, and shipping) and food processing industries.

As such, the application of this test to the Corby BESS Project results in a score of 30 based on the size of the Project.

3.2.2 Water Resources Availability Rating

The Water Resources Availability Rating is based on identifying the various water sources that may supply a given property, and then determining whether different restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought. Table 3-5 corresponds to Table 4 in the *Land Evaluation and Site Assessment Model Instruction Manual* (DOC 2011). The "water availability score" of 90 was obtained from a review of Table 5 in the *Land Evaluation and Site Assessment Model Instruction Manual* (DOC 2011). A conservative score of 90 was selected because the land owner was unable to provide sufficient documentation to be able to justify a lesser score. The score was selected assuming that irrigated production was possible in both drought and non-drought conditions; and that there were no physical restrictions from being able to do so. However, the price of water in the region is not sufficiently inexpensive that there are no economic restrictions at some level. Therefore, with 100 being the most conservative score possible, it was determined that 90 would be sufficiently conservative given the information available.

Table 3-5. Water Resources Availability

Project Proportion	Water Source	Proportion of Project Area	Water Availability Score	Weighted Availability Score (CxD)
1	Irrigated	1.00	90	90
Total Water Resources Availability Score				**90**

3.2.3 Surrounding Agricultural Land Use Rating

Determination of the surrounding agricultural land use rating is based on the identification of a project's Zone of Influence (ZOI), which is defined as the land near a given project, both directly adjoining and within a defined distance away, that is likely to influence, and be influenced by, the agricultural land use of the subject Project site. Pages 23 and 24 of the California LESA Instruction Manual outline the process for calculating the ZOI in several steps. In summary, the steps involve locating the project site, extending out 0.25 mile on all sides, identifying all parcels within the 0.25 mile distance, and establishing the ZOI including the entire area of all parcels within that distance (i.e., parcels that are just "touched" but within the 0.25 mile distance are included in the ZOI in their entirety). The Project's ZOI is depicted in Figure 4 and encompasses an area totaling 833.5 acres.

The surrounding land uses include agriculture and rural residences. Of 833.5 acres, there are 715.8 acres of what is considered "Important Farmland" pursuant to the CEQA Guidelines (2024); which consists of 253.8 acres of Prime Farmland, 256.3 acres of Farmland of Statewide Importance, and 205.8 acres of Unique Farmland. As mapped by the Farmland Mapping and Monitoring Program (FMMP), the remainder of the ZOI is comprised of Other Land (0.02 acres) and Grazing Land (117.6 acres). These categories are not considered by the CEQA Guidelines to result in a significant impact when converted to non-agricultural use; and thus were not included in the "percent in agriculture" scoring result shown in Table 3-6.

Utilizing Table 6 from the *Land Evaluation and Site Assessment Model Instruction Manual* (DOC 2011) and based on the information provided in Table 3-6; the surrounding agricultural land use rating score for the Project is 90 points due to the high percentage (86%) of the ZOI in agricultural use.

Table 3-6. Surrounding Agricultural Land Use and Surrounding Protected Resource Land

Total Acres	Acres in Agriculture	Acres of Protected Resource Land	Percent in Agriculture	Percent Protected Land	Surrounding Agricultural Land Score	Surrounding Protected Resource Land Score
833.5	715.8	230.9	86%	28%	90	0

3.2.4 Surrounding Protected Resource Land Rating

The Surrounding Protected Resource Land Rating is an extension of the Surrounding Agricultural Land Rating and is scored in a similar manner. Protected resource lands are those lands with long-term use restrictions that are compatible with or supportive of agricultural uses of land. Within the ZOI, these include 230.9 acres of lands under Williamson Act contracts. The ZOI was carefully reviewed to check for other types of protected areas, such as publicly owned lands maintained as parks, forest, or watersheds; or lands with wildlife habitat, open space, or other natural resource easements that could restrict the conversion of the land to urban or industrial uses. Other than the aforementioned Williamson Act contracted lands, no such areas were found.

Based on the information provided in Table 3-6, the Surrounding Protected Resource Land Rating score for the Project is 0 points due to the low percentage (28%) of the ZOI being considered protected.

3.2.5 Final LESA Score

Table 3-7 presents the Final LESA score sheet, and corresponds to Table 8, in the *Land Evaluation and Site Assessment Model Instruction Manual* (DOC 2011).

Table 3-7. Final LESA Score Sheet

	Factor Scores	Factor Weight	Weighted Factor Scores
Land Evaluation Factors			
Land Capability Classification	58.8	0.25	14.7
Storie Index	51.7	0.25	12.9
Land Evaluation Subtotal		*0.50*	*27.6*
Site Assessment Factors			
Project Size	30	0.15	4.5
Water Resource Availability	90	0.15	13.5
Surrounding Agricultural Land	90	0.15	13.5
Protected Resource Land	0	0.05	0
Site Assessment Total		*0.5*	*31.5*
Final LESA Score			**59.1**

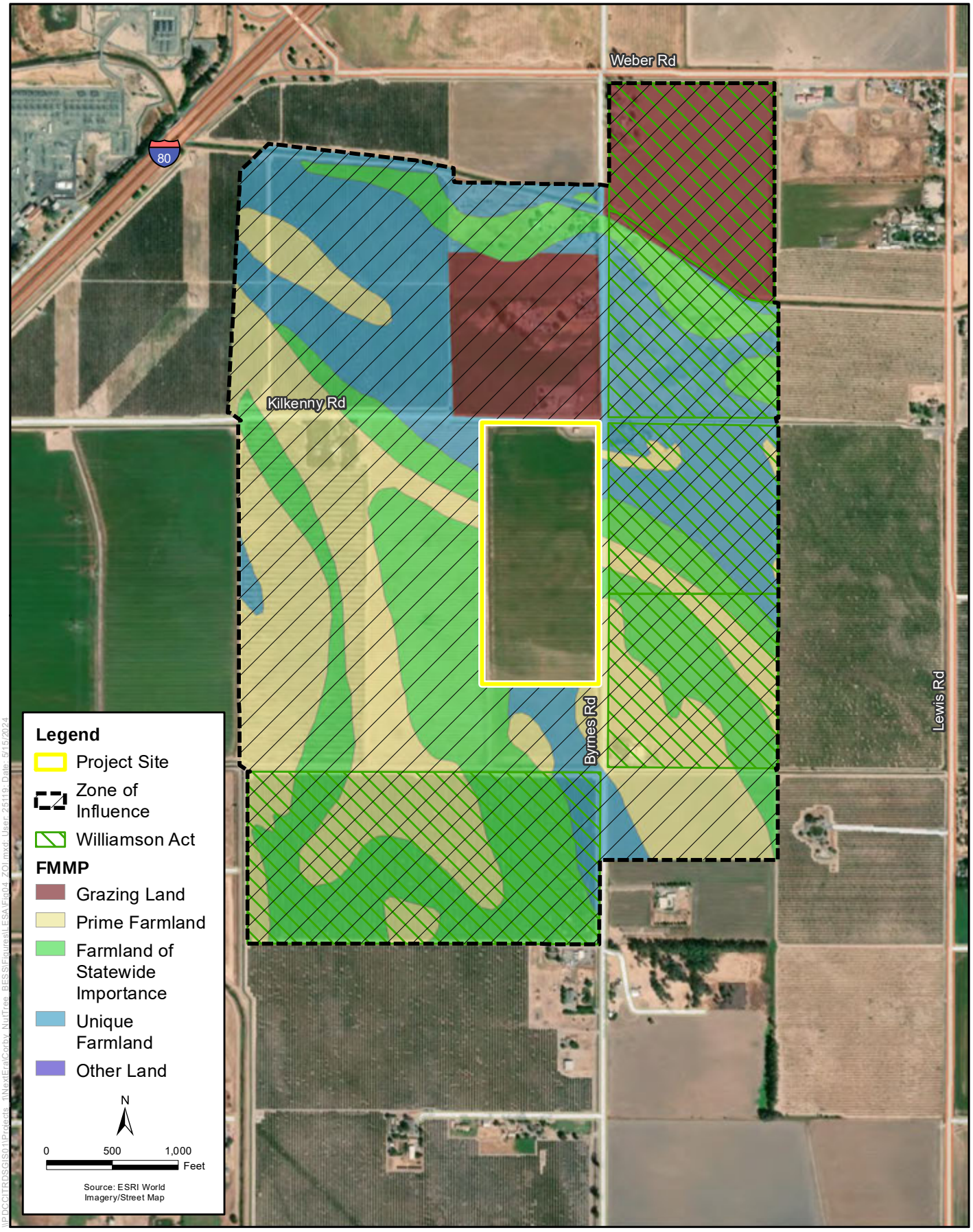

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Figure 4
Zone of Influence (ZOI)

According to the *Land Evaluation and Site Assessment Model Instruction Manual* (DOC 2011), the California LESA Model is weighted so that 50% of the total LESA score of a given project is derived from the Land Evaluation factors, and 50% from the Site Assessment factors. Individual factor weights are listed in Table 3-8, with the sum of the factor weights required to equal 100%. A single LESA score is generated for a given project after all of the individual Land Evaluation and Site Assessment factors have been scored and weighted.

Table 3-8. California LESA Model Scoring Thresholds

Total LESA Score (points)	Scoring Decision
0–39	Not Considered Significant
40–59	Considered Significant only if the LESA subscores are each greater than or equal to 20 points
60–79	Considered Significant unless either the LE or the SA subscore is less than 20 points
80–100	Considered Significant

LE = Land Evaluation; SA = Site Assessment

The total LESA score is 59.1; which is less than 60. However, because the Land Evaluation sub-scores are both greater than or equal to 20 points, per the scoring thresholds, the Project's score is still considered significant under the LESA Model scoring thresholds. Solano County is the lead agency for the Project under CEQA and will make significance findings as appropriate considering local policies, regulations and considering any farmland mitigation that is required.

Chapter 4
References

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APPENDIX 5-B: SOLANO LAND TRUST MITIGATION PROJECT APPLICATION

SOLANO LAND TRUST

Land connects us all – protecting it today, saving it for tomorrow

March 7, 2025

Corby Energy Storage, LLC
Attention: Nadan Omercajic
700 Universe Boulevard
Juno Beach, FL 3340

RE: Solano Land Trust Screening Letter- Corby Energy Storage, LLC mitigation project, Solano County

Dear Mr. Ahn,

Thank you for asking the Solano Land Trust (SLT) to potentially assist you in satisfying your mitigation requirements as determined by the permitting agencies.

SLT is willing to perform an Initial Screening of the mitigation proposal. SLT follows a 3-step process in determining its involvement in a mitigation project: (1) Initial Screening ($5,000); (2) Project Development ($10,000 replenishable retainer); and (3) Acceptance and Execution of a Mitigation Agreement for the project.

During the Initial Screening, SLT reviews the application and supporting documents submitted by the project proponent and determines whether the proposal has the potential to meet SLTìs criteria for involvement in a mitigation project.

If the proposal passes the Initial Screening, the project proceeds to Project Development. During this phase, SLT works with the applicant and the agencies to develop a project portfolio including legal documents, budgets, plans, or other documents as necessary. SLT also reviews the portfolio to determine whether SLT is able and willing to agree to satisfy the project requirements. Please note that all of SLTìs expenses in conducting Project Development are covered by a retainer funded by the applicant. If SLT agrees to take on the mitigation proposal, the project proceeds to Acceptance and Execution.

At this time, SLT is only agreeing to conduct an Initial Screening of the mitigation proposal. SLT is not making a commitment to perform Project Development, or to accept and execute the mitigation project. SLT has the sole discretion in determining whether or not to undertake further Project Development after completion of the Initial Screening process. SLT will work diligently and in good faith to screen the mitigation proposal.

SLT will perform Initial Screening and prepare an Initial Screening Report after receiving (1) this Screening letter agreement signed by the project proponent, (2) submission of a completed application form, and (3) non-refundable fee of five thousand dollars ($5,000.00).

We appreciate your interest in working with Solano Land Trust and look for to working with you.

ACCREDITED LAND TRUST ACCREDITATION COMMISSION

Tracy Ellison
Conservation Director
Solano Land Trust

Return the bottom portion as stated below and keep a copy for your records.

By signing below, we agree to the terms and conditions in this letter agreement. We are transmitting this Screening letter agreement with the completed SLT Mitigation Project Application form and the non-refundable fee of Five Thousand Dollars ($5,000.00) for SLTìs Initial Screening.

Stephen Ahn	3/10/2025
signature	date
Stephen Ahn	Project Director
print name	title

FOR SOLANO LAND TRUST USE ONLY	
Date of first contact:	*Date application received*:
Staff reviewing application:	*Application fee received*?

SOLANO LAND TRUST
MITIGATION PROJECT APPLICATION FORM
(please type)

1. *Date*: February 18, 2025

2. *Name of Project*: Corby Battery Energy Storage Project

3. *Name and contact information for project proponent*: Corby Energy Storage, LLC. 700 Universe Boulevard, Juno Beach, FL 33408. Contact: Nadan Omercajic. 1-415-770-8214

4. *Name and contact information for consultant and individual preparing this application, if different*. NA

5. *Describe location of project if mitigation is onsite. Include maps for the general vicinity and the project site*. (NA if SLT is to provide for off-site land) NA

6. *Describe purpose of project. What resources will be affected/protected by this project (e.g., ag land, vernal pool, burrowing owl, prime agricultural land, etc.)? How will this project affect these resources?* The project is a battery energy storage project located on vacant agricultural land within Solano County near Vacaville, California. The project will impact agricultural lands by converting them to the battery storage project use. The agricultural lands are a mixture of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland.

7. *Describe the mitigation requirements that require creation of a Conservation Easement (looking for agency requirements listed in EIR or CEQA)* The project is under review by the California Energy Commission as the CEQA lead agency. Mitigation requirements are expected to be consistent with Solano County General Plan policies which require mitigation at a ratio of 1.5:1 (1.5 acres of farmland protected through mitigation for each acre of farmland converted). Approximately 60.5 acres of mitigation will be needed for the project considering the 1.5:1 ratio.

Solano County policies also require the mitigation to be within the same agricultural region as the proposed development project and require the mitigation lands to be of similar agricultural quality to the lands being converted.

.

8. *List each permit and/or approval required for this project. Provide copies of application(s) filed and any permits and/or approvals issued*. The project is under review by the California Energy Commission under the opt-in process allowed under Senate Bill 205. A copy of the application filed with the CEC and all supporting documents, public comments, etc., are available on the CEC website (see Docket Log 24-OPT-05) at the following link. https://www.energy.ca.gov/powerplant/energy-storage-system/corby-battery-energy-storage-system-project

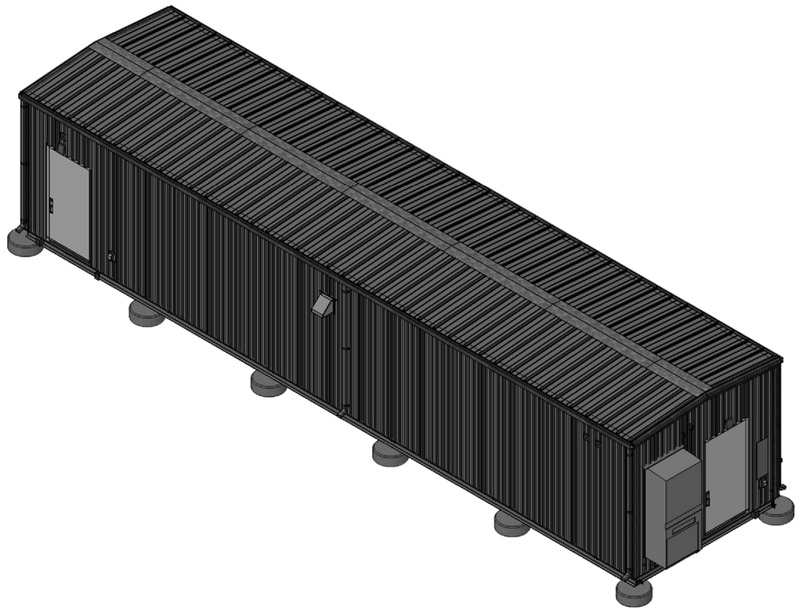
9. *Describe exactly what the Solano Land Trust is being asked to do. If perpetual or long-term maintenance/management is contemplated, list all duties*. Corby Energy Storage is requesting assistance with finding and completing appropriate mitigation for the project, consistent with Solano County General Plan policies as described above.

10. *What is the timeline for this project?* The project is currently under review by the California Energy Commission. Following receipt of a complete application (the application has not yet been deemed complete as of mid-February 2025), the CEC has a mandatory 270-day window to complete and publish the Draft EIR. The preparation of the Final EIR and CEC hearing for the project would occur following the public comment period for the Draft EIR. Corby Energy Storage estimates the project may be before the CEC for an approval hearing in early 2026 with construction occurring as soon as early 2027. If possible, all mitigation requirements would be completed before the start of construction.

APPENDIX 7-A: SUBSTATION CONTROL ENCLOSURE DETAILS DRAWING

EP2 / NEXTERA / PG&E
GRIFFITH KOLA SUBSTATION
14'-0" x 60'-0" x 11'-7"
TRACHTE PROJECT #13838

20044 MIDWAY RD.
TRACY, CA 95377



DESIGN SPECIFICATIONS:

1. ROOF TOTAL LOAD = 85 PSF
   ROOF LIVE LOAD = 45 PSF
   CEILING DEAD LOAD = 20 PSF
2. WIND SPEED = 99 MPH (3 SEC GUST)
3. FLOOR LOAD = 125 PSF
   BATTERY FLOOR LOAD = 240 PSF
4. SEISMIC DESIGN CATEGORY = D
   STATE = CA
5. BUILDING CONSTRUCTION TYPE = II-B
   APPROXIMATE BUILDING TOTAL WEIGHT = 84,000#
   (INCLUDES 24,000# ADDED BY EP2)
6. USE GROUP = S-2
   RISK CATEGORY = III
7. ELECTRICAL CLASSIFICATION = NON-CLASSIFIED

COLOR CHART:	
DOOR LEAF	ASH GRAY
DOOR TRIM	ASH GRAY
ROOF SHEETING	ASH GRAY
ROOF TRIM	ASH GRAY
WALL SHEETING	ASH GRAY
WALL TRIM	ASH GRAY
STRUCTURAL BASE FRAME	STRUCTURAL GRAY (STANDARD)
INTERIOR LINER PANEL AND TRIM	REGAL WHITE (STANDARD)

THIS BUILDING CONFORMS TO THE FOLLOWING CODES:

COMMERCIAL MODULAR, CA CODE OF REGULATIONS, TITLE 25, DIV 1, CHAPTER 3, SUBCHAPTER 2, ARTICLE 3 AND THE:
2022 CA BUILDING CODE (BASED ON 2021 IBC)
2022 CA MECHANICAL CODE (2021 MECHANICAL CODE-IAMPO)
2022 CA ELECTRICAL CODE (BASED ON 2021 NEC)
2022 CA ENERGY CODE (CA CODE OF REGULATIONS, TITLE 24, PART 6)
2022 CA REFERENCE STANDARDS CODE CA CODE OF REGULATIONS, TITLE 24, PART 12
WUI - WILDLAND URBAN INTERFACE FIRE AREA
TITLE 24 CA CODE OF REGULATIONS PART 2, CHAPTER 7A
2022 PART 9 CA FIRE CODE (BASED ON 2021 IFC)

THIS BUILDING DOES NOT CONTAIN PLUMBING FACILITIES. PLUMBING FACILITIES SHALL BE PROVIDED ON SITE SUBJECT TO THE LOCAL AUTHORITY HAVING JURSDICTION.

STRUCTURAL STEEL:
ASTM A572 GRADE 50 STEEL BEAMS & CHANNELS @ Fy = 50KSI, Fu = 65KSI
ASTM A36 STEEL PERIMETER ANGLES @ Fy = 36KSI, Fu = 58KSI
ASTM A36 1/4" STEEL PLATE DECKING @ Fy = 36KSI, Fu = 58KSI

COLD-FORMED STEEL:
ASTM A653/ A653M GRADE 50 STEEL SHEET, ZINC-COATED (GALVANIZED) OR ZINC-IRON ALLOY-COATED (GALVANNEALED) BY THE HOT-DIP PROCESS @ Fy = 50KSI

HOT-ROLLED STEEL:
ASTM A1011/ A1011M GRADE 50 STEEL SHEET, HOT ROLLED CARBON STEEL @ Fy = 50KSI

WELDS:
ALL WELDS TO BE PERFORMED PER AWS D1.1 AND D1.3 STRUCTURAL WELDING CODE AND PER TRACHTE LLC. WELDING MANUAL.

DISCLAIMERS:
THESE DRAWINGS ARE REPRESENTATIONS OF THE INFORMATION AND REQUIREMENTS AVAILABLE TO TRACHTE, LLC. AT THE TIME OF PRODUCTION. CHANGES TO THE FINAL PRODUCT DUE TO PRODUCTION SCHEDULES, MATERIAL AVAILABILITY, OR COMPOSITION, FEDERAL, STATE, AND LOCAL REQUIREMENTS OR CUSTOMER CHANGES MAY OCCUR. VERIFY THAT DRAWINGS ARE IN COMPLIANCE WITH THE FINAL PRODUCT BEFORE USING FOR CONSTRUCTION OR PERMITTING OF RELATED ITEMS.

THESE DRAWINGS IN THEIR ENTIRETY AND ALL ATTACHMENTS ARE THE PROPERTY OF TRACHTE, LLC. OF OREGON, WI., USA. REPRODUCTION OF ALL OR ANY PART OF THESE DRAWINGS IN ANY FORMAT REQUIRES THE WRITTEN PERMISSION OF TRACHTE, LLC.

NOTES:
1. **THIS APPROVAL ONLY APPLIES TO THE CONSTRUCTION OF THE EQUIPMENT SHELTER AND ITS SUPPORTING ELECTRICAL, MECHANICAL AND HVAC SERVICES. ALL OTHER MECHANICAL AND/OR ELECTRICAL PROVIDED FOR OTHER USE IS NOT PART OF PFS CORPORATION'S APPROVAL.**
2. **TRACHTE'S SCOPE OF WORK TO INCLUDE ALL ITEMS IN THIS DRAWING PACKAGE UNLESS NOTED.**
3. **ITEMS SHOWN IN THIS DRAWING PACKAGE NOT SUPPLIED BY TRACHTE:**
   -FOUNDATION PIERS (QTY. 12)

STRUCTURAL INDEX	
C	COVER & INDEX
S1	FOUNDATION REQUIREMENTS
S2	STEEL FLOOR LAYOUT AND STEEL DECKING LAYOUT
S3	STRUCTURAL FRAMING WALLS A & C
S3A	STRUCTURAL FRAMING WALLS B & D
S4	STRUCTURAL ROOF FRAMING
S5	BUILDING SECTION
S6	INTERIOR ELEVATIONS WALLS A & C
S6A	INTERIOR ELEVATIONS WALLS B & D
S7	EXTERIOR ELEVATIONS WALLS A & C
S7A	EXTERIOR ELEVATIONS WALLS B & D
S8	CABLE TRAY LAYOUT
S8A	UNISTRUT LAYOUT
SD1	STRUCTURAL DETAILS
SD2	STRUCTURAL DETAILS

REVISION TABLE

REV.	DESCRIPTION	DATE	REVISED BY	APPROVED BY
A	60% DRAWINGS	2/28/2024	SJK	SWK
B	CUSTOMER & PE COMMENTS	3/13/2024	SJK	SWK
C	CUSTOMER COMMENTS	4/10/2024	SJK	SWK
D	CUSTOMER COMMENTS	4/25/2024	JB	SWK

TRACHTE
422 N BURR OAK AVE,
OREGON, WI 53575
(608)835-5707

ELECTRICAL POWER PRODUCTS
DES MOINES, IA
(515)262-8161
www.ep2.com
EP2 JOB #15074

REV	DATE	BY	CKD	DESCRIPTION
0	05/17/24	ATL	TMC	FOR PERMITTING
1	08/22/24	ATL	ECS	FOR CONSTRUCTION

DRAWN BY: SJK | CHECKED BY: DGF | APPROVED BY: SWK | 41

EP2
NEXTERA ENERGY / PG&E
GRIFFITH KOLA SUBSTATION
TRACY, CA
14'-0" x 60'-0" x 11'-7"

SIZE: C | SCALE: 1:48
SHEET TITLE: COVER & INDEX
DOCUMENT STATE: CUSTOMER APPROVED
MODEL NO.: EP1460
MODEL FILE: COMPLETE BUILDING_13838
REVISION: D | REVISION DATE: 2024/04/25
DRAWING FILE: 13838_STRUCTURAL DRAWINGS
JOB NO.: 026174-1-1
PROJECT NO.: 13838
SHEET: C | 1 OF 15

ISSUED
FOR CONSTRUCTION

BURNS McDONNELL
BURNS & McDONNELL WESTERN ENTERPRISES, INC.
140 S. STATE COLLEGE BLVD. SUITE 100
BREA, CALIFORNIA 92821

date	detailed
08/22/24	A. TORRES LADINO
designed	checked
A. TORRES LADINO	E. SULLENTRUP

KOLA ENERGY STORAGE, LLC
700 UNIVERSE BLVD.
JUNO BEACH, FL 33408

KOLA BESS PROJECT
17895 MIDWAY RD,
MOUNTAIN HOUSE, CA 95391

KOLA BESS
230/34.5kV SUBSTATION
CONTROL ENCLOSURE DETAILS

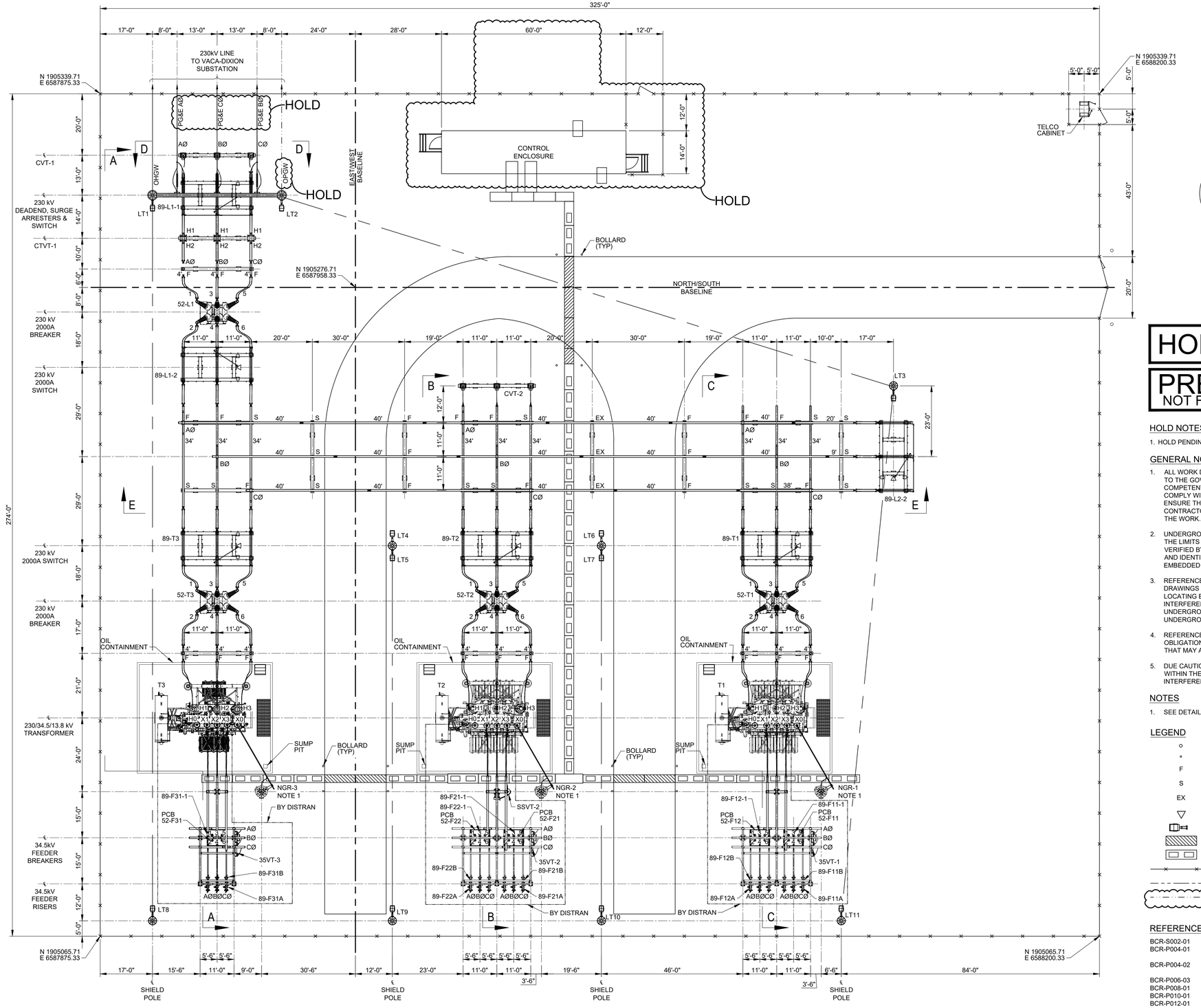
project	contract
156929	

drawing KL1-D-P017-1 rev. 1

sheet 1 of 1 sheets

file KL1-D-P017-1.dwg

APPENDIX 8-A: SUBSTATION DRAWINGS (REPLACES FIGURES 3-5A-C AND 3-6)



ELECTRICAL CLEARANCES

DESCRIPTION	VOLTAGE CLASS SYSTEM	
OPERATING VOLTAGE	230 kV	34.5 kV
BIL	900 kV	200 kV
CENTERLINE TO CENTERLINE FOR Φ TO Φ FOR RIGID BUS[1]	11'-0"	3-0"
MINIMUM Φ TO Φ, METAL TO METAL[2]	6'-2"	1'-4"
MINIMUM Φ TO GROUND, METAL TO METAL[2]	5'-7"	1'-3"
BOTTOM OF INSULATOR OR BUSHING PORCELAIN TO FDN TOP[2,3]	8'-6"	8'-6"
VERTICAL CLEARANCE OF UNGUARDED LIVE PARTS TO FDN TOP[2,3]	13'-9"	9'-6"
HORIZONTAL CLEARANCE OF UNGUARDED PARTS[3]	8'-3"	4'-0"
CLEARANCE FROM PERIMETER FENCE TO LIVE PARTS	16'-0"	11'-0"

1. IEEE C37.30.1-2011
2. IEEE 1427
3. NESC, PART 1, SECTION 12

BUS TUBE CUTTING SCHEDULE
(APPROXIMATE LENGTH N.T.S.)

A 002 5" SCHEDULE 40 ALUM. 40 FT LENGTH

40'-0"	X (14)
38'-0"	X (1)
34'-0" + 4'	X (12)
20'-0" + 9'	X (1)

NOTE: TUBE CUTTING SCHEDULE FOR REFERENCE ONLY. CONTRACTOR TO CUT TO FIT IN THE FIELD. CUT LONGEST LENGTHS FIRST.

NORTH

HOLD

PRELIMINARY
NOT FOR CONSTRUCTION

HOLD NOTES

1. HOLD PENDING FINAL VENDOR DRAWINGS.

GENERAL NOTES

1. ALL WORK DONE BY CONTRACTOR/INSTALLER PURSUANT TO THIS DRAWING SHALL: (A) CONFORM TO THE GOVERNING CONTRACT DOCUMENTS; (B) BE PERFORMED EXCLUSIVELY BY ITS TRAINED, COMPETENT PERSONNEL OR, WHERE PERMITTED, THAT OF ITS SUBCONTRACTOR(S); AND (C) COMPLY WITH ALL APPLICABLE SAFETY LAWS, REGULATIONS, PROGRAMS AND PRACTICES TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING THE CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF ITS SUBCONTRACTOR(S)) PERFORMING THE WORK.
2. UNDERGROUND OR EMBEDDED UTILITIES [MAY] EXIST WITHIN THE AREA OF AND ADJACENT TO THE LIMITS OF THE WORK. THE LOCATION OR IDENTIFICATION OF SUCH UTILITIES HAS NOT BEEN VERIFIED BY OWNER OR BY S&L. CONTRACTOR/INSTALLER IS RESPONSIBLE FOR FIELD LOCATING AND IDENTIFYING UNDERGROUND OR EMBEDDED UTILITIES AND ANY OTHER UNDERGROUND OR EMBEDDED UTILITY DIMENSIONS.
3. REFERENCES USED HAVE BEEN IDENTIFIED ON EXCAVATION/ FOUNDATION/DEMOLITION DRAWINGS AND HAVE BEEN PROVIDED TO ASSIST THE CONTRACTOR/INSTALLER IN THE FIELD LOCATING EXISTING UTILITIES AND OTHER POTENTIAL UNDERGROUND OR EMBEDDED INTERFERENCES. THESE REFERENCES ONLY SHOW THE APPROXIMATE LOCATION OF POTENTIAL UNDERGROUND OR EMBEDDED UTILITIES AND MAY NOT INDICATE OR REFLECT ALL EXISTING UNDERGROUND OR EMBEDDED UTILITIES OR THEIR ACTUAL LOCATIONS.
4. REFERENCES IDENTIFIED SHALL NOT SUBSTITUTE FOR THE CONTRACTOR'S/INSTALLER'S OBLIGATION TO FIELD LOCATE ANY UNDERGROUND OR EMBEDDED UTILITIES OR INTERFERENCES THAT MAY AFFECT THE WORK.
5. DUE CAUTION SHALL BE TAKEN DURING ANY EXCAVATION/FOUNDATION/DEMOLITION WORK WITHIN THE AREA OF AND ADJACENT TO THE LIMITS OF THE WORK DUE TO POSSIBLE INTERFERENCES THAT MAY NOT BE REFLECTED ON THE REFERENCES IDENTIFIED.

NOTES

1. SEE DETAIL 19 ON DWG P005-02 FOR NEUTRAL GROUNDING REACTOR ASSEMBLY.

LEGEND

o	GATE CATCH
◦	BOLLARD
F	FIXED BUS FITTING
S	SLIP BUS FITTING
EX	EXPANSION BUS FITTING
▽	SWITCH OPERATOR (MANUAL)
	YARD LIGHT FIXTURE
	ROAD RATED TRENCH SECTION
	PEDESTRIAN TRENCH SECTION
	FENCE
	SHIELD WIRE
	OPGW HOLD

REFERENCE DRAWINGS

BCR-S002-01	SITE PLAN
BCR-P004-01	GENERAL ARRANGEMENT ELEVATIONS A-A & B-B
BCR-P004-02	GENERAL ARRANGEMENT ELEVATIONS C-C, D-D, & E-E
BCR-P006-03	FOUNDATION PLAN
BCR-P008-01	FENCE DETAILS
BCR-P010-01	CONDUIT & CABLE PLAN
BCR-P012-01	GROUNDING PLAN

NO	DATE	REVISIONS AND RECORD OF ISSUE	DRWN	REV'D	APPR	COMP
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--						
--						
D	06/04/2024	ISSUED FOR BID	SV	FJG	BPR	S&L
C	05/16/2024	ISSUED FOR BID	SV	FJG	BPR	S&L
B	02/09/2024	REISSUED FOR PRELIMINARY DESIGN	SV	FJG	BPR	S&L
A	12/21/2023	ISSUED FOR PRELIMINARY DESIGN	SV	FJG	BPR	S&L

SCALE: 1/16" = 1'-0"
0 5' 10' 20'

PREP: -- CHKD: --
APPD: -- DATE: --

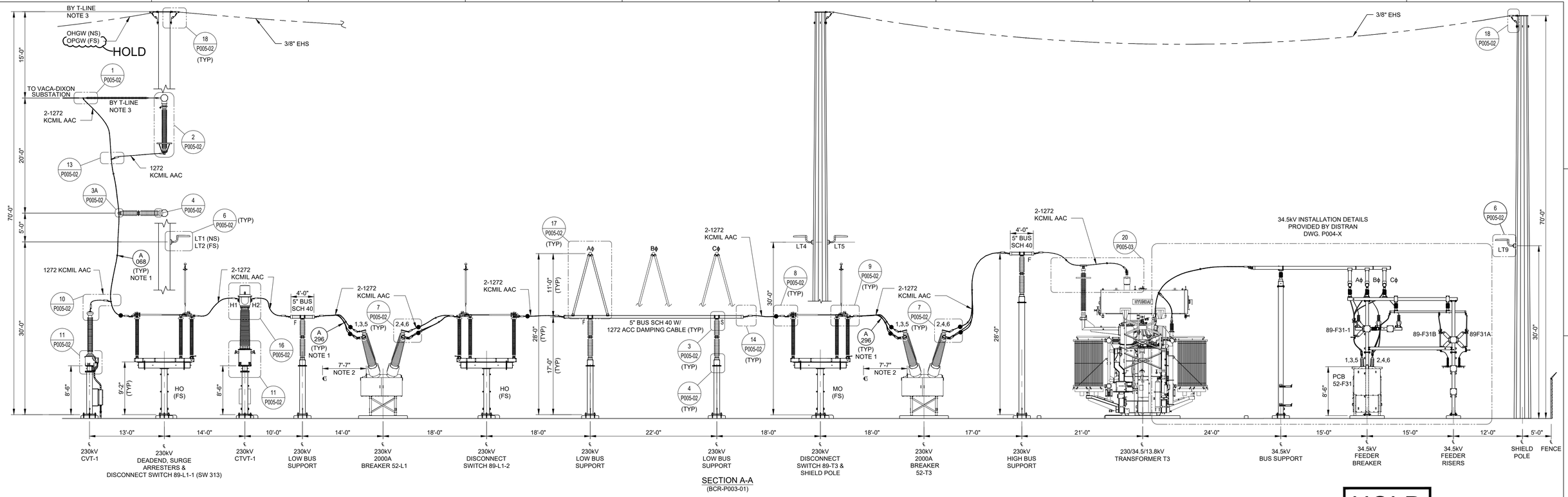
CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE; INCLUDING CONTRACTOR'S /INSTALLER'S PERSONNEL (OR THAT OF IT'S SUB-CONTRACTOR(S)) PERFORMING THE WORK.

ANY MODIFICATION OR ADDITION TO THIS DRAWING BY ANY ORGANIZATION OTHER THAN SARGENT & LUNDY IS NOT THE RESPONSIBILITY OF SARGENT & LUNDY.

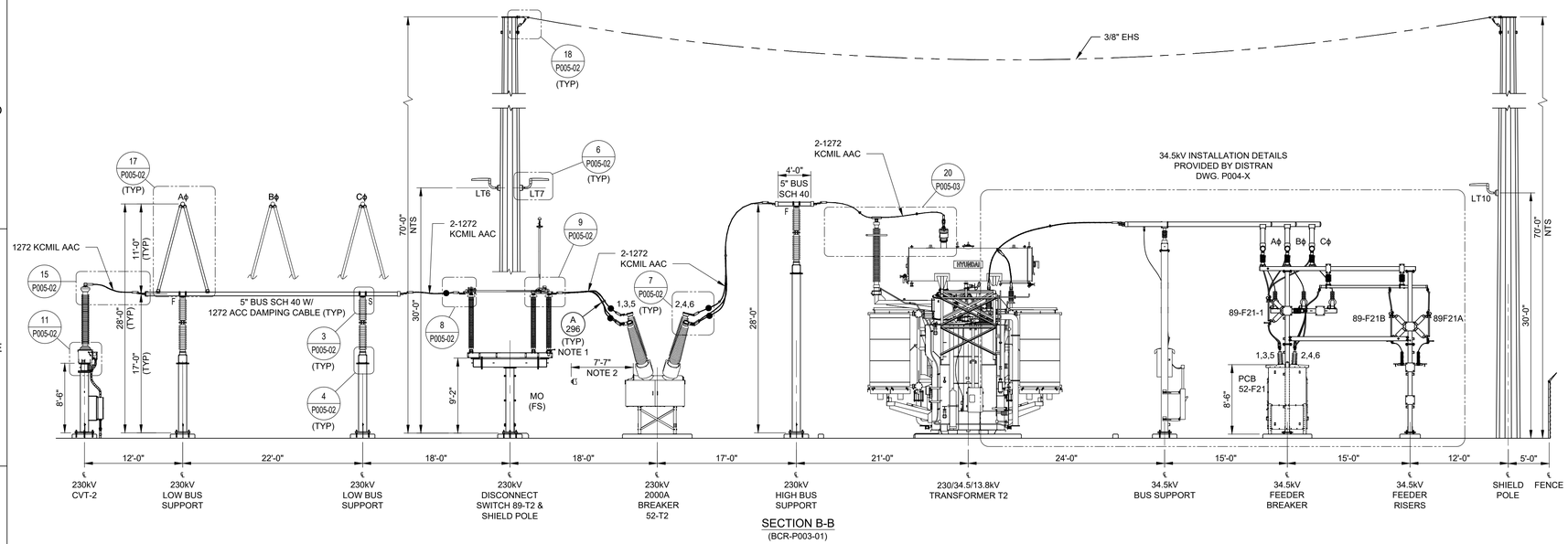
Sargent & Lundy
55 EAST MONROE ST., CHICAGO, ILL.

CORBY BESS, LLC
CORBY 230/34.5kV SUBSTATION
GENERAL ARRANGEMENT PLAN

BCR-P003-01



SECTION A-A
(BCR-P003-01)



SECTION B-B
(BCR-P003-01)

HOLD

PRELIMINARY
NOT FOR CONSTRUCTION

HOLD NOTES

1. HOLD PENDING FINAL VENDOR DRAWINGS.

GENERAL NOTES

1. 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 SUBCONTRACTOR(S)) PERFORMING THE WORK.
2. SEE DRAWING BCR-P003-01 FOR ADDITIONAL NOTES.

NOTES

1. CABLE SPACERS SHALL BE INSTALLED AT 8 TO 12 FT SPACING OR AS REQUIRED.
2. MINIMUM CLEARANCE FOR INTERRUPTER REMOVAL.
3. OHGW/OPGW CABLE, JUMPERS, AND CONNECTIONS SHALL BE PROVIDED AND INSTALLED BY T-LINE CONTRACTOR.

LEGEND

F	FIXED BUS FITTING
S	SLIP BUS FITTING
EX	EXPANSION BUS FITTING
	SHIELD WIRE
- ----	MATERIAL IN BOM, DWG BCR-P005-01
- --	DETAIL NUMBER SHEET NUMBER IN WHICH DETAIL APPEARS

REFERENCE DRAWINGS

BCR-P003-01	GENERAL ARRANGEMENT PLAN
BCR-P004-02	GENERAL ARRANGEMENT ELEVATIONS C-C, D-D, & E-E
BCR-P005-01	BILL OF MATERIAL
BCR-P005-02	GENERAL ARRANGEMENT BUS DETAILS 1-19
BCR-P005-03	GENERAL ARRANGEMENT BUS DETAILS 20-22

NO	DATE	REVISIONS AND RECORD OF ISSUE	DRWN	REV'D	APPR	COMP
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A	05/16/2024	ISSUED FOR BID	SV	FJG	BPR	S&L

SCALE: 1/8" = 1'-0"
0 5' 10' 20'

PREP: -- CHKD: --
APPD: -- DATE: --

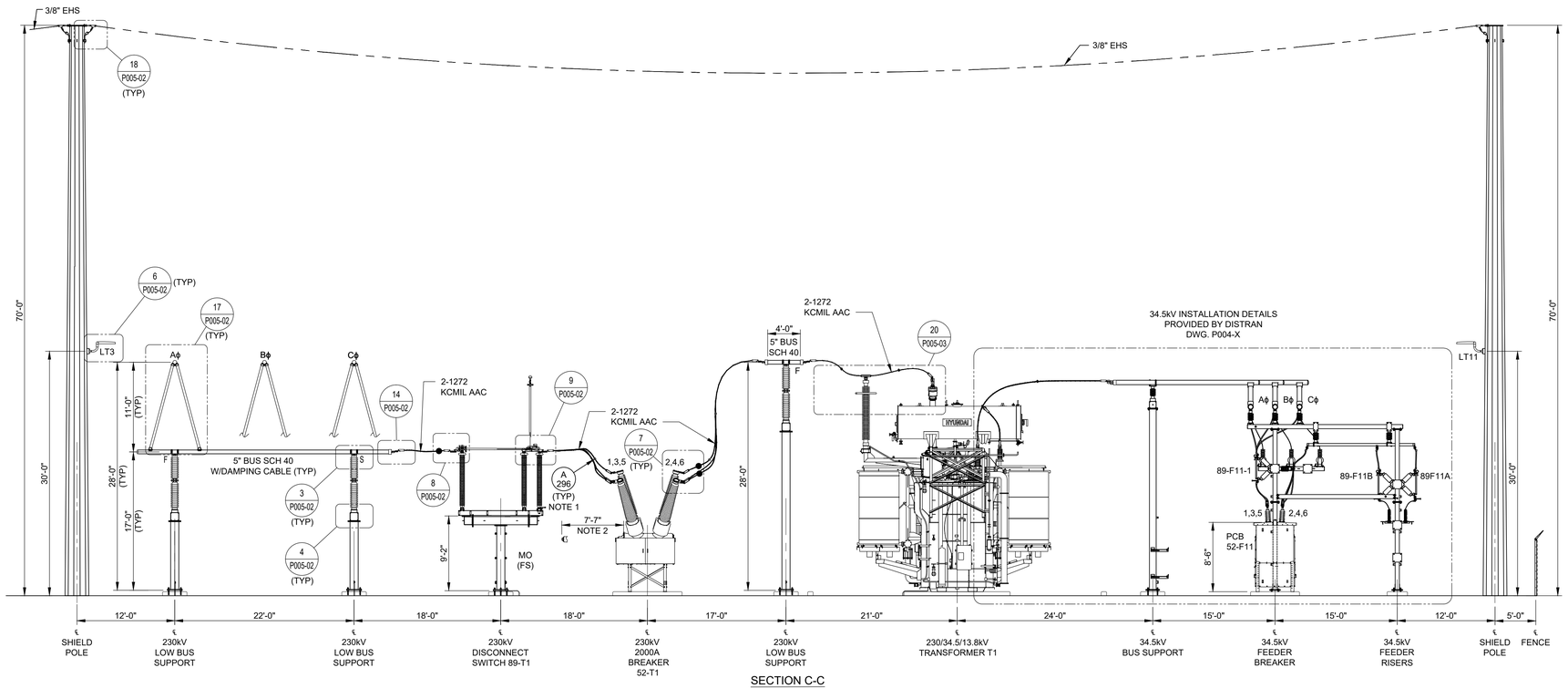
CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE; INCLUDING CONTRACTOR'S /INSTALLER'S PERSONNEL (OR THAT OF IT'S SUB-CONTRACTOR(S)) PERFORMING THE WORK.

ANY MODIFICATION OR ADDITION TO THIS DRAWING BY ANY ORGANIZATION OTHER THAN SARGENT & LUNDY IS NOT THE RESPONSIBILITY OF SARGENT & LUNDY.

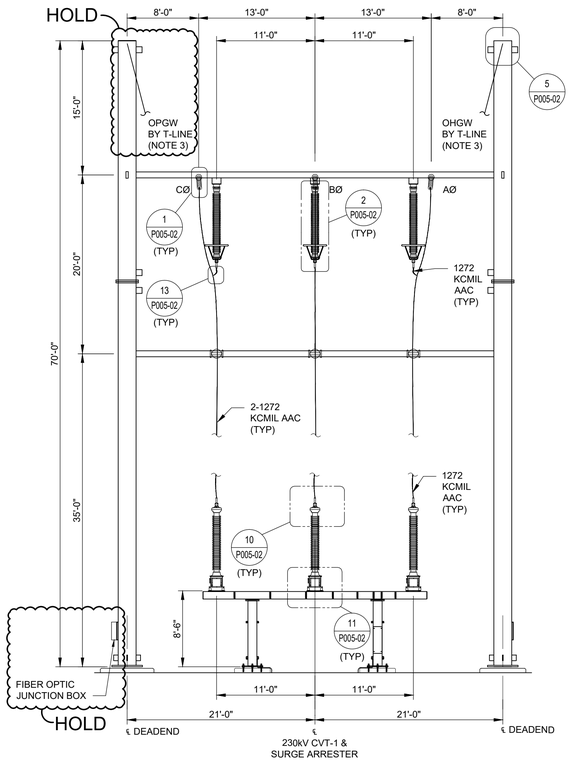
Sargent & Lundy
55 EAST MONROE ST., CHICAGO, ILL.

CORBY BESS, LLC
CORBY 230/34.5kV SUBSTATION
GENERAL ARRANGEMENT ELEVATIONS
A-A & B-B

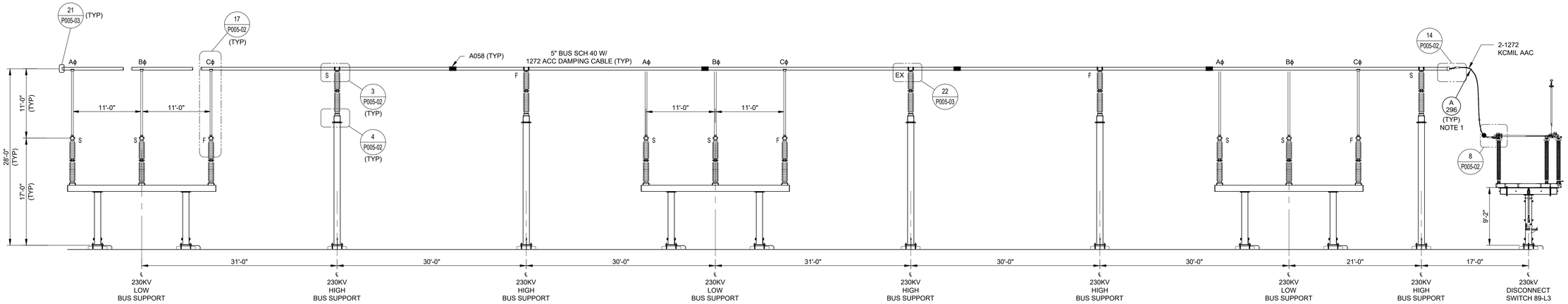
BCR-P004-01



SECTION C-C
(BCR-P003-01)



SECTION D-D
(BCR-P003-01)



SECTION E-E
(BCR-P003-01)

HOLD NOTES

1. HOLD PENDING FINAL VENDOR DRAWINGS.

GENERAL NOTES

1. 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 SUBCONTRACTOR(S)) PERFORMING THE WORK.
2. SEE DRAWING BCR-P003-01 FOR ADDITIONAL NOTES.

NOTES

1. CABLE SPACERS SHALL BE INSTALLED AT 8 TO 12 FT SPACING OR AS REQUIRED.
2. MINIMUM CLEARANCE FOR INTERRUPTER REMOVAL.
3. OHGW/OPGW CABLE, JUMPERS, AND CONNECTIONS SHALL BE PROVIDED AND INSTALLED BY T-LINE CONTRACTOR.

LEGEND

F	FIXED BUS FITTING
S	SLIP BUS FITTING
EX	EXPANSION BUS FITTING
- - - - - -	SHIELD WIRE
- / ---	MATERIAL IN BOM, DWG BCR-P005-01
- / --	DETAIL NUMBER / SHEET NUMBER IN WHICH DETAIL APPEARS

REFERENCE DRAWINGS

BCR-P003-01	GENERAL ARRANGEMENT PLAN
BCR-P004-01	GENERAL ARRANGEMENT ELEVATIONS A-A & B-B
BCR-P005-01	BILL OF MATERIAL
BCR-P005-02	GENERAL ARRANGEMENT BUS DETAILS 1-19
BCR-P005-03	GENERAL ARRANGEMENT BUS DETAILS 20-22

HOLD

PRELIMINARY
NOT FOR CONSTRUCTION

NO	DATE	REVISIONS AND RECORD OF ISSUE	DRWN	REV'D	APPR	COMP
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A	05/16/2024	ISSUED FOR BID	SV	FJG	BPR	S&L

SCALE: 1/8" = 1'-0"
0 5' 10' 20'

PREP: -- CHKD: --
APPD: -- DATE: --

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 IT'S SUB-CONTRACTOR(S)) PERFORMING THE WORK.

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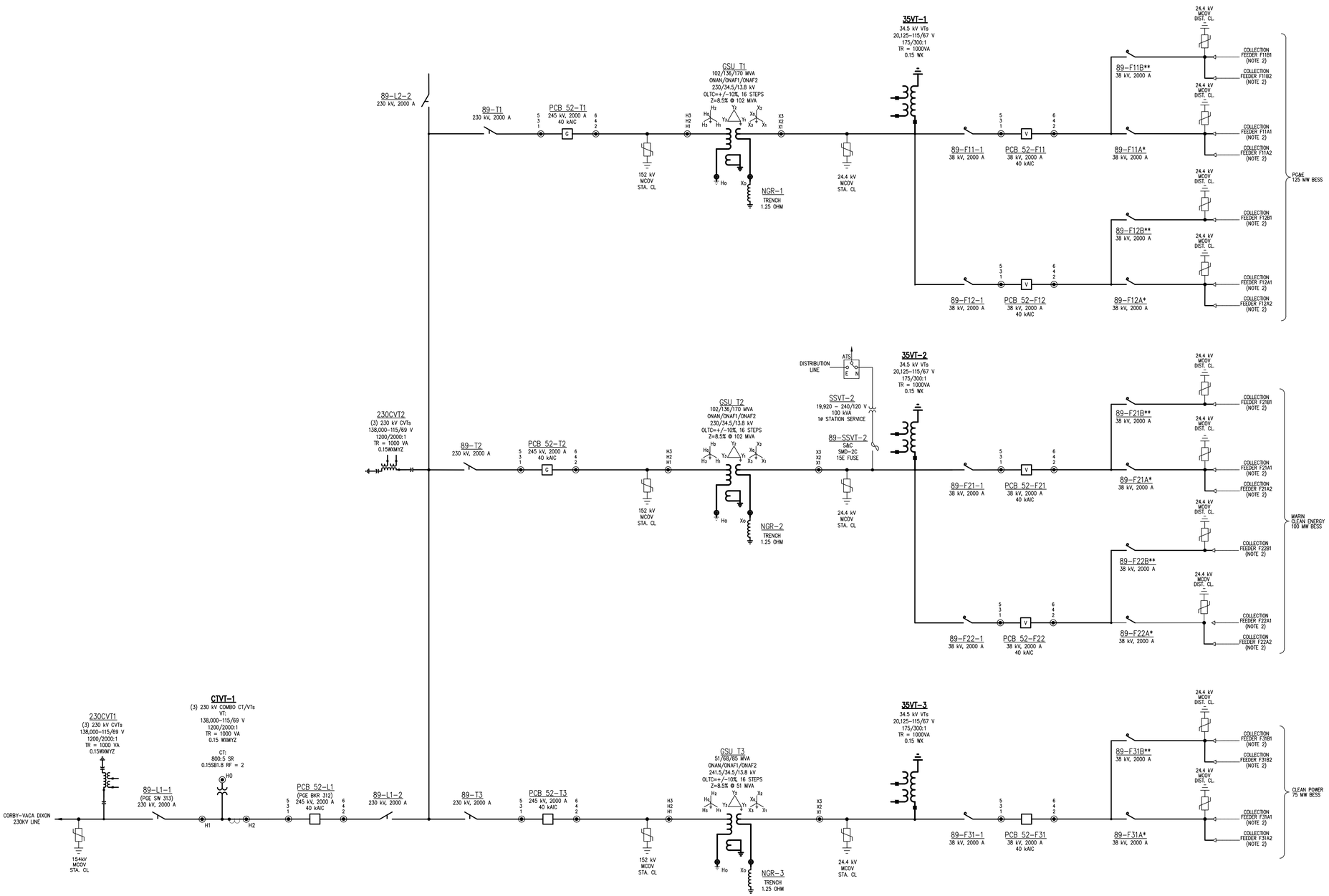
Sargent & Lundy
55 EAST MONROE ST., CHICAGO, ILL.

CORBY BESS, LLC
CORBY 230/34.5kV SUBSTATION
GENERAL ARRANGEMENT ELEVATIONS
C-C, D-D, & E-E

BCR-P004-02



NORTH

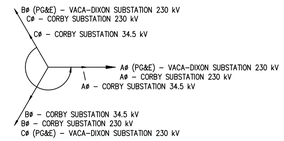
LEGEND:

- CAPACITIVE VOLTAGE TRANSFORMER
- VOLTAGE TRANSFORMER (DUAL WINDING)
- G — GAS CIRCUIT BREAKER
- V — VACUUM CIRCUIT BREAKER
- N E — TRANSFER SWITCH
- CABLE TERMINATOR
- 34.5kV POWER FUSE
- GROUP OPERATED DISCONNECT SWITCH
- HOOK OPERATED DISCONNECT SWITCH
- NEUTRAL GROUND REACTOR
- SURGE ARRESTER
- B — METERING CT/VT COMBO UNIT

NOTES:

1. ALL BREAKERS, SWITCHES AND DISCONNECTS SHALL BE CLOSED DURING NORMAL OPERATION UNLESS OTHERWISE NOTED.
2. BESS COLLECTION FEEDER DESIGN PER NEXTERA 04/02/2024 EMAIL.
3. FEEDER SWITCH A WILL FACE TOWARDS THE FENCE.
   FEEDER SWITCH B WILL FACE TOWARDS THE TRANSFORMER

* - NEAR FENCE
** - NEAR TRANSFORMER



VOLTAGE PHASORS

PRELIMINARY
NOT FOR CONSTRUCTION

NO	DATE	REVISIONS AND RECORD OF ISSUE	DRWN	REV'D	APPR	COMP
B	05/16/2024	ISSUED FOR BID	RWS	SW	BPR	S&L
A	12/21/2023	ISSUED FOR PRELIMINARY DESIGN	DRJ	SW	BPR	S&L

SCALE: NONE

PREP: -- CHKD: --
APPD: -- DATE: --

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 IT'S SUB-CONTRACTOR(S)) PERFORMING THE WORK.

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Sargent & Lundy
55 EAST MONROE ST., CHICAGO, ILL.

CORBY BESS, LLC
CORBY 230/34.5kV SUBSTATION

ULTIMATE SWITCHING DIAGRAM

BCR-S001-01

APPENDIX 8-B: PG&E VACA-DIXON SUBSTATION ONE-LINE DIAGRAM

This Appendix is filed under a request for confidential designation

APPENDIX 8-C: CPUC GENERAL ORDER 128 CONFORMANCE

160373 - Nextera - Corby Vaca 230kV - CEC Application Clarifications Regarding CUC GO 128

BURNS McDONNELL

Route/Circuit Name	CUC GO 128 Requirement	Project Specifics	Comments
Duct Banks	The materials, design and and construction of manholes, handholes, subsurface equipment enclosures shall be such as to provide sufficient strength to sustain the loads which may reasonably be imposed to them. Manholes, handholes, and subsurface equipment enclosures in street areas which are subject to vehuicular traffic shall be constructed to withstand H-20-44 highway loading.	Civil Spec# 33 71 19.13. Section 2.03.B: Vault shall be structurally design to the following criteria: - AASHTO HS-25 loading - Maximum depth of cover of 10'-0" - Water level at 3'-0"	Project design criteria exceeds the requirements specified on GO 128
	No manhole access opening shall be less than 26 inches in diameter if circular in shape	Per 60% design: Manhole lids designed to be 36 inches in diameter (circular shape).	Project design criteria exceeds the requirements specified on GO 128
	Location: Manhole, handhole and subsurface equipment enclosure locations, shall be such that the opening will provide safe access and, where practicable, shall be so located that future maintenance work will cause minumum interference with the normal flow of vehicular traffic.	Only one (1) manhole location. Manhole openings located next to the north edge of the road pavement on Kilkenny Road . One lane of traffic should be available during maintanence.	Project design criteria comply with the requirements specified on GO 128
Underground Conductor Clearances and depth	Clearances for power cables: Supply cables , when independently installed, shall be separated, where practicable, from other supply duct systemsor buried cables or conductors by not less than 3 inches of concrete, 4 inches of brick masonry or 12 inches earth. Communication clearance from Foreign Substructures: Ducts carrying communication cables and conductors for public use, when independently installed, shall be separated where practicable from gas, water, oil, or other pipe systems, by a clearance of at least 12 inches when paralleling and by at least 6 inches when crossing	Civil Spec# 33 71 19.23. Section 3.01.B: Unless otherwise shown on drawings, clearance requirements to edge of concrete duct bank to nearest existing utilities shall be as follows: 1. 2-foot vertical clearance above or below existing utilities 2. 2-foot horizontal clearance from parallel utilities	Project design criteria exceeds the requirements specified on GO 128
	Power cable Depth (above 35,000 volts): 36 inches for supply cables that operate at potentials above 35,000 volts Communication cables Depth: Ducts carrying communication cables and conductors for public use shall be constructed at a depth to provide not less than 18 inches of cover below the surface under which they are located, except as other wise provided in these rules: - Railroads: Shall be located at a depth of not less than 30 inches. - Thoroughfares: Shall be installed with no less that 18 inches of cover. - Sidewalks, Parkway areas and provate property: Shall be installed to provide no less than 12 inches under top of cover.	Minimum depth of cover along the route for both power and communication cables shall be 36 inches	Project design criteria matches or exceeds the requirements specified on GO 128

Soil Resistivity Analysis	*No specific GO 128 requirements noted. Per email request from NEER, relevant information provided.*	Civil Spec# 31 20 00 Section 3.05.D: **Thermal Resistivity Testing** 1. Contractor shall perform soil thermal resistivity and soil ambient temperature testing during the trenching activities every time a new type of soil is encountered that has not been previously characterized and for backfilling material furnished by Contractor. In addition to the soil thermal resistivity measurements, Contractor shall take a sample for dryout curves every time a new type of soil is encountered that has not been previously characterized. Contractor shall record the results of this testing, correlate the results to the Plan Drawings, and submit a report of such testing to Owner after completion. a. Contractor shall perform soil thermal resistivity testing in accordance with IEEE Standard 442.	*No specific GO 128 requirements noted. Per email request from NEER, relevant information provided.*
De-Rated Ampacity	*No specific GO 128 requirements noted. Per email request from NEER, relevant information provided.*	Electrical Specs# 33 71 39.23. Section 2.01 **Transmission Line Ampacity Requirements** 1. Expected load for normal operating conditions on the cable system shall be 1952 A. 2. Expected load for emergency operating conditions on the cable system shall be N/A. 3. The thermal pinch point(s) for the cable system is a Horizontal Directional Drill installation of 30' feet deep. 4. Daily Load Factor shall be 67%. Using a 6000kcmil Cu Enamel cable, the maximum achievable ampacity is 2,060 A, which exceeds the requirements for this project.	*No specific GO 128 requirements noted. Per email request from NEER, relevant information provided.*

Grounding and Bonding	Grounding methods: - Burial in Earth - Grounding Electrodes - Bonding Grounding and Bonding Conductors: - Material:Conductors used for bonding and grounding connections shall be of copper or other corrosion resistant material, or shall be suitably protected against corrosion. - Conductivity: Conductors used for bonding and grounding connections shall have sufficient conductivity to carry the fault currents that may be imposed upon them by the associated system, and in no case less than the conductivity equivalent of #6 AWG Copper. - Method of Attachment: Grounding and bonding conductors shall be attached by means of suitable lugs, pressure connectors, clamps, welds, or other suitable means. Clamps shall not be used for direct attachment to lead sheaths of cables.	Civil Specs 26 05 26. Section 2.02: A. **Wire and Cable:** 1. Type BC. 2. Conductor Sizes: a. As indicated on Plan Drawings for specific connections. B. **Ground Rods:** 1. Non-corrosive copper clad steel or copper alloy sectional type rods. 2. One end pointed to facilitate driving. 3. 3/4 inch diameter and 10 feet long with diameter and length stamped near top of rod. 4. Interconnectable rods to allow them to be stacked to obtain a greater length. C. **Connection A1:** 1. Cable to rod connections of exothermic-welding-type process with proper molds and charges only to be used when connections are made below grade. D. **Test Equipment:** 1. Commercial model three-point ground test set, Megger DET 2/2 or approved equivalent	Project design criteria comply with the requirements specified on GO 128
		ERECTION, INSTALLATION, APPLICATION: A. **Ground Rods:** 1. Install two ground rods per vault as indicated on Plan Drawings by driving and not by drilling or jetting. Contractor shall use a driving head to prevent damage to ground rods. 2. Drive rods into unexcavated portion of the earth where possible. 3. Where rods must be installed in excavated areas, drive rods into earth after compaction of backfill is completed. 4. Drive to a depth such that top of rods will be approximately 6 inches above the inside bottom of the manhole. 5. Total rod length shall be 10 feet unless ground resistivity tests performed by Contractor indicate more rods are required. If ground resistivity is greater than 25 ohms Contractor shall install additional rods and/or stack sections of rods for greater depth as directed by the Owner. B. **Connections:** 1. Conform to manufacturer's instructions. 2. Chemically degrease and dry completely before making connection. 3. For exothermic connections, clean molds thoroughly after each weld is completed. Dirty molds or excessively worn molds that will not contain the weld shall not be used. 4. Make connections to equipment as follows: a. All exothermal welds shall encompass one hundred percent (100%) of the ends of the material being welded. Welds not meeting this requirement shall be remade. C. **Splice Vault Grounds:** 1. Ground cable shall be connected to ground rod and brought into splice vault as shown on Plan Drawings. 2. Internal ground ring cable shall be placed inside vault as shown on the Plan Drawings. a. Ground cable shall be attached to the vault with non-corrosive cable clamp and anchor. b. Ground cable shall be installed with minimal conductor sag between attachment points. c. Connections to the internal ground ring cable may be of the exothermic weld type prior to power cable installation. If power cables are present in the vault prior to the installation of the ground ring cable, connections shall be of a mechanical type.	Project design criteria comply with the requirements specified on GO 128

APPENDIX 8-D: FULLY EXECUTED LARGE GENERATOR INTERCONNECTION AGREEMENT

This Appendix is filed under a request for confidential designation

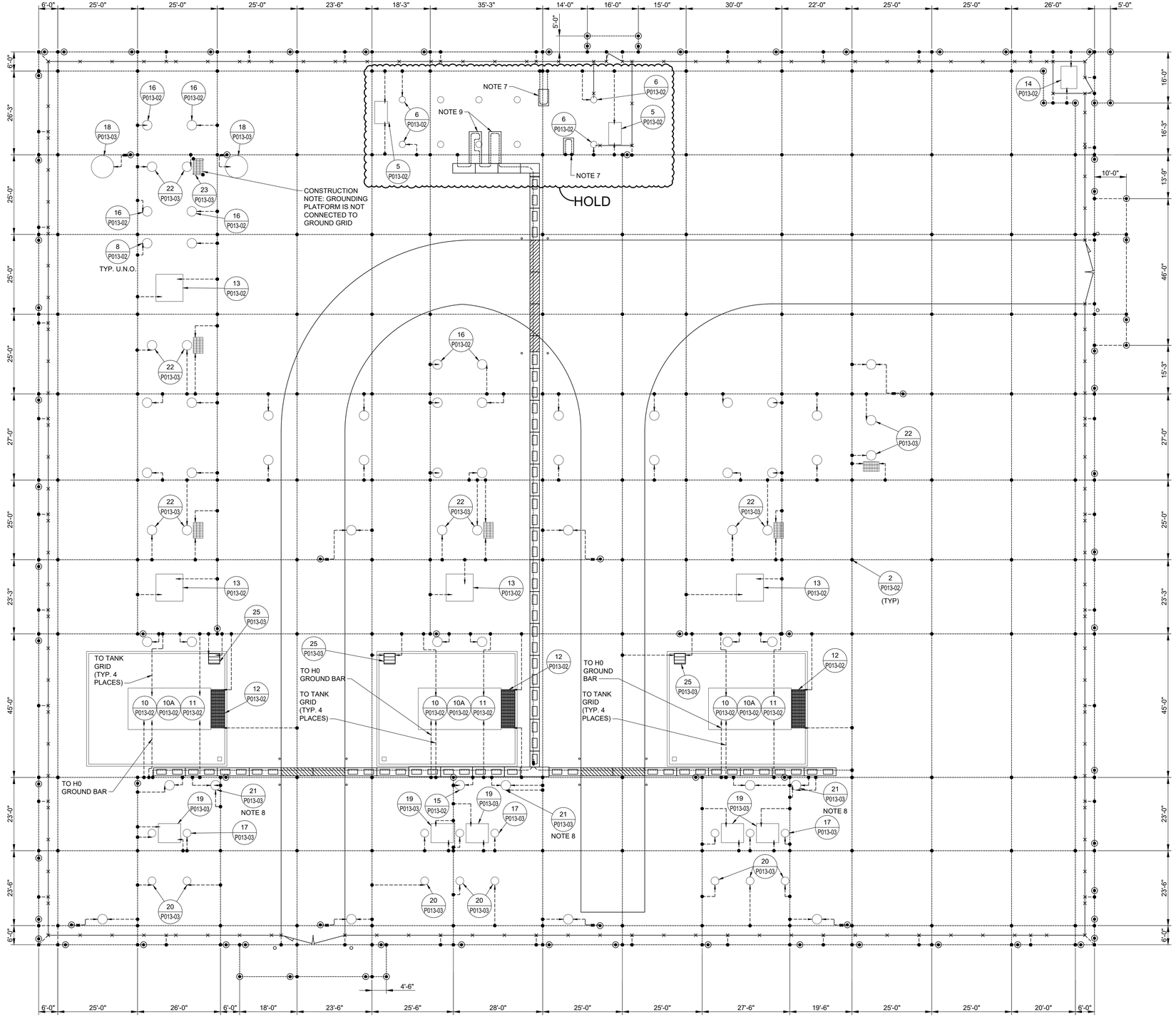
APPENDIX 8-E: CALIFORNIA ISO CLUSTER 9 PHASE II INTERCONNECTION STUDY REPORT

This Appendix is filed under a request for confidential designation

APPENDIX 8-F: GENERATOR INTERCONNECTION REASSESSMENT STUDY REPORT

This Appendix is filed under a request for confidential designation

APPENDIX 9-A: SUBSTATION AND STRUCTURE GROUNDING DETAILS



HOLD

PRELIMINARY
NOT FOR CONSTRUCTION

HOLD NOTES:

1. HOLD PENDING FINAL VENDOR DRAWINGS.

GROUND GRID CRITERIA

GROUNDING SYSTEM DESIGN IS BASED ON THE FOLLOWING PARAMETERS:

- 30.00 KA, 34.5 kV SINGLE PHASE TO GROUND FAULT
- EARTH CURRENT SPLIT FACTOR OF 0.75
- 0.5 SECOND MAXIMUM SHOCK DURATION
- MAINTAINED 4 INCHES OF 3000 OHM-METER SURFACING MATERIAL
- THREE LAYER SOIL MODEL

LAYER #	RESISTIVITY		THICKNESS	
1	28.20	OHM-METERS	0.37	FEET
2	153.76	OHM-METERS	0.83	FEET
3	33.62	OHM-METERS	8.78	FEET
4	10.44	OHM-METERS	95.73	FEET
5	20.29	OHM-METERS	121.56	FEET
6	8.95	OHM-METERS	INFINITE	

UPON COMPLETION OF STATION GROUNDING SYSTEM, THE RESISTANCE OF MAT TO EARTH SHALL BE DETERMINED BY A THREE-ELECTRODE TEST METHOD. IF THE RESISTANCE TO REMOTE EARTH IS GREATER THAN 0.07 OHMS, ADDITIONAL GROUNDING FACILITIES MAY BE REQUIRED.

FIELD TEST RESULT

GROUND GRID FIELD MEASUREMENT .xx OHMS

DATE TAKEN 00/00/00

GENERAL NOTES

1. 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 SUBCONTRACTOR(S)) PERFORMING THE WORK.
2. SEE DRAWING BCR-P003-01 FOR ADDITIONAL NOTES.

NOTES

1. CONTROL ENCLOSURE GROUND TO BE CONNECTED TO GROUND GRID THROUGH PULL BOX GROUND.
2. SEE FENCE GROUNDING DETAILS FOR GROUNDING GATES, POSTS, WIRE, FABRIC, ETC.
3. BURIAL DEPTH OF GROUND GRID SHALL BE 18" BELOW SUBGRADE.
4. EVERY FOURTH FENCE LINE POST TO BE CONNECTED TO GROUND GRID PER DWG P013-04. DISTANCE BETWEEN FENCE POST GROUND CONNECTIONS SHALL NOT EXCEED 40'-0".
5. ARRESTER GROUNDING CONNECTIONS SHALL BE LOOPED FORMING TWO PATHS TO THE GROUND GRID.
6. FROM H0 GROUND BAR, CONNECT 350 KCMIL CU 600V INSULATED CABLE (ITEM G034) TO GROUND GRID WITH 4/0 TO 350 TEE (ITEM G036).
7. CONTRACTOR SHALL CONNECT PULL BOX STATIONARY COVER TO GROUND GRID WITH A #2 CU CABLE. THE REMOVABLE COVER CAN BE CONNECTED TO THE STATIONARY COVER OR THE GROUND GRID WITH A #2 CU CABLE.
8. COIL 30 FEET OF 350 KCMIL CU 600V INSULATED CABLE AT NGR FOUNDATION, CONNECT TO GROUND GRID WITH 4/0 TO 350 TEE (ITEM G036).
9. CONTRACTOR TO CONNECT ALUMINUM LID AT CONDUIT PENETRATION TO GROUND GRID WITH A #2 CU CABLE.

LEGEND

- #4/0 SD COPPER GROUND CONDUCTOR
- 350 KCMIL CU 600V INSULATED GROUND CABLE
- GROUND CONDUCTOR STUB-UP PIGTAIL
- GROUND CONDUCTOR BOND CONNECTION, CADWELD OR EQUAL
- 5/8" x 20' COPPER CLAD STEEL GROUND ROD
- FENCE GROUND (CONNECT CONDUCTOR TO INSIDE OF FENCE & GATE POST AND MAKE SINGLE GROUND ROD CONNECTION).
- GROUND CONDUCTOR CROSS CONNECTION, CADWELD OR EQUAL
- G017 TRENCH GROUND TO GRID, TYPE C COMPRESSION CONNECTOR
- SWITCH OPERATOR PLATFORM (5'x3')
- DETAIL NUMBER / SHEET NUMBER IN WHICH DETAIL APPEARS

REFERENCE DRAWINGS

BCR-P003-01	GENERAL ARRANGEMENT PLAN
BCR-P006-03	FOUNDATION PLAN
BCR-P013-02	GROUNDING DETAILS 1-16
BCR-P013-03	GROUNDING DETAILS 17-25
BCR-P013-04	FENCE GROUNDING DETAILS

NO	DATE	REVISIONS AND RECORD OF ISSUE	DRWN	REV'D	APPR	COMP
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A	05/16/2024	ISSUED FOR BID	SV	FJG	BPR	S&L

SCALE: 1/16" = 1'-0"

0 5' 10' 20'

PREP: -- CHKD: --

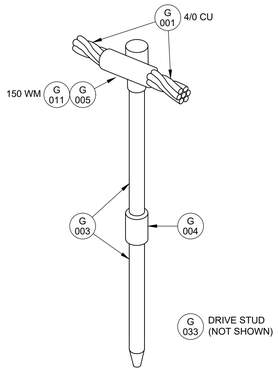
APPD: -- DATE: --

Sargent & Lundy

55 EAST MONROE ST, CHICAGO, IL

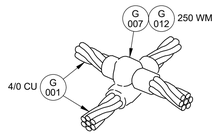
CORBY BESS, LLC
CORBY 230/34.5kV SUBSTATION
GROUNDING PLAN

BCR-P012-01



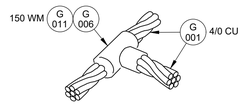
CABLE TO 5/8" x 20' GROUND ROD CONNECTION — 1 — P012-01

SCALE: NTS



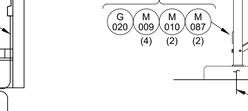
CABLE CROSS CONNECTION — 2 — P012-01

SCALE: NTS



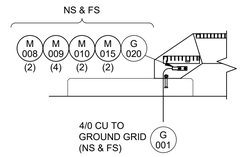
CABLE TEE CONNECTION — 3 — P012-01

SCALE: NTS



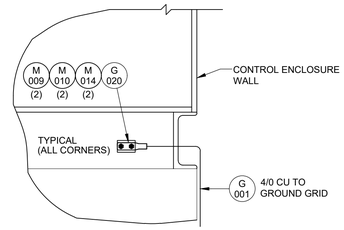
CABLE SPLICE CONNECTION — 4 — P012-01

SCALE: NTS



CONTROL ENCLOSURE STAIRS — 5 — P012-01

SCALE: NTS



CONTROL ENCLOSURE — 6 — P012-01

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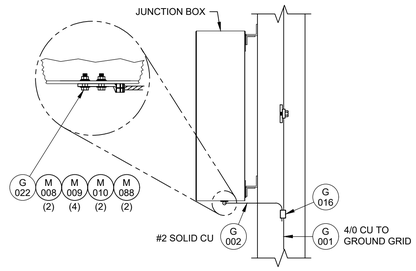
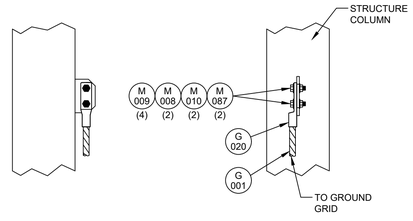


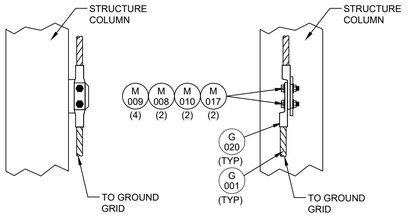
EQUIPMENT JUNCTION BOX — 7 — P013-02 — 7 — P013-03

SCALE: NTS



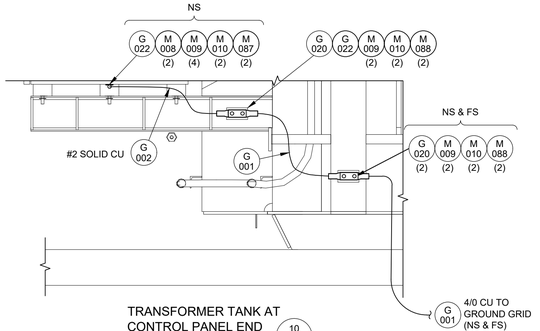
STRUCTURE GROUNDING — 8 — P012-01

SCALE: NTS



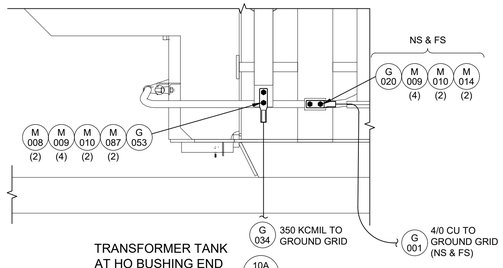
DUAL CONNECTION STRUCTURE GROUNDING — 9 — P013-03

SCALE: NTS



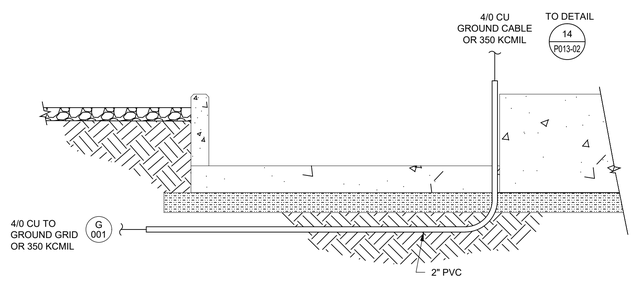
TRANSFORMER TANK AT CONTROL PANEL END — 10 — P012-01

SCALE: NTS



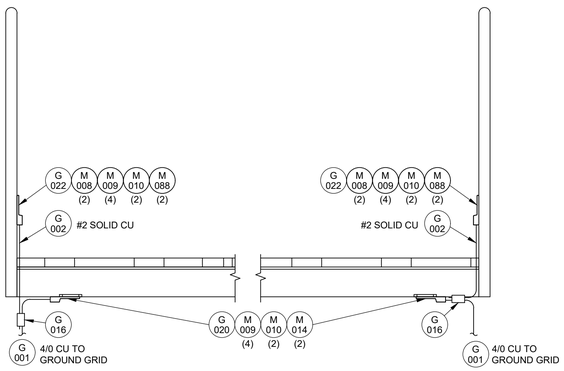
TRANSFORMER TANK AT HO BUSHING END — 10A — P012-01

SCALE: NTS



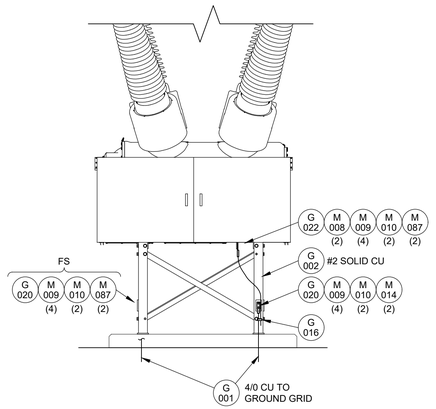
230/34.5kV TRANSFORMER — 11 — P012-01

SCALE: NTS



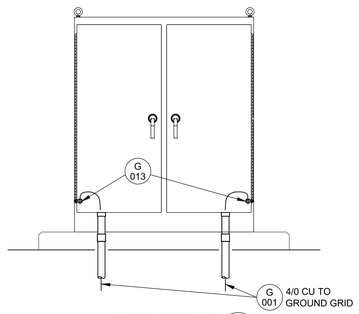
TRANSFORMER GRATING PLATFORM — 12 — P012-01

SCALE: NTS



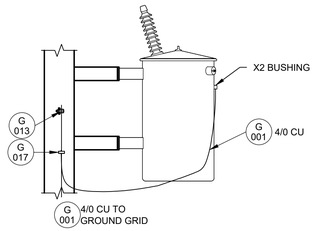
230kV BREAKER — 13 — P012-01

SCALE: NTS



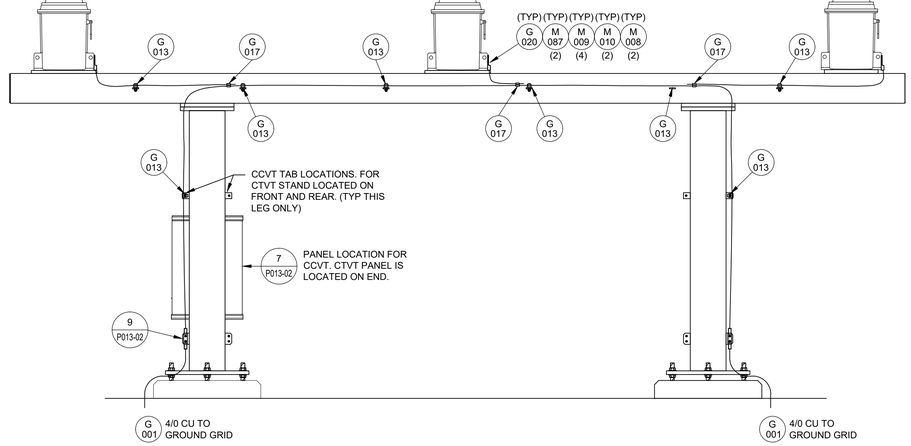
TELCO CABINET — 14 — P012-01

SCALE: NTS



STATION SERVICE TRANSFORMER — 15 — P012-01

SCALE: NTS



230kV CCVTs/CTVTs — 16 — P012-01

SCALE: NTS

HOLD

PRELIMINARY
NOT FOR CONSTRUCTION

HOLD NOTES

1. PENDING FINAL EQUIPMENT VENDOR DRAWINGS.

GENERAL NOTES

1. 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 SUBCONTRACTOR(S)) PERFORMING THE WORK.
2. SEE DRAWING BCR-P003-01 FOR ADDITIONAL NOTES.

LEGEND

- --- MATERIAL IN BOM, DWG BCR-P013-01
- - DETAIL NUMBER
- -- SHEET NUMBER IN WHICH DETAIL APPEARS

REFERENCE DRAWINGS

BCR-P003-01	GENERAL ARRANGEMENT PLAN
BCR-P012-01	GROUNDING PLAN
BCR-P013-01	GROUNDING DETAIL NOTES & BILL OF MATERIAL
BCR-P013-03	GROUNDING DETAILS 17-25
BCR-P013-04	FENCE GROUNDING DETAILS

NO	DATE	REVISIONS AND RECORD OF ISSUE	DRWN	REV'D	APPR	COMP
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A	05/16/2024	ISSUED FOR BID	SV	FJG	BPR	S&L

SCALE: NONE

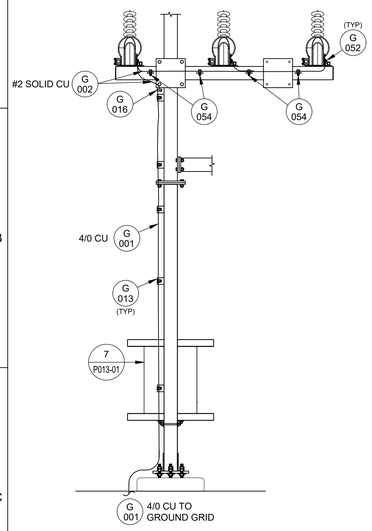
PREP: -- CHKD: --

APPD: -- DATE: --

Sargent & Lundy
55 EAST MONROE ST, CHICAGO, IL

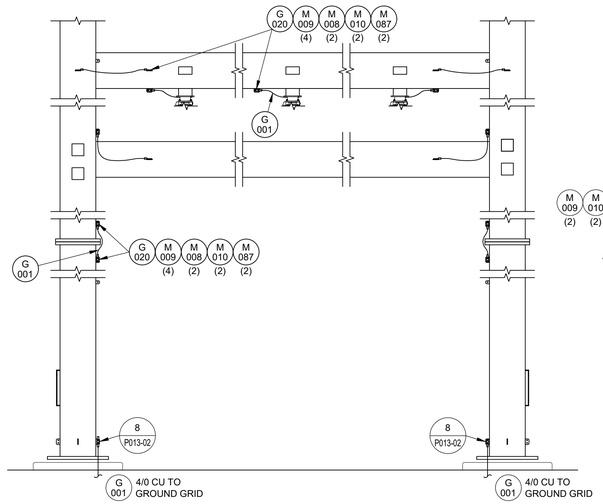
CORBY BESS, LLC
CORBY 230/34.5kV SUBSTATION
GROUNDING DETAILS
1-16

BCR-P013-02



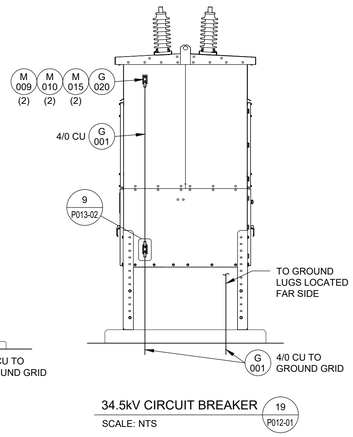
34kV VOLTAGE TRANSFORMER 17 P012-01

SCALE: NTS



230kV DEAD END AND ARRESTERS 18 P012-01

SCALE: NTS



34.5kV CIRCUIT BREAKER 19 P012-01

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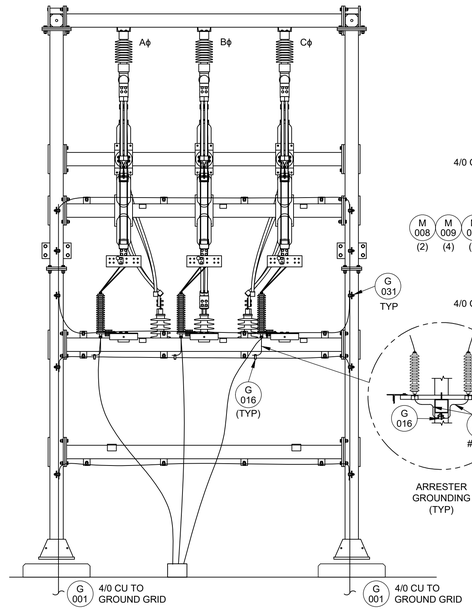
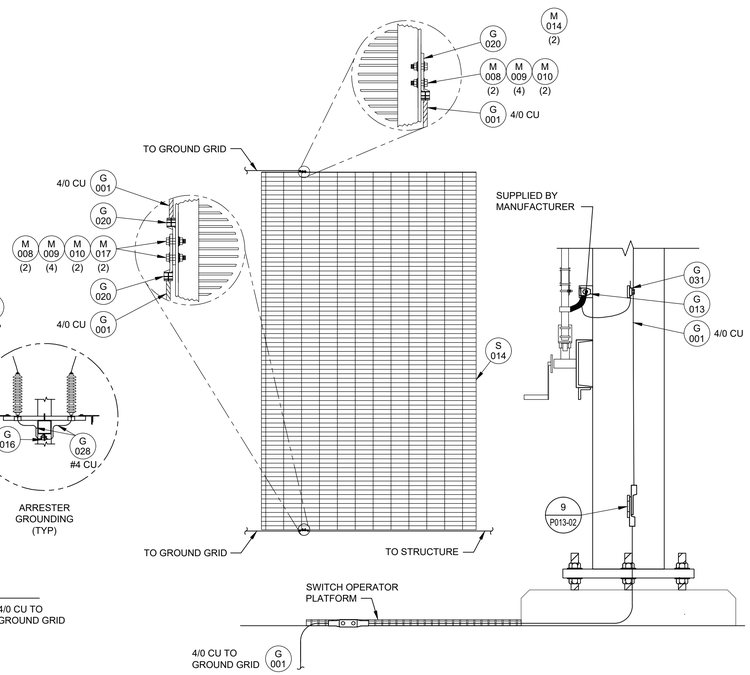


NOTE: TYPICAL GROUNDING ARRANGEMENT. CONDUIT/CABLE SHOWN AS REFERENCE ONLY. FOR CONDUIT/CABLE QUANTITIES AND LOCATIONS SEE XXX-P004-01, XXX-P004-02, & XXX-P010-01.

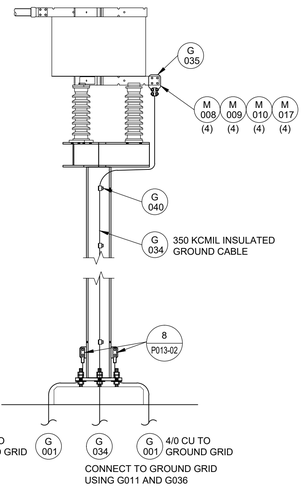
EQUIPMENT ON COLLECTION FEEDER STRUCTURE 20 P012-01

SCALE: NTS



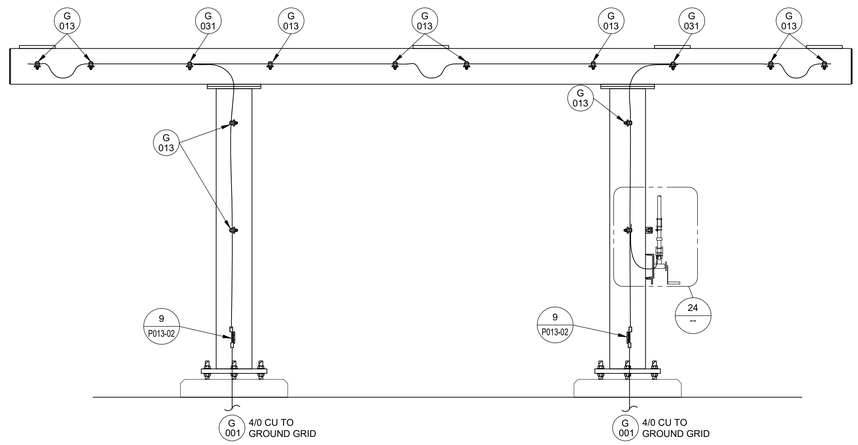
230kV SWITCH OPERATOR PLATFORM OPERATOR GROUNDING 24 P012-01

SCALE: NTS



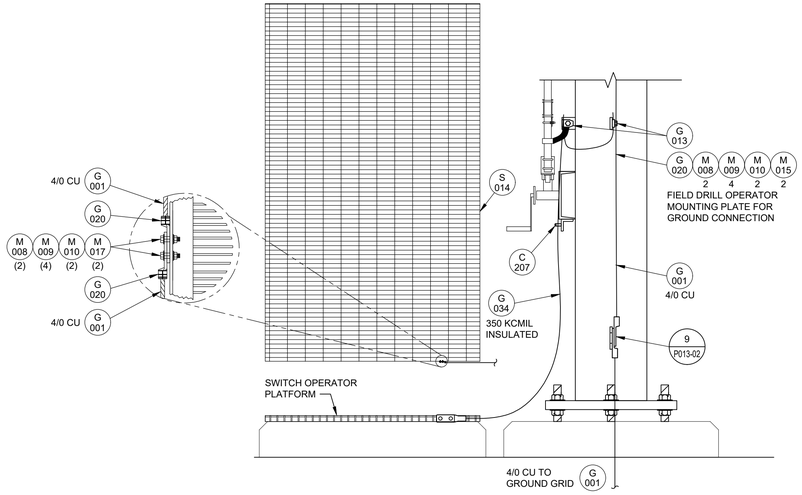
34.5kV NEUTRAL GROUNDING REACTOR 21 P012-01

SCALE: NTS



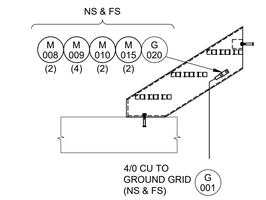
230kV SWITCH 22 P012-01

SCALE: NTS



230kV SWITCH OPERATOR PLATFORM OPERATOR GROUNDING (PG&E) 23 P012-01

SCALE: NTS



TRANSFORMER CONTAINMENT STAIRS 25 P012-01

SCALE: NTS

HOLD NOTES

1. PENDING FINAL EQUIPMENT VENDOR DWGS.

GENERAL NOTES

1. 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 SUBCONTRACTOR(S)) PERFORMING THE WORK.
2. SEE DRAWING BCR-P003-01 FOR ADDITIONAL NOTES.

LEGEND

- MATERIAL IN BOM, DWG BCR-P013-01
- DETAIL NUMBER / SHEET NUMBER IN WHICH DETAIL APPEARS

REFERENCE DRAWINGS

BCR-P003-01	GENERAL ARRANGEMENT PLAN
BCR-P012-01	GROUNDING PLAN
BCR-P013-01	GROUNDING DETAIL NOTES & BILL OF MATERIAL
BCR-P013-02	GROUNDING DETAILS 1-16
BCR-P013-04	FENCE GROUNDING DETAILS

HOLD

PRELIMINARY
NOT FOR CONSTRUCTION

NO	DATE	REVISIONS AND RECORD OF ISSUE	DRWN	REV'D	APPR	COMP
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A	05/16/2024	ISSUED FOR BID	SV	FJG	BPR	S&L

SCALE: NONE

PREP: -- CHKD: --

APPD: -- DATE: --

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 IT'S SUB-CONTRACTOR(S)) PERFORMING THE WORK.

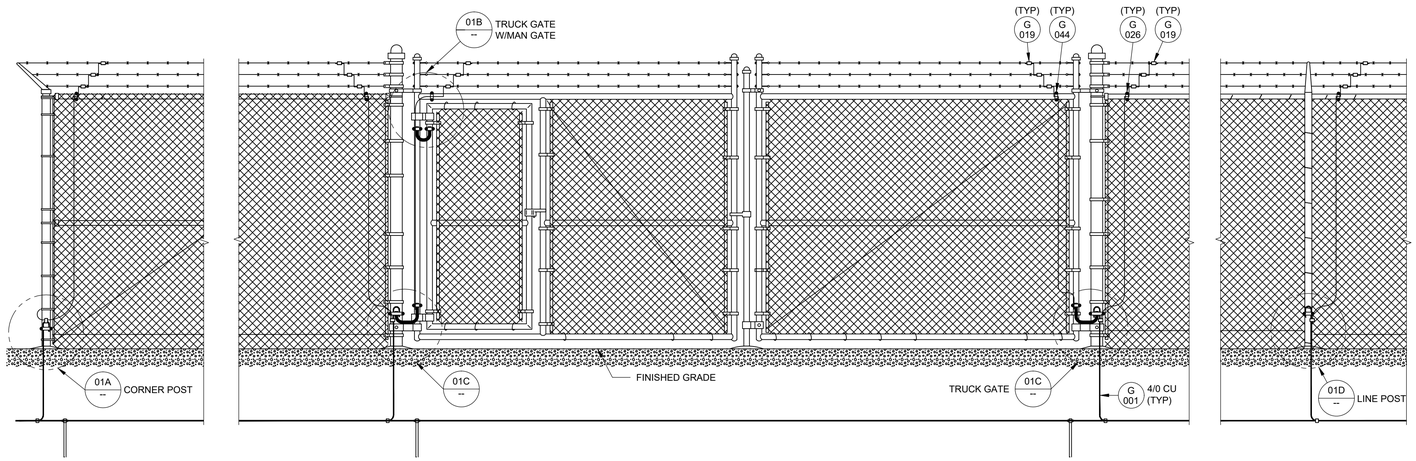
ANY MODIFICATION OR ADDITION TO THIS DRAWING BY ANY ORGANIZATION OTHER THAN SARGENT & LUNDY IS NOT THE RESPONSIBILITY OF SARGENT & LUNDY.

Sargent & Lundy

55 EAST MONROE ST, CHICAGO, IL

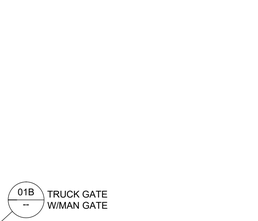
CORBY BESS, LLC
CORBY 230/34.5kV SUBSTATION
GROUNDING DETAILS
17-25

BCR-P013-03



SUBSTATION CHAIN LINK FENCE

TYPICAL CORNER POST — 01A -- — SCALE: NTS



TYPICAL TRUCK OR 10' GATE W/MAN GATE - TOP — 01B -- — SCALE: NTS

TYPICAL TRUCK OR 10' GATE - BOTTOM — 01C -- — SCALE: NTS

TYPICAL LINE POST — 01D -- — SCALE: NTS

HOLD

PRELIMINARY
NOT FOR CONSTRUCTION

HOLD NOTES

1. PENDING FINAL EQUIPMENT VENDOR DRAWINGS.

GENERAL NOTES

1. 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 SUBCONTRACTOR(S)) PERFORMING THE WORK.
2. SEE DRAWING BCR-P003-01 FOR ADDITIONAL NOTES.

NOTES

1. CHAIN LINK FENCING SHALL BE SECURELY BONDED TO MAIN GROUND SYSTEM AT EACH FENCE CORNER AND AT INTERMEDIATE INTERVALS AS DETAILED ON THE GROUNDING PLAN. GROUNDING OF FENCE TO BE DONE ON INSIDE OF FENCE & GATE POSTS.
2. THE PERIMETER CONDUCTOR OF THE MAIN GROUND GRID SHALL BE LOCATED 3 FEET OUTSIDE AND PARALLEL TO CHAIN LINK FENCE AND BURIED 18 INCHES BELOW SUBGRADE.
3. GROUND RODS FOR THE PERIMETER SHALL BE INSTALLED AT LOCATIONS ALONG THE FENCE AT INTERVALS SHOWN ON THE GROUNDING PLAN.

LEGEND

" / **** MATERIAL IN BOM, DWG BCR-P013-01

" / -- DETAIL NUMBER / SHEET NUMBER IN WHICH DETAIL APPEARS

REFERENCE DRAWINGS

BCR-P003-01	GENERAL ARRANGEMENT PLAN
BCR-P012-01	GROUNDING PLAN
BCR-P013-01	BILL OF MATERIAL
BCR-P013-02	GROUNDING DETAILS 1-16
BCR-P013-03	GROUNDING DETAILS 17-24

NO	DATE	REVISIONS AND RECORD OF ISSUE	DRWN	REV'D	APPR	COMP
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A	05/16/2024	ISSUED FOR BID	SV	FJG	BPR	S&L

SCALE: NONE

PREP: -- CHKD: --

APPD: -- DATE: --

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 IT'S SUBCONTRACTOR(S)) PERFORMING THE WORK.

ANY MODIFICATION OR ADDITION TO THIS DRAWING BY ANY ORGANIZATION OTHER THAN SARGENT & LUNDY IS NOT THE RESPONSIBILITY OF SARGENT & LUNDY.

Sargent & Lundy

55 EAST MONROE ST, CHICAGO, IL

CORBY BESS, LLC
CORBY 230/34.5kV SUBSTATION
FENCE GROUNDING DETAILS

BCR-P013-04

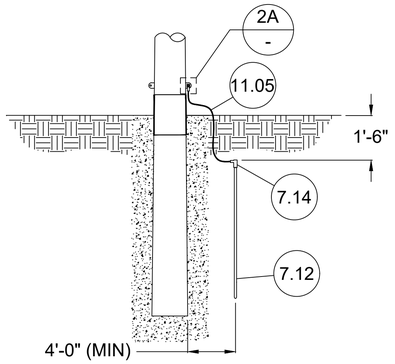


FIGURE A
ONE GROUNDING ELECTRODE - DIRECT EMBED

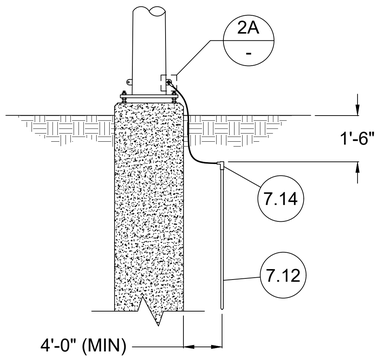


FIGURE A2
ONE GROUNDING ELECTRODE - DRILLED SHAFT

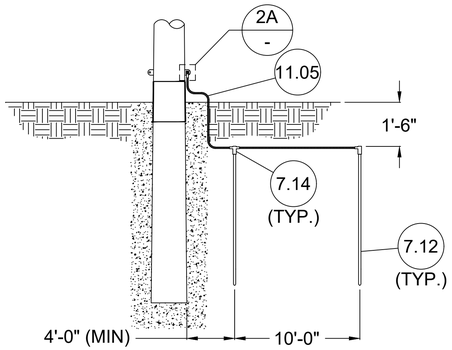


FIGURE B
TWO GROUNDING ELECTRODES

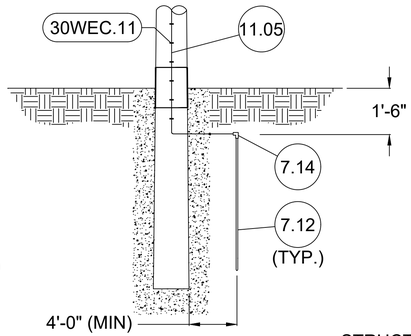


FIGURE A3
GROUNDING ELECTRODE - WOOD POLES

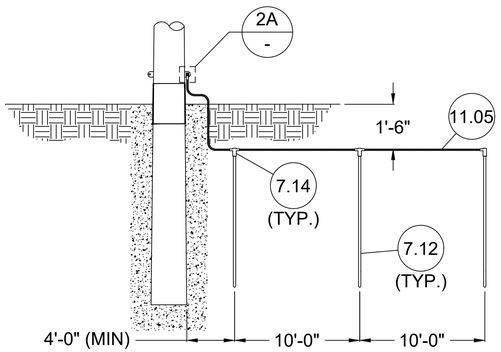
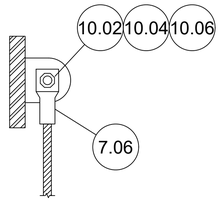


FIGURE C
THREE GROUNDING ELECTRODES

DETAIL 1 - GROUNDING ASSEMBLY



DETAIL 2A - STRUCTURE GROUNDING CONNECTION (GROUNDING TAB)

GROUNDING ASSEMBLY (DETAIL 1 - A OR A2)				
NEER BILL. ITEM #	PART DESCRIPTION	MANUFACTURER/ PART #	UNIT	QTY PER STRUCTURE
7.06	COMPRESSION TERMINAL: 1/2" TO #4	BURNDY YA4CN	EA	1
7.12	STRUCTURE GROUND ROD: 5/8" BY 10' LENGTH, COPPER CLAD, PER UL 467U	ERICO 615800	EA	AS REQ'D
7.14	STRUCTURE GROUND ROD CONNECTOR TAP - CADWELD (NO IGNITOR)	ERICO NT1161L	EA	AS REQ'D
10.02	1/2" LOCK WASHER, GALV	ALL MAKES	EA	1
10.04	1/2" - 13x2" FULLY THREADED LONG BOLT, GALV	ALL MAKES	EA	1
10.06	1/2" HEX NUT, GALV	ALL MAKES	EA	1
11.05	#4 - SOLID HARD DRAWN COPPER	ALL MAKES	FT	AS REQ'D

GROUNDING ASSEMBLY - WOOD POLES (DETAIL 1 - A3)				
NEER BILL. ITEM #	PART DESCRIPTION	MANUFACTURER/ PART #	UNIT	QTY PER STRUCTURE
7.12	STRUCTURE GROUND ROD: 5/8" BY 10' LENGTH, COPPER CLAD, PER UL 467U	ERICO 615800	EA	1
7.14	STRUCTURE GROUND ROD CONNECTOR TAP - CADWELD (NO IGNITOR)	ERICO NT1161L	EA	AS REQ'D
11.05	#4 - SOLID HARD DRAWN COPPER	ALL MAKES	FT	AS REQ'D
30WEC.11	STAPLE, 3/8" X 1-1/2" CU COATED PER ASTM B-227	HUBBELL C2050464	EA	AS REQ'D

NOTES:

1. MAXIMUM NUMBER OF GROUND RODS IS THREE (3) PER STRUCTURE. IMMEDIATELY NOTIFY OWNER IF READINGS OVER 20 OHMS ARE RECORDED AFTER INSTALLATION OF THE THIRD GROUND ROD.
2. TESTING TO BE COMPLETED IN ACCORDANCE WITH PROJECT SPECIFICATION AND IEEE STANDARD 81 GUIDE FOR MEASURING EARTH RESISTIBLY, GROUND IMPEDANCE AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM.
3. ALTHOUGH DETAILS DEPICT A DIRECT EMBED STRUCTURE, SAME PROCEDURES APPLY FOR SELF-SUPPORTED STRUCTURES, SEE FIGURE A2.
4. OWNER HAS PROCURED GROUNDING HARDWARE ASSUMING ONE GROUND ROD PER POLE. CONTRACTOR SHALL PROCURE ADDITIONAL GROUNDING HARDWARE, IF REQUIRED.

STRUCTURE GROUNDING PROCEDURE

DRIVE ONE (1) 5/8" x 10' GROUNDING ELECTRODE LOCATED AS SHOWN ON FIGURE A.

↓

TEST GROUND RESISTANCE USING THE FALL-OF-POTENTIAL METHOD AS DESCRIBED IN IEEE 81

↓

GROUND RESISTANCE MEASUREMENT IS 20 OHMS OR LESS? — YES → FINISHED: CONNECTION TO THE STRUCTURE CAN BE COMPLETED AT THIS TIME. ALL READINGS SHALL BE RECORDED AND TRANSMITTED TO PURCHASER.

↓ NO

DRIVE SECOND 5/8" x 10' GROUNDING ELECTRODE LOCATED AS SHOWN ON FIGURE B, AND CONNECT TO THE FIRST GROUNDING ELECTRODE USING #4 AWG SOLID COPPER.

↓

TEST GROUND RESISTANCE USING THE FALL-OF-POTENTIAL METHOD AS DESCRIBED IN IEEE 81.

↓

GROUND RESISTANCE MEASUREMENT IS 20 OHMS OR LESS? — YES → FINISHED: CONNECTION TO THE STRUCTURE CAN BE COMPLETED AT THIS TIME. ALL READINGS SHALL BE RECORDED AND TRANSMITTED TO PURCHASER.

↓ NO

DRIVE THIRD 5/8" x 10' GROUNDING ELECTRODE LOCATED AS SHOWN ON FIGURE C, AND CONNECT TO THE FIRST GROUNDING ELECTRODE USING #4 AWG SOLID COPPER.

↓

TEST GROUND RESISTANCE USING THE FALL-OF-POTENTIAL METHOD AS DESCRIBED IN IEEE 81.

↓

FINISHED: CONNECTION TO THE STRUCTURE CAN BE COMPLETED AT THIS TIME. ALL READINGS SHALL BE RECORDED AND TRANSMITTED TO PURCHASER. GROUND CONNECTIONS NOT MEETING THE SPECIFIED 20 OHM RESISTANCE SHALL BE NOTED FOR RE-TESTING AFTER CONSTRUCTION IS COMPLETED AND ALL CONNECTIONS ARE MADE TO THE OVERHEAD GROUND WIRE.

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT.

NO	DATE	REVISIONS AND RECORD OF ISSUE	DRWN	REV'D	APPR	COMP
A	3/19/2025	ISSUED FOR BID	JKV	CAK	--	BMcD

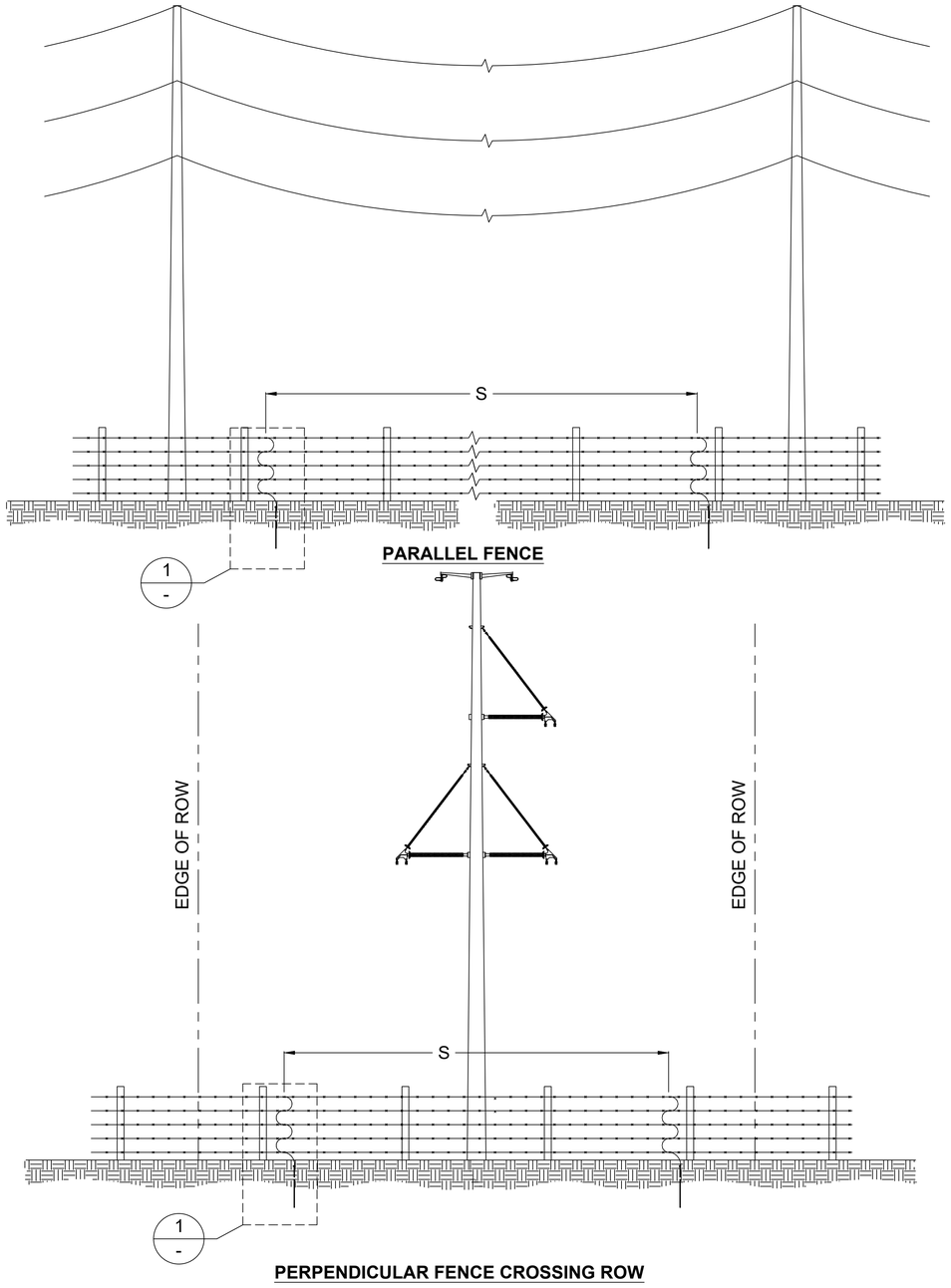
SCALE: N.T.S.

PREP: J. VAUGHN CHKD: C. KLEINE
APPD: -- DATE: 2/7/2025

BURNS & McDONNELL
ENGINEERING COMPANY, INC.
9400 WARD PARKWAY
KANSAS CITY, MO 64114

CORBY ENERGY STORAGE, LLC
CORBY ENERGY STORAGE 230-kV T/L
GROUNDING DETAILS
STRUCTURE

C4.003526-3100



PARALLEL FENCE

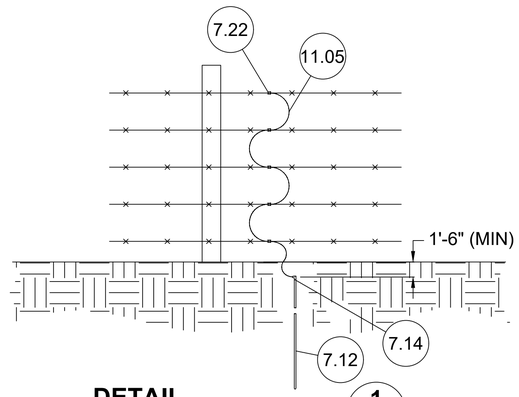
PERPENDICULAR FENCE CROSSING ROW

FENCE GROUNDING ASSEMBLY (DETAIL 1)				
NEER BILL. ITEM #	PART DESCRIPTION	MANUFACTURER/PART #	UNIT	QTY
7.12	GROUND ROD: 5/8" BY 10' LENGTH, COPPER CLAD, PER UL 467U	ERICO 615800	EA	1
7.14	GROUND ROD CONNECTOR TAP - CADWELD (NO IGNITOR)	ERICO NT1161L	EA	1
7.22	CONNECTOR: #4 TO FENCE WIRE	BURNDY YC4C4	EA	AS REQ'D
11.05	#4 - SOLID HARD DRAWN COPPER	ALL MAKES	FT	AS REQ'D

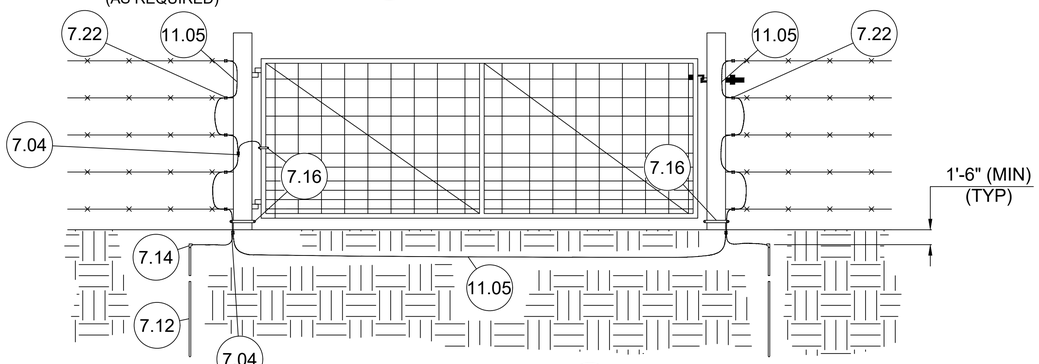
GATE GROUNDING ASSEMBLY (DETAIL 2)				
NEER BILL. ITEM #	PART DESCRIPTION	MANUFACTURER/PART #	UNIT	QTY
7.04	CONNECTOR: #6-#2 CU - #6-#2 CU, COMPRESSION H-TAP	BURNDY YH2C2C	EA	AS REQ'D
7.12	GROUND ROD: 5/8" BY 10' LENGTH, COPPER CLAD, PER UL 467U	ERICO 615800	EA	2
7.14	GROUND ROD CONNECTOR TAP - CADWELD (NO IGNITOR)	ERICO NT1161L	EA	2
7.16	PIPE CLAMP	BURNDY GD SERIES	EA	AS REQ'D
7.22	CONNECTOR: #4 TO FENCE WIRE	BURNDY YC4C4	EA	AS REQ'D
11.05	#4 - SOLID HARD DRAWN COPPER	ALL MAKES	FT	AS REQ'D

NOTES:

1. WHERE SPECIFIED BY OWNER, FENCES AND METALLIC GATES AND GATE POSTS SHALL BE GROUNDED AS INDICATED. THE SPACING "S" BETWEEN GROUNDING LOCATIONS (DETAIL 1) SHALL NOT EXCEED 500 FEET, UNLESS OTHERWISE SPECIFIED.
2. FENCES CROSSING THE RIGHT OF WAY SHALL BE GROUNDED AT EACH EDGE OF THE RIGHT OF WAY, AT A MINIMUM, AND IN ACCORDANCE WITH NOTE 1 IF LENGTH IN RIGHT OF WAY EXCEEDS 500 FEET.
3. CONTRACTOR SHALL PROCURE ALL GROUNDING MATERIAL NECESSARY TO PROPERLY GROUND ALL FENCES AND GATES PER OWNER DIRECTION.
4. IN ADDITION TO FENCES AND GATES, WHERE SPECIFIED BY OWNER, METALLIC OBJECTS INCLUDING BUT NOT LIMITED TO SIGNS, BILLBOARDS, GUARDRAIL, BUILDINGS, WELLS, AND TRAFFIC CONTROL STRUCTURES SHALL BE GROUNDED. CONTRACTOR SHALL PROCURE ALL GROUNDING MATERIAL NECESSARY.



DETAIL 1
FENCE GROUNDING
(AS REQUIRED)



DETAIL 2
GATE GROUNDING
(AS REQUIRED)

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT.

NO	DATE	REVISIONS AND RECORD OF ISSUE	DRWN	REV'D	APPR	COMP
A	3/19/2025	ISSUED FOR BID	JKV	CAK	--	BMCD

SCALE: N.T.S.

PREP: J. VAUGHN CHKD: C. KLEINE
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BURNS & McDONNELL
ENGINEERING COMPANY, INC.
9400 WARD PARKWAY
KANSAS CITY, MO 64114

CORBY ENERGY STORAGE, LLC
CORBY ENERGY STORAGE 230-kV T/L
GROUNDING DETAILS
FENCE, GATE, AND MISCELLANEOUS

C4.003526-3101

APPENDIX 9-B: ELECTRIC AND MAGNETIC FIELD STUDY

Electric and Magnetic Field Study

Corby Battery Energy Storage System Project

March 2025

Prepared for

NEXTera ENERGY RESOURCES

700 Universe Boulevard
Juno Beach, FL 33408

Prepared by

TETRA TECH

390 Union Boulevard, Suite 400
Lakewood, CO

Table of Contents

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Acronyms and Abbreviations

µv/m	microvolt per meter
AC	alternating current
ACSS	aluminum core, steel-supported
Applicant	North Bay Interconnect, LLC and Corby Energy Storage, LLC
dB	decibel
ELF	extremely low frequency
EMF	electrical and magnetic fields
EMR	electromagnetic radiation
FCC	Federal Communications Commission
gen-tie	generation tie
GHz	gigahertz
GPS	Global Positioning System
HDD	horizontal directional drill
Hz	Hertz
I	Interstate
IEEE	Institute of Electrical and Electronics Engineers
kHz	kilohertz
kV	kilovolt
kV/m	kilovolts per meter
mG	milligauss
MHz	megahertz
PG&E	Pacific Gas and Electric
POCO	point of change of ownership
Project	Corby Battery Energy Storage System Project
TV	television

1.0 INTRODUCTION

North Bay Interconnect, LLC and Corby Energy Storage, LLC (collectively referred to herein as Applicant), propose to construct, own, and operate the Corby Battery Energy Storage System Project (Project). The Project will be constructed on an approximately 40.3-acre privately owned parcel in Solano County, California. The Project is planned to include a 300-megawatt, 1,200-megawatt-hour battery energy storage system, associated Project substation, inverters, and other ancillary facilities, such as fencing, sound barrier, roads, stormwater retention basins, storage containers, and a supervisory control and data acquisition system.

The Project is planned to connect to the Pacific Gas and Electric (PG&E) Vaca-Dixon Substation, northwest of the Project site and across Interstate (I) 80, via a 1.1-mile-long 230-kilovolt (kV) generation tie (gen-tie) line, portions of which would be installed overhead and underground. The underground portions of the gen-tie line is planned to run east-west parallel to and crossing Kilkenny Road, either within acquired easements on adjacent parcels or within the City of Vacaville road right-of-way. The overhead portions includes two structures on the Project site, four structures between Kilkenny Road and I-80 on private land owned by the Applicant, and up to four structures north of I-80 on PG&E's Vaca-Dixon Substation property, for a total of up to 10 overhead gen-tie structures.

To accommodate the interconnection of the Project and other future projects, PG&E is currently performing network upgrades that include grading, construction of concrete pads, and relocating existing structures within the Vaca Dixon Substation. Specifically, for the Project and within the previously graded area within the Substation, PG&E is planning to install a new 230-kV double bus bay structure with associated foundations and supports on approximately 0.6 acre of the existing substation. This New Corby Bay is planned to house four switch support structures and associated equipment for the new 230-kV connection. In addition, PG&E is planning to construct, own, and operate the portion of the gen-tie between the point of change of ownership (POCO) and the New Corby Bay, including 5 of the 10 structures, to connect the Project to the Vaca-Dixon Substation.

Tetra Tech prepared this report to provide an analysis of the electrical and magnetic fields (EMFs) generated by the various types of gen-tie lines that connect the proposed substation planned by the Project to the existing Vaca-Dixon Substation.

1.1 EMF Background Information

Electrical and magnetic fields occur both naturally and because of the generation, transmission, and use of electric power. The earth itself generates steady-state magnetic and electric fields. Electromagnetic fields are present around any conductors or devices that transmit or use electrical energy; as a result, exposure to EMF is common from an array of electrical appliances and equipment, building wiring, and electric distribution and transmission lines. The electrical power system in the United States is an alternating current (AC) system operating at a frequency of 60 hertz (Hz)[1], resulting

[1] Hertz is a measure of cycles per second. In a 60-Hz transmission system, the charge and direction of current flow on each conductor will cycle from positive to negative and back to positive 60 times per second. The direction of force in the electric and magnetic fields will also cycle in direct relation to the charge and direction of flow on the conductor.

in “power frequency” or “extremely low frequency (ELF)” EMF[2]. While electric and magnetic fields are often referred to and thought of collectively, each arises through a different mechanism and can have differing effects.

Electric fields around transmission lines are produced by the presence of an electric charge, measured as voltage, on the energized conductor. Electric field strength is directly proportional to the line’s voltage; that is, increased voltage produces a stronger electric field. The strength of the electric field is inversely proportional to the square of distance from the conductors; the electric field strength declines as the distance from the conductor increases. The strength of the electric field is measured in units of kV per meter (m) or kV/m. Electric fields are readily weakened or blocked by conductive objects such as trees or buildings. The direction of force within the electric field alternates at a frequency of 60 Hz, in direct relation to the charge on each conductor. However, the overall transmission line voltage, and therefore the overall strength and reach of the electric field, remains practically steady and is not affected by the common daily and seasonal fluctuations in usage of electricity by customers.

Magnetic fields around transmission lines are produced by the movement of electrical charge, measured in terms of amperage, through the conductors. Like the electric field, the magnetic field alternates at a frequency of 60 Hz. Magnetic field strength is expressed in units of milligauss (mG)[3]. The magnetic field strength is directly proportional to the amperage; that is, increased current flow resulting from increased power flow through the line produces a stronger magnetic field. As with electric fields, the magnetic field is inversely proportional to the square of the distance from the conductors, declining in strength as the distance from the conductor increases. Magnetic fields are not blocked or shielded by most materials. Unlike voltage, the amperage and the resulting magnetic field around a transmission line fluctuate daily and seasonally as the usage of electricity varies and the resulting amount of current flow varies.

Each AC three-phase circuit carries power over three conductors. One phase of the circuit is carried by each of the three conductors. The AC voltage and current in each phase conductor is out of sync with the other two phases by 120 degrees, or one-third of the 360-degree cycle. The fields from each of these conductors tend to cancel each other out because of this phase difference. However, since the conductors are separated from each other, when a person stands under a transmission line, one conductor is somewhat closer than the others and will contribute a net uncanceled field at the person’s location.

1.2 EMF Standards

There are no federal regulations or guidelines that apply directly to EMF levels for transmission lines. The National Institute of Environmental Health Sciences performed an extensive review of field-related issues in the 1990s that resulted in the decision that regulatory actions are unwarranted (NIEHS 1999).

[2] The electric transmission system in the U.S. operates at 60 Hz, while in Europe and other parts of the world, the systems operate at 50 Hz; both produce fields that are referred to as power frequency or ELF EMF.
[3] Magnetic field strength may also be measured in terms of the Tesla, an International System unit of measurement. 1 Gauss = 0.0001 Tesla, or 1 Tesla = 10,000 Gauss; 1 Gauss = 1,000 mG.

Although there are no federal regulations on power-frequency EMF in the United States, international recommendations and guidelines exist. Table 1 lists power-frequency EMF guidelines recommended by the European Union, the International Committee on Electromagnetic Safety, and the International Commission on Non-Ionizing Radiation Protection, which is an affiliate of the World Health Organization (EU 1999; ICES 2002; ICNIRP 2010).

Table 1. International Guidelines for Alternating Current Power-Frequency EMF Levels

Agency	Exposure	Electric Field (kV/m)	Magnetic Field (mG)
European Union	General public	4.2	833
ICES[1/]	Occupational	20	27,100
	General public	5	9,040
	General public within right-of-way	10	NA
ICNIRP	Occupational	8.3	10,000
	General public	4.2	2,000

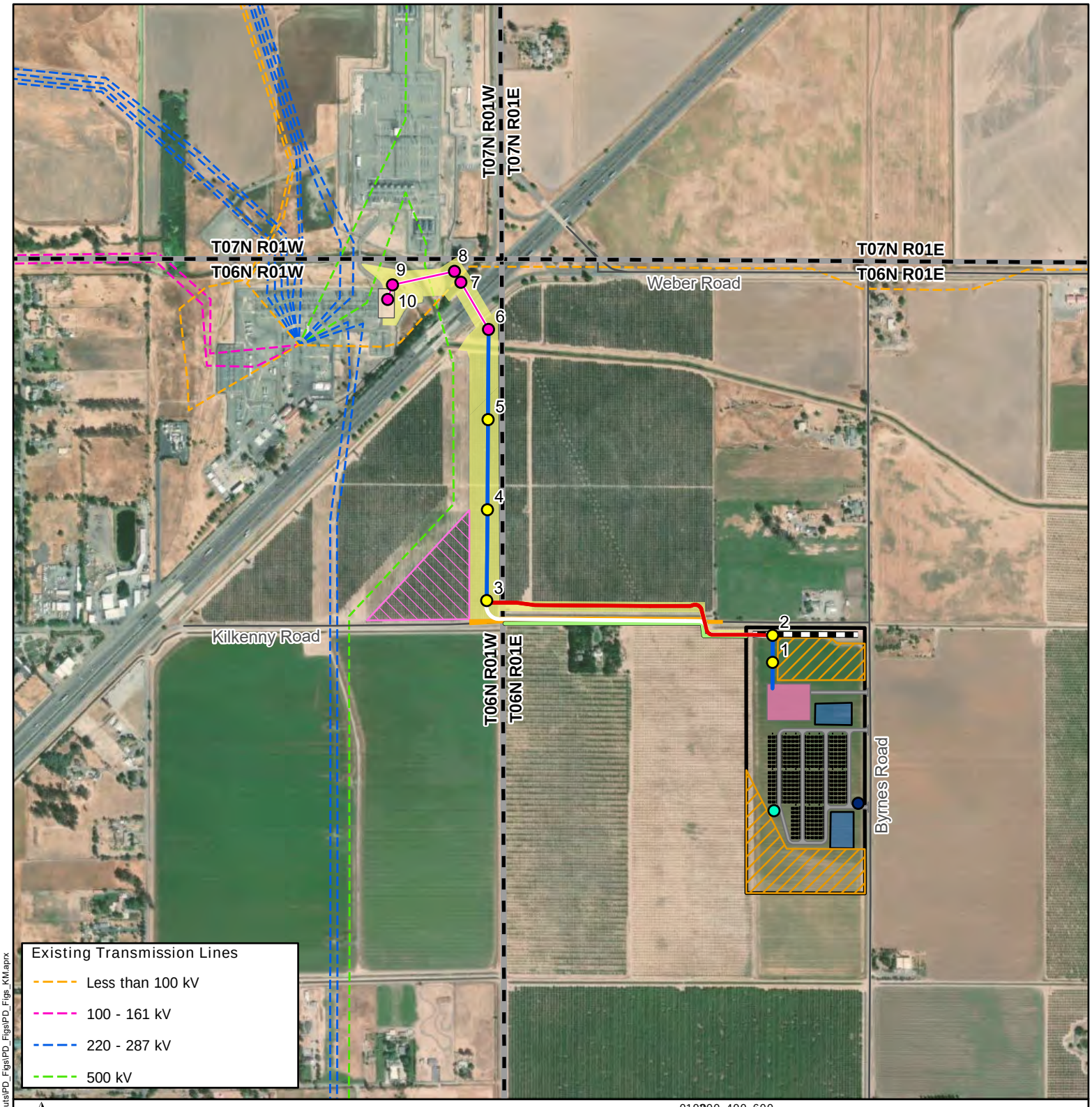
Magnetic fields are measured in gauss (G) and milligauss (mG). 1 G = 1,000 mG
ICES = International Committee on Electromagnetic Safety; ICNIRP = International Commission on Non-Ionizing Radiation Protection; NA = Not Applicable (no requirements)
1 ICES recommendations have been adopted as standards by the Institute of Electrical and Electronics Engineers; see Standard C95.6 -2002 (R2007).

2.0 PROJECT EMF

The Project is designed to connect to the POCO at the existing Vaca-Dixon substation using one gen-tie line. The first proposed overhead alignment is planned to begin at the Project Substation and extend north for approximately 390 feet, at which point the overhead line transitions underground and is planned to either cross Kilkenny Road and the Solano Irrigation District canal before turning west and parallelling Kilkenny Road for a total underground distance of approximately 2,320 feet (Underground Route Option #1), or may be located within the City of Vacaville road right-of-way for a total underground distance of approximately 2,270 feet (Underground Route Option #2). At the end of the underground sections, the gen-tie line transitions to an overhead line at Structure 3 and extend north approximately 2,020 feet until it reaches the POCO at Structure 6. After the POCO, the line is planned to continue to the northwest across I-80, then continue west and southwest before terminating at the New Corby Bay within the Vaca-Dixon Substation for a distance of approximately 1,110 feet. The gen-tie line and structures starting at the POCO and continuing to Vaca-Dixon Substation is planned to be constructed, owned, and operated by PG&E.[4]

See Figure 1 for the proposed layout for both overhead and underground gen-tie line segments.

[4] Following construction, ownership of the POCO structure will be transferred from PG&E to the Applicant, whereas the gen-tie line and structures between the POCO and Vaca-Dixon Substation will be owned and operated by PG&E.



NextEra Energy
Corby Battery Energy
Storage System Project

Figure 1.
Existing and Proposed
Transmission Lines

SOLANO COUNTY, CA

Proposed Features

- Proposed Pole
- Water Tank
- Water Well
- Gen-tie (Overhead)
- Gen-tie (Underground; Option 1)
- Gen-tie (Underground; Option 2)
- Access Road
- Construction Laydown Area
- Gen-tie Corridor (Option 1)
- Gen-tie Corridor (Option 2)
- Gen-tie Laydown Area
- BESS Array
- Project Site
- Stormwater Pond
- Project Substation
- New Corby Bay

PG&E Features

- Pole Locations (PG&E)
- Gen-tie (Overhead; PG&E)

TETRA TECH

Reference Map

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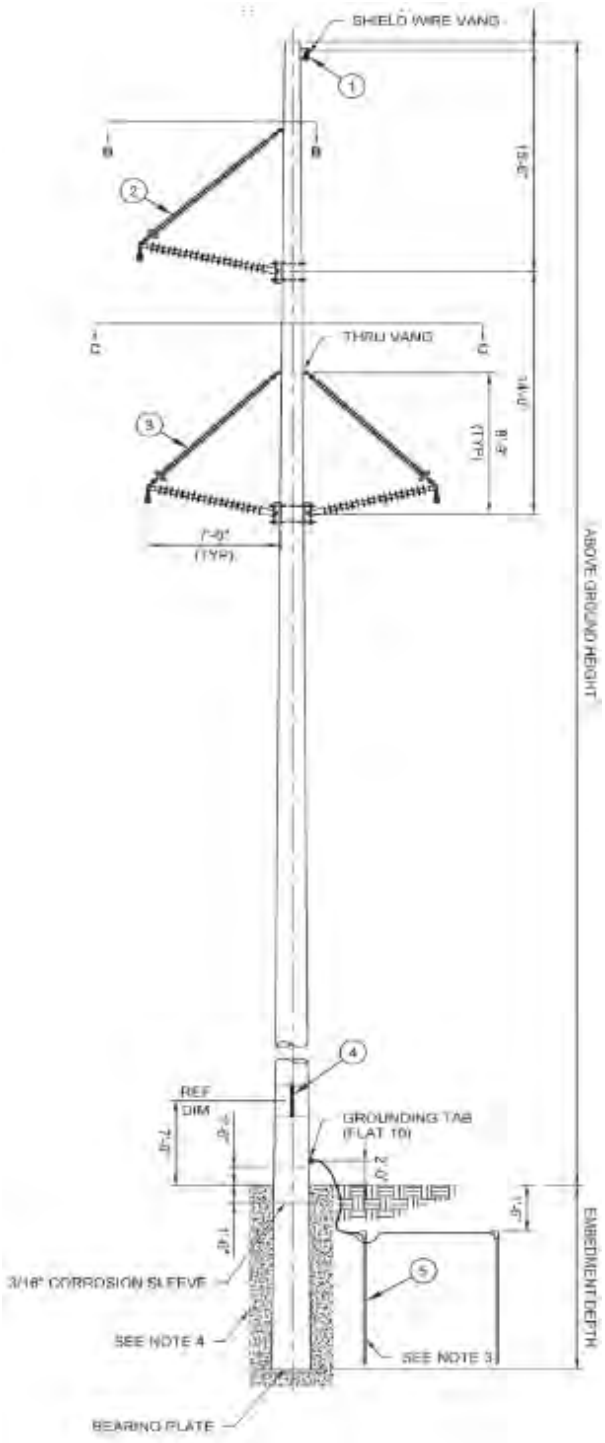


Figure 2. Typical Overhead Transmission Line

2.1 Overhead Transmission Line Characteristics

The proposed overhead gen-tie line is planned to include a single-circuit, three-phase, 230-kV transmission line of three aluminum core, steel-supported (ACSS), 1272-kcmil Bittern conductors suspended via braced post insulators on approximately 90- to 130-foot-tall steel poles; however, H-frames or 3-pole tubular steel poles may also be used at the POCO or take off from the Project substation as determined during deatiled design of the Project. These would be located on Applicant-owned parcels or PG&E Vaca-Dixon Substation parcels. One level of optical ground wire is planned to also be attached to the structures. Figure 2 displays a typical overhead electric transmission structure and conductor configuration planned for the Project.

2.2 Underground Transmission Line Characteristics

Between the two overhead transmission line segments, the gen-tie line is planned to be installed in an underground location. There are two options identified described as follows.

Underground Route Option #1 is planned to be installed between Structures 2 and 3 in a concrete duct bank along with trenchless crossings under Kilkenny Road, the Solano Irrigation District canal, PG&E gas pipelines, and other underground constraints. The duct bank is planned to be approximately 4 feet wide and 3 feet deep and house six conduits for power cables and two conduits to house a ground-ground check cable and fiber optic cables. The top of the duct bank is planned to be buried a minimum of 3 feet below the ground surface to allow for appropriate cover. One approximately 8-foot-wide by 28-foot-long by 8-foot-deep splice vault is planned to be included to provide maintenance access to the underground cable splices. Work associated with Underground Route Option #1 is

planned to be conducted on the south side of Kilkenny Road within an approximately 60-foot-wide temporary construction easement, within which would be a 30-foot-wide permanent easement, and north of Kilkenny Road within a 75-foot-wide temporary construction easement, within which would be an approximately 50-foot-wide permanent easement. Figure 3 displays a typical underground duct bank configuration.

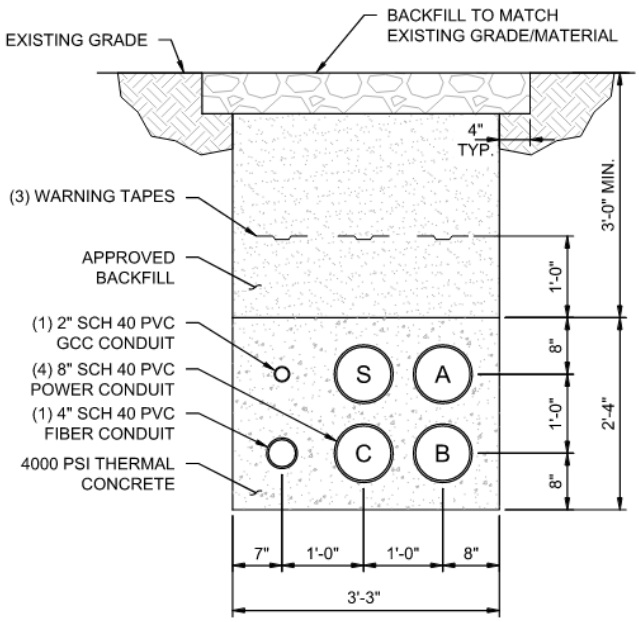


Figure 3. Typical Underground Duct Bank

Underground Route Option #2 is planned to be installed via a horizontal directional drill (HDD) within the City of Vacaville–maintained Kilkenny Road right-of-way between Structures 2 and 3 and within a duct bank or direct buried in a similar manner as described for Underground Route Option #1 in areas outside of Kilkenny Road. The HDD is currently planned for a depth of approximately 20 feet below ground surface with a maximum depth of 30 feet; however, the actual depth is planned to be dependent on conditions encountered during the drill. The temporary construction easement required for the HDD depends on the activities that is planned to occur at each location but it is anticipated that the work area associated with the entry pit is planned to be approximately 30 feet wide by 300 feet long, and the exit pit is planned to require a work area that is approximately 30 feet wide by 100 feet long. A splice vault similar in size to the one discussed for Underground Route Option #1 would also be required near the HDD exit pit.

2.3 Calculation Methods and Assumptions

The following assumptions are used for modeling both overhead and underground transmission lines:

- Environmental parameters – 1 inch of precipitation per hour, 2.0 miles per hour wind speed (for modeling wet-weather conditions)
- Height for both electrical and magnetic field measurements – 1 meter, or 3.28 feet above ground.
- Elevation is less than 1,000 feet above sea level, so the elevation is considered zero in the model (as referenced by model instructions).
- Line voltage – 230 kV phase/phase or 132.79 kV phase/ground
- Line amperage – 753.33 amps, calculated as the maximum output value of the Project (300 megawatts at 230 kV).
- Overhead transmission line details (see Figure 1):
  - Overhead pole height – 90 to 130 feet, depending on location.

- Model location – the shortest distance between ground level and the conductors is planned to be the span following (north of) the underground transmission line between Structures 3 and 4. At the lowest between the two poles, conductors is planned to be 36 feet 9 inches, 47 feet 1 ¼ inches, and 61 feet 9 ¾ inches from the ground, based on preliminary design. The ground wire is planned to be 93 feet 11 ¼ inches from the ground at the same location. This is considered the minimum height from the ground for the overhead transmission line, and conductors in other locations is planned to be higher than at this location. Since this location is between a dead-end structure and the overhead transmission line structure shown in Figure 1, the horizontal distances are different than other spans.
  - The A phase low point is located approximately 36 feet 9 inches above the ground at 2.4 feet west of centerline.
  - The B phase low point is located approximately 47 feet 1 ¼ inches above the ground at 2.4 feet east of centerline.
  - The C phase low point is located approximately 61 feet 9 ¾ inches above the ground at 2.4 feet west of centerline.
  - The ground wire is one overhead shield wire, 0.5 inch in diameter. Height above the ground is 93 feet 11 ¼ inches from the ground and is located 0.15 feet east of centerline.
  - Conductor type – single 1272 kcmil 45/7 Bittern ACSS, one conductor per phase, 1.345 inches in diameter.
- Underground transmission corridor (see Figure 2):
  - Modeling was conducted on Underground Route Option #1, as the concrete duct bank and subsequent conductors is planned to be closest to the surface. Underground Route Option #2, with conductors installed using the HDD method, is deeper underground and therefore modeled EMF would be much less compared to the concrete duct bank.
  - Conductor layout and placement are shown in Figure 2.
  - Conductor type – copper conductor, one per phase, 2.48 inches in diameter.
  - Ground wire – no ground wire.

2.4 EMF Modeling Results

Table 2 shows calculated electric field values for the overhead and underground gen-tie line segments, and Table 3 shows calculated magnetic field values for the overhead and underground gen-tie line segments. The rights-of-way for both the overhead gen-tie line and underground corridor vary in width, and results for both electrical and magnetic fields (as a function of distance from the centerline) are shown in Figures 4 through 6.

Table 2. Calculated Electric Field Values

Line Description	Figure	Electric Field (kV/m)		
		Left	Peak Value	Right
Overhead Transmission Line	Figure 2 – Layout Figure 4 – Electric Field	0.05, 200 feet west of centerline	1.604, 4 feet west of centerline	0.004, 200 feet east of centerline
Underground Transmission Corridor	Figure 3 – Layout	Not applicable for electrical field as the electrical field is grounded.		

Table 3. Calculated Magnetic Field Values

Line Description	Figure	Magnetic Field (mG)		
		Left	Peak Value	Right
Overhead Transmission Line	Figure 2 – Layout Figure 5 – Magnetic Field	2.61, 200 feet west of centerline	54.85, 4 feet west of centerline	2.59, 200 feet east of centerline
Underground Transmission Corridor	Figure 3 – Layout Figure 6 – Magnetic Field	0.15, 200 feet south of centerline	105.56, at centerline	0.15, 200 feet north of centerline

The analysis results of the Bonneville Power Administration Corona and Fields Effect Program, Version 3 model presented in Tables 2 and 3 and shown in Figures 4 through 6 present EMF results that are intentionally conservative, producing worst-case EMF results. EMF levels under normal operating conditions is planned to be lower than indicated by this analysis.

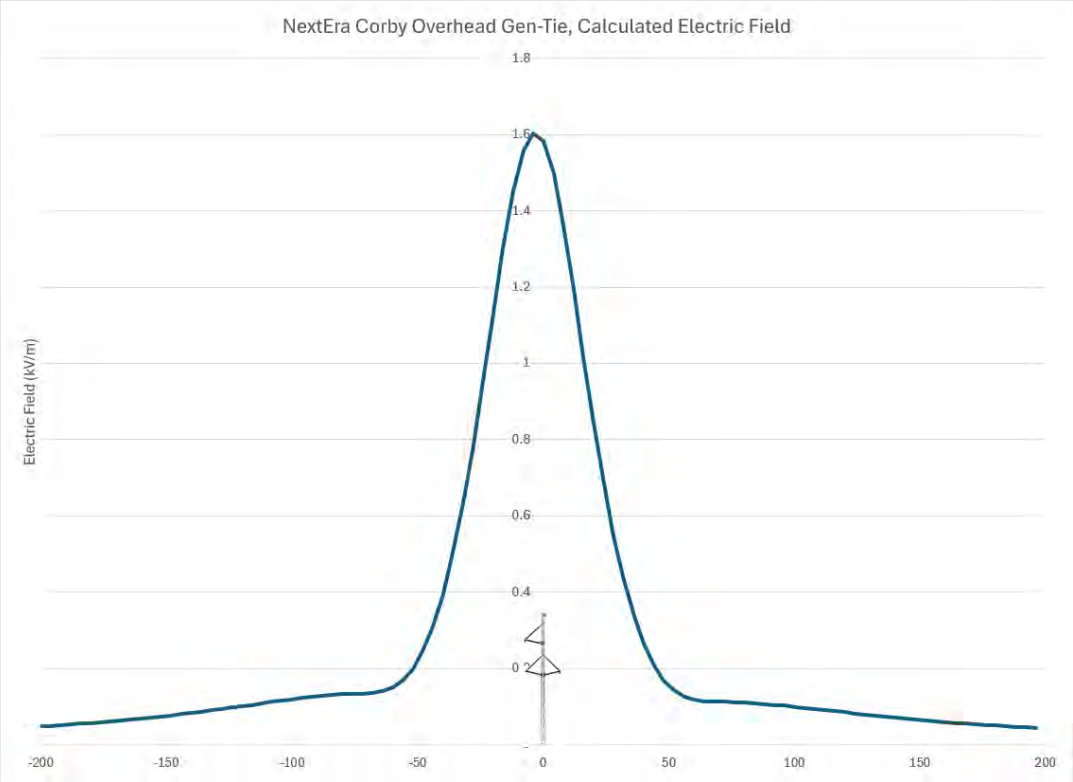


Figure 4. Electric Field Modeling Results, Overhead Gen-Tie

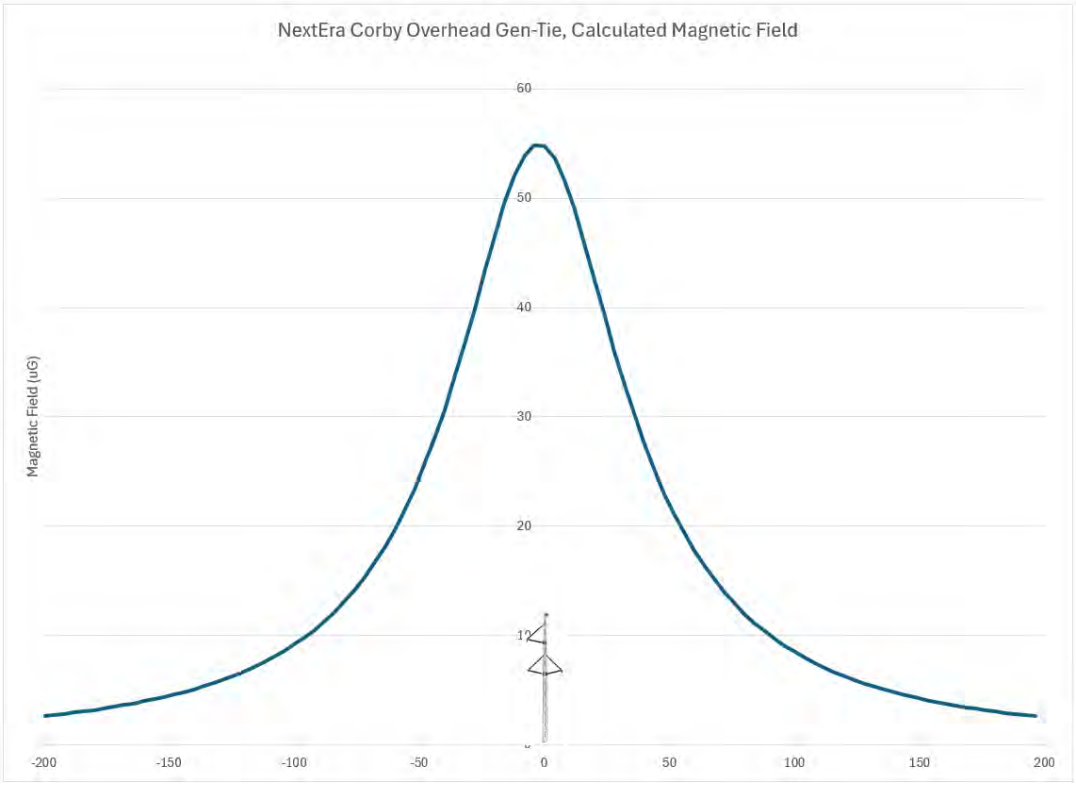


Figure 5. Magnetic Field Modeling Results, Overhead Gen-Tie

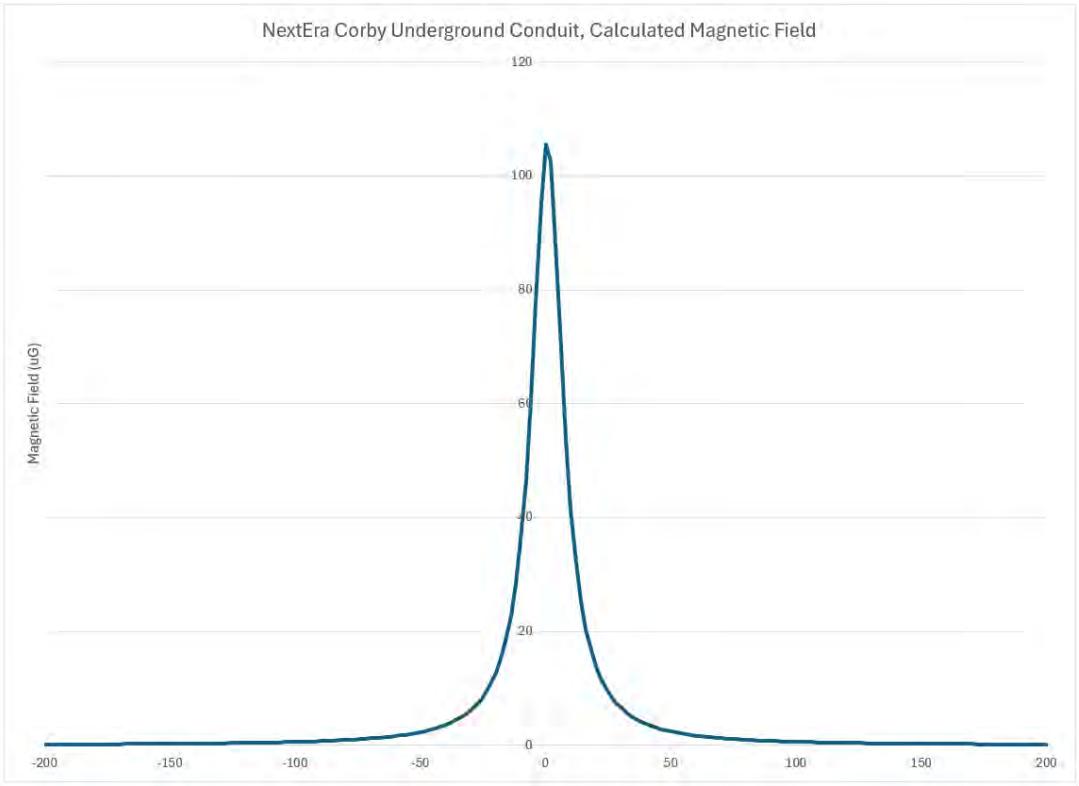


Figure 6. Magnetic Field Modeling Results, Underground Conduit

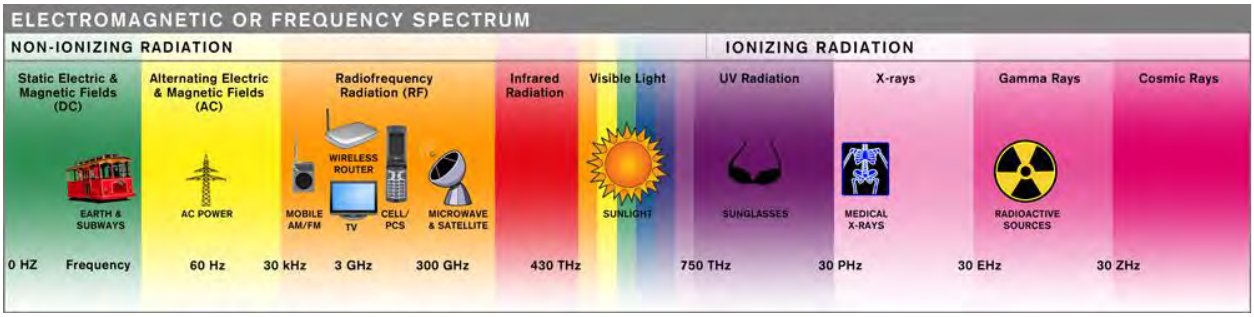
3.0 RADIO AND TV INTERFERENCE

3.1 Background

3.1.1 Electromagnetic Interference

Electromagnetic interference from power transmission systems in the U.S. is governed by the Federal Communications Commission (FCC) Rules and Regulations (FCC 1988). A power transmission line is categorized by the FCC as an "incidental radiation device." It is defined as "a device that radiates radio frequency energy during the course of its operation although the device is not intentionally designed to generate radio frequency energy." Such a device "shall be operated so that the radio frequency energy that is emitted does not cause harmful interference. In the event that harmful interference is caused, the operator of the device shall promptly take steps to eliminate the harmful interference." In this case, "harmful interference" is defined as "any emission, radiation or induction which endangers the functioning of a radio navigation service or of other safety services or seriously degrades, obstructs or repeatedly interrupts a radio communication service operating in accordance with this chapter" (FCC 1988). California does not have regulatory standards for either radio or television (TV) interference.

Modern communications systems all rely on electromagnetic radiation (EMR) to transmit information. AM and FM radio, TV, shortwave radio, cellular telephones, radar, Global Positioning System (GPS) devices and satellite communications, cordless telephones, Bluetooth, and wireless computer networks such as Wi-Fi or wireless local area network all utilize a region of the electromagnetic spectrum known as "radio frequency" EMR, which extends from the very low-frequency end at about 30 kilohertz (kHz) up into the high-frequency microwave range at about 300 gigahertz (GHz). Each type of technology uses a specific segment of the electromagnetic frequency spectrum; older technology such as AM radio is at the low-frequency end, while newer technologies such as GPS and Wi-Fi utilize high-frequency signals. Figure 7 provides a visual representation of typical communications frequencies.



Source: EMF & Radio Frequency Solutions. Available at: http://www.emfrf.com/index.php/emf-rf/emf-overview/electromagnetic-spectrum-or-frequency-spectrum.html.

Figure 7. Communications Frequency Spectrum

The level of interference can be partially determined by how similar or different the signal frequency is compared to the noise frequency. In general, there is very little interaction between signals of differing frequency; radio signals, TV signals, cellular phone signals, and GPS signals can all coexist in the same

space and time without interfering with each other. For interference to occur, frequencies must be similar.

EMR and resulting interference can be an indirect product of electric transmission lines. EMR arises not from the lines themselves, but from the interaction of the strong electric field at the surface of the conductors and other energized components with the surrounding air. Two types of interactions may occur that create electromagnetic interference: corona discharge and gap discharge.

3.1.1.1 Corona Discharge

High-voltage power transmission lines generate a strong electric field at the surface of the conductor, which can be strong enough to split the surrounding air molecules, resulting in the emission of electromagnetic energy in the form of ultraviolet and near-ultraviolet light and broad-band radio frequency EMR (corona discharge also produces audible sound). The former can sometimes be seen by humans under the right conditions or with specialized equipment, while the latter can sometimes be heard as electronic “noise,” or interference with radio signal reception. Broadband corona EMR discharge typically occurs in the frequency spectrum from below 100 kHz to approximately 1,000 megahertz (MHz), which overlaps with the frequencies used for AM and FM radio and some TV signals. With sufficient corona activity, low-frequency radio and TV interference can be noticeable within a few hundred feet of the transmission line. These effects are most pronounced directly underneath the line conductors and decrease with distance from the transmission line.

Corona on a transmission line conductor depends on several factors such as operating voltage, conductor diameter, overall line geometry, weather conditions, and altitude. Conductor size, line voltage and line geometry are taken into consideration when designing a transmission line so that the electric fields at the conductor surface are minimized. However, for a high-voltage line, any incidental irregularities on the conductor surface (for example, water droplets, dust, debris, and nicks or scratches in the conductor) act as points where the electric field may be intensified sufficiently to produce corona. Thus, the level of corona activity is elevated during foul weather when raindrops on the conductor surface act as points producing corona.

3.1.1.2 Gap Discharge

A gap discharge occurs when current arcs across a gap between two conductive objects. Gap discharges can produce radio noise in the lower frequencies (AM radio frequencies) and well into the microwave range (analog TV frequencies). These discharges can be produced by loose connections, a problem that more commonly occurs on low-voltage distribution lines but rarely occurs on high-voltage transmission lines (Trinh 2012). Unlike corona discharge, which may occur anywhere along a high-voltage transmission line conductor, gap discharge occurs at mechanical connectors and components that are used to hold the conductors in place. Gap discharge is controlled through proper construction and maintenance practices to ensure all mechanical connectors and components are properly assembled. Because gap discharge is an intermittent, temporary, and readily resolved problem, and results only in localized electrical interference issues, the potential for interference with TV signals or higher-frequency communications is not considered a significant problem.

3.1.2 Radio Interference Effects

The corona-induced broadband EMR from transmission lines can produce interference to AM signals, such as a commercial AM radio audio signal (i.e., radio noise) or the video portion of an older analog broadcast TV station (i.e., TV noise). Technologies that use frequency modulation, such as FM radio stations and the audio portion of older analog broadcast TV signals, are generally not affected by noise from a transmission line. As digital signal processing has been integrated into these communication systems, the potential interference impact of corona-generated radio noise has decreased.

The level of interference caused by radio noise from a transmission line to the reception of a radio signal depends on the location of the radio transmitter, the radio receiver, and the transmission line. A transmission line that is directly between a radio transmitter and a listener's receiver may be more likely to interfere with that listener's reception, whereas a transmission line behind or beside the listener in relation to the transmitter will not necessarily cause interference, depending on the radio receiver's antennae. The radio noise generated by a transmission line is very low in power and decreases rapidly as distance from the line increases. It is experienced only when in close proximity to the transmission line.

In general, complaints related to corona-generated interference are infrequent. Moreover, the advent of cable and satellite TV service, and the federally-mandated conversion to digital TV broadcast in June 2009 have greatly reduced the occurrence of corona-generated interference. Low-frequency corona-induced EMR does not interact with the higher-frequency satellite signals or with wired communication systems, while digital TV receivers are equipped with systems to filter out interference. Many radio stations also broadcast in digital, reducing the likelihood of corona-induced EMR interference. Electric power companies are able to operate very effectively under the present FCC rule because harmful interference can generally be eliminated or effectively mitigated.

Radio noise is measured in units of decibels (dB) based on its field strength referenced to a signal level of 1 microvolt per meter (Institute of Electrical and Electronics Engineers [IEEE] 1986). Corona-induced radio noise during fair weather is calculated to be approximately 40 dB (dB-1 microvolt per meter [1 µV/m]) at the edge of the right-of-way. This is considered an acceptable level (IEEE 1971). When the transmission line is in proximity to roadways (for example, interstate, U.S., and state highways), such as when it passes over these roadways, radio interference may be experienced for short distances while in proximity to the line. Interference may be more noticeable near the line particularly during foul weather, when corona activity is elevated.

3.1.3 Interference with Other Electronic Communications

Wireless computer network systems, cell phones, GPS units, and satellite receivers operate at high frequencies in the tens to hundreds of MHz or even GHz. These systems also often use FM or digital coding of the signals so they are relatively immune to electromagnetic interference from transmission line corona. GPS units are used in a wide range of activities, including several important agricultural activities such as monitoring pivot irrigation, tracking wheeled and tracked equipment movements during farming operation, and checking the orientation of aerial spraying aircraft. GPS units operate in the frequency range of 1.2 to 1.6 GHz. Satellite receivers operate at frequencies of 3.4 GHz to 7 GHz

and have shown no effect from transmission lines unless the receiver was trying to view the satellite through the transmission tower or conductor bundle of the transmission line (Chartier et al. 1986). Repositioning the receiver by a few feet was sufficient to eliminate the obstruction and reduced signal. Mobile phones operate in the radiofrequency range of about 800 MHz to 1,900 MHz or higher. As a result of the high frequencies used by these devices, modulation and processing techniques, and the typically lower-frequency corona-induced EMR, effects from interference are unlikely.

The voltages and currents associated with the transmission line have the potential to induce voltage and current in nearby conductors (e.g., ungrounded metal fences and ungrounded metal irrigation systems). This effect is more likely where ungrounded fences or irrigation systems are parallel and long (one mile or more). These induced voltages could result in a "nuisance" shock to anyone who touches such a fence or irrigation system. These shocks are known as nuisance or "startle" shocks as they will not physically harm someone but may be noticed by some people and provoke a startle reaction. An example of an ungrounded metal irrigation system would be a center pivot system on rubber tires. By contrast, the Vermeer-type metal irrigation system is grounded through its metal wheels and therefore presents less of a shock hazard.

A GPS unit in farming equipment should work properly within the vicinity of a transmission line. GPS devices continually pull signals from a number of satellites, not just one and may also utilize a fixed base station. A signal may be blocked temporarily if the transmission structure is between the receiver and a weak signal, but it will return as the farm equipment moves past the structure. It is also common for GPS receivers to drop and pick up signals even in the absence of transmission lines and structures. If the base station signal is weak or blocked, additional or alternate locations may improve the signal and performance.

Signal interference occurs when other signals at the same frequency as the satellite signal are present. Multipath occurs when objects such as buildings, structures, or tractor parts reflect a GPS satellite signal, causing the satellite signal to arrive at the receiver later than it would have if it followed a straight line from the satellite. A study commissioned by the Electric Power Research Institute found that signal interference is "unlikely" based on the design of GPS receivers and their ability to separate the GPS signal from background noise (Silva and Olsen 2002). Another study compared the accuracy of real-time kinematic GPS receivers at different locations to transmission lines and towers (Gibbings et al. 2001). This study concluded that multipath from transmission towers could result in GPS-initialization errors (e.g., the system reports the wrong starting location) 1.1 percent to 2.3 percent of the time. This study also reported that GPS software was able to identify and correct these initialization errors within the normal startup time. This study reported initialization errors caused by electromagnetic interference from energized overhead transmission lines when the GPS receiver was located outside the vehicle, but concluded that "most, if not all of this effect can be eliminated by shielding the receiver and cables." Placing the receiver inside the vehicle significantly reduced initialization errors.

3.2 Evaluation of Alternate Methods and Costs to Reduce Interference

Design options for reducing the radio noise from the transmission line include use of larger diameter conductors, or use of more conductors within the conductor bundles. Increasing the distance

between phases of the lines (conductor bundles) may also result in a decrease in the radio noise. These line design options have been employed to minimize the generation of radio noise to acceptable levels.

4.0 CONCLUSION

Tetra Tech prepared this report to provide an analysis of the EMFs generated by the various types of gen-tie lines that connect the proposed substation planned by the Project to the existing Vaca-Dixon Substation. Tetra Tech reviewed the planned designs for both the overhead gen-tie line and the underground duct bank for the Project as provided by the Applicant. Electrical and magnetic fields were modeled as part of that design review in a way that produced the most conservative, highest field results for both designs. These results are below national and international guidelines for EMF. EMF levels under normal operating conditions will be lower than indicated by this analysis.

5.0 REFERENCES

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APPENDIX 10-A: BLM VISUAL CONTRAST RATING WORKSHEETS

Form 8400-4
(June 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 06/26/2024
District Office: N/A
Field Office: N/A
Land Use Planning Area: N/A

SECTION A. PROJECT INFORMATION

1. Project Name	4. KOP Location (T.R.S)	5. Location Sketch
Corby Battery Energy Storage System Project		
2. Key Observation Point (KOP) Name KOP 1, facing east		
3. VRM Class at Project Location Unclassified/Not on Federal Land	(Lat. Long)	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat	FG to MG: ruderal veg - low, Row crops - low, regular, trees - tall, irregular	FG: short irrigation canal, linear roadway MG: linear roadway, angular and linear transmission tower and lines
LINE	FG to MG: horizontal	FG to MG: ruderal veg - weak lines, row crops - weak lines, contiguous, trees - horizontal lines, irregular	FG: horizon irrigation canal and roadway MG: horizontal roadway, horizontal and vertical transmission tower and line
COLOR	FG to MG: tan, blue	FG to MG: ruderal veg - green, tan, row crops - green, trees - green, brown	FG: gray, white, rust MG: gray
TEX-TURE	FG: smooth to rough MG: uniform	FG to MG: ruderal veg - sparse, fine, row crops - dense, trees - dense	FG: smooth irrigation canal and roadway MG: smooth roadway and transmission tower and lines

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat	FG to MG: ruderal veg - low, Row crops - low, regular, trees - tall, irregular	FG: short irrigation canal, linear roadway MG: linear roadway, angular and linear transmission tower and lines
LINE	FG to MG: horizontal	FG to MG: ruderal veg - weak lines, row crops - weak lines, contiguous, trees - horizontal lines, irregular	FG: horizon irrigation canal and roadway MG: horizontal roadway, horizontal and vertical transmission tower and lines
COLOR	FG to MG: tan, blue	FG to MG: ruderal veg - green, tan, row crops - green, trees - green, brown	FG: gray, white, rust MG: gray
TEX-TURE	FG: smooth to rough MG: uniform	FG to MG: ruderal veg - sparse, fine, row crops - dense, trees - dense	FG: smooth irrigation canal and roadway MG: smooth roadway and transmission tower and lines

SECTION D. CONTRAST RATING __SHORT TERM ✓LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				✓				✓			✓	
	LINE				✓				✓			✓	
	COLOR				✓				✓			✓	
	TEXTURE				✓				✓			✓	

2. Does project design meet visual resource management objectives? ___Yes ___No
(Explain on reverses side)

3. Additional mitigating measures recommended
___Yes ___No (Explain on reverses side)

Evaluator's Names: Josh Hohn, Paula Fell
Date: 06/26/2024

(Continued on Page 2)

Comments from item 2.

Additional Mitigating Measures (See item 3)

Form 8400-4
(June 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 03/12/2025
District Office: N/A
Field Office: N/A
Land Use Planning Area: N/A

SECTION A. PROJECT INFORMATION

1. Project Name	4. KOP Location (T.R.S)	5. Location Sketch
Corby Battery Energy Storage System Project		
2. Key Observation Point (KOP) Name KOP 2a, facing south		
3. VRM Class at Project Location Unclassified/Not on Federal Land	(Lat. Long)	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat BG: mountainous	FG: ruderal veg and row crops - low MG: ruderal veg and row crops - low, regular, trees - tall, irregular	FG: linear roadway, utility poles MG: linear roadway, utility poles, angular agricultural structure, transmission towers
LINE	FG to MG: horizontal BG: silhouette	FG: ruderal veg, row crops - weak lines, MG: ruderal veg and row crops - weak lines, trees – horizontal, irregular lines	FG - MG: horizontal roadway, vertical utility poles, MG: angular structure, towers
COLOR	FG to MG: tan BG: Blue	FG: ruderal veg - green, tan, row crops - green, trees - green, brown MG: row crops - green, trees - green, brown	FG: gray, brown, white, yellow MG: gray, brown
TEX-TURE	FG to MG:: smooth MG: uniform	FG to MG: ruderal veg - sparse, fine, row crops - dense, trees - dense	FG to MG: smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat BG: mountainous	FG: ruderal veg and row crops - low MG: ruderal veg and row crops - low, regular, trees - tall, irregular	FG: linear roadway, utility poles, circular water tank, MG:angular agricultural structure, transmission towers
LINE	FG to MG: horizontal BG: silhouette	FG: ruderal veg, row crops - weak lines, MG: ruderal veg and row crops - weak lines, trees – horizontal, irregular lines	FG: horizontal roadway, fencing, vertical utility poles, angular Bess, circular water tank, MG: angular structure, towers
COLOR	FG to MG: tan BG: Blue	FG: ruderal veg - green, tan, row crops - green, trees - green, brown MG: row crops - green, trees - green, brown	FG: gray, brown, white, yellow, green MG: gray, brown
TEX-TURE	FG to MG:: smooth MG: uniform	FG to MG: ruderal veg - sparse, fine, row crops - dense, trees - dense	FG to MG: smooth

SECTION D. CONTRAST RATING ___SHORT TERM ✓LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM			✓			✓			✓			
	LINE			✓			✓					✓	
	COLOR				✓		✓					✓	
	TEXTURE				✓		✓						✓

2. Does project design meet visual resource management objectives? ___Yes ___No (Explain on reverses side)

3. Additional mitigating measures recommended ___Yes ___No (Explain on reverses side)

Evaluator's Names: Josh Hohn, Paula Fell
Date: 03/12/2025

(Continued on Page 2)

Comments from item 2.

Additional Mitigating Measures (See item 3)

Form 8400-4
(June 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 06/26/2024
District Office: N/A
Field Office: N/A
Land Use Planning Area: N/A

SECTION A. PROJECT INFORMATION

1. Project Name	4. KOP Location (T.R.S)	5. Location Sketch
Corby Battery Energy Storage System Project		
2. Key Observation Point (KOP) Name KOP 2b, facing southwest		
3. VRM Class at Project Location Unclassified/Not on Federal Land	(Lat. Long)	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat BG: mountainous	FG: ruderal veg and row crops - low MG: ruderal veg and row crops - low, regular, trees - tall, irregular	FG: linear roadway MG: angular transmission towers
LINE	FG to MG: horizontal BG: silhouette	FG: ruderal veg, row crops - weak lines, MG: ruderal veg and row crops - weak lines, trees – horizontal, irregular lines	FG: horizon roadway MG: angular transmission towers
COLOR	FG to MG: tan BG: tan, blue	FG: ruderal veg, row crops - weak lines, MG: ruderal veg and row crops - weak lines, trees – horizontal, irregular lines	FG: gray, white MG: gray
TEX-TURE	FG to MG:: smooth MG: uniform	FG to MG: ruderal veg - sparse, fine, row crops - dense, trees - dense	FG to MG: smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat BG: mountainous, View partially blocked	FG: landscaping and row crops - low MG: landscaping and row crops - low, regular, trees - tall, irregular	FG: solid, block wall, angular substation, linear roadway MG: angular transmission towers
LINE	FG to MG: horizontal BG: silhouette, View partially blocked	FG: landscaping, row crops - weak lines, MG: landscaping and row crops - weak lines, trees – horizontal, irregular lines	FG: rectangular, block wall, angular substation, linear roadway MG: angular transmission towers
COLOR	FG to MG: tan BG: tan, blue, View partially blocked	FG: landscaping - variety, row crops - green, trees - green, brown MG: row crops - green, trees - green, brown	FG: gray, white MG: gray
TEX-TURE	FG to MG:: smooth MG: uniform, View partially blocked	FG to MG: landscaping and row crops - dense, trees - dense	G to MG: smooth

SECTION D. CONTRAST RATING __SHORT TERM ✓LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1) STRONG	MODERATE	WEAK	NONE	VEGETATION (2) STRONG	MODERATE	WEAK	NONE	STRUCTURES (3) STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM		✓				✓			✓			
	LINE		✓				✓					✓	
	COLOR		✓				✓					✓	
	TEXTURE		✓				✓						✓

2. Does project design meet visual resource management objectives? ___Yes ___No
(Explain on reverses side)

3. Additional mitigating measures recommended
___Yes ___No (Explain on reverses side)

Evaluator's Names: Josh Hohn Paula Fell
Date: 06/26/2024

(Continued on Page 2)

Comments from item 2.

Additional Mitigating Measures (See item 3)

Form 8400-4
(June 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 03/12/2025
District Office: N/A
Field Office: N/A
Land Use Planning Area: N/A

SECTION A. PROJECT INFORMATION

1. Project Name	4. KOP Location (T.R.S)	5. Location Sketch
Corby Battery Energy Storage System Project		
2. Key Observation Point (KOP) Name KOP 3, facing north		
3. VRM Class at Project Location Unclassified/Not on Federal Land	(Lat. Long)	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat BG: mountainous	FG: ruderal veg and row crops - low MG: ruderal veg and row crops - low, regular, trees - tall, irregular	FG: linear roadway MG: angular transmission towers
LINE	FG to MG: horizontal BG: silhouette	FG: ruderal veg, row crops - weak lines, MG: ruderal veg and row crops - weak lines, trees – horizontal, irregular lines	FG: horizon roadway MG: angular transmission towers
COLOR	FG to MG: tan BG: tan, blue	FG: ruderal veg - green, tan, row crops - green, trees - green, brown MG: row crops - green, trees - green	FG: gray, white MG: gray
TEX-TURE	FG to MG: smooth MG: uniform	FG to MG: ruderal veg - sparse, fine, row crops - dense, trees - dense	

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat BG: mountainous	FG: landscaping and row crops - low MG: landscaping and row crops - low, regular, trees - tall, irregular	FG: angular substation and BESS, circular water tank, linear roadway MG: angular transmission towers
LINE	FG to MG: horizontal BG: silhouette	FG: landscaping, row crops - weak lines, MG: landscaping and row crops - weak lines, trees – horizontal, irregular lines	FG: angular substation and BESS, circular water tank, linear roadway MG: angular transmission towers
COLOR	FG to MG: tan BG: tan, blue	FG: landscaping - variety, row crops - green, trees - green, brown MG: row crops - green, trees - green	FG: gray, white MG: gray
TEX-TURE	FG to MG:: smooth MG: uniform	FG to MG: landscaping and row crops - dense, trees - dense	FG to MG: smooth

SECTION D. CONTRAST RATING __SHORT TERM ✓LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM			✓				✓			✓		
	LINE			✓				✓				✓	
	COLOR				✓			✓				✓	
	TEXTURE				✓			✓					✓

2. Does project design meet visual resource management objectives? ___Yes ___No (Explain on reverses side)

3. Additional mitigating measures recommended ___Yes ___No (Explain on reverses side)

Evaluator's Names: Josh Hohn, Paula Fell

Date: 03/12/2025

(Continued on Page 2)

Comments from item 2.

Additional Mitigating Measures (See item 3)

Form 8400-4
(June 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 06/26/2024
District Office: N/A
Field Office: N/A
Land Use Planning Area: N/A

SECTION A. PROJECT INFORMATION

1. Project Name	4. KOP Location (T.R.S)	5. Location Sketch
Corby Battery Energy Storage System Project		
2. Key Observation Point (KOP) Name KOP 4, facing southwest		
3. VRM Class at Project Location Unclassified/Not on Federal Land	(Lat. Long)	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat BG: mountainous	FG to MG: ruderal veg and row crops - low, regular, ornamental plants - irregular, trees - tall, irregular	FG to MG: linear roadway, utility poles, angular agricultural structure, transmission towers
LINE	FG to MG: horizontal BG: silhouette	FG to MG: ruderal veg, row crops, ornamental veg - weak lines, trees – horizontal, irregular lines	FG to MG: horizontal roadway, vertical utility poles, angular agricultural structure, transmission towers
COLOR	FG to MG: tan BG: Blue	FG to MG: ruderal veg - green, tan, row crops - green, ornamental veg - variety, trees - green, brown	FG to MG: gray, brown, white, yellow
TEX-TURE	FG to MG: smooth MG: uniform	FG to MG: ruderal veg - fine, row crops and ornamental veg - dense, trees - dense	FG to MG: smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat BG: mountainous	FG to MG: ruderal veg and row crops - low, regular, ornamental plants - irregular, trees - tall, irregular	FG to MG: linear roadway, utility poles, angular agricultural structure, transmission towers
LINE	FG to MG: horizontal BG: silhouette	FG to MG: ruderal veg, row crops, ornamental veg - weak lines, trees – horizontal, irregular lines	FG to MG: horizontal roadway, vertical utility poles, angular agricultural structure, transmission towers
COLOR	FG to MG: tan BG: Blue	FG to MG: ruderal veg - green, tan, row crops - green, ornamental veg - variety, trees - green, brown	FG to MG: gray, brown, white, yellow
TEX-TURE	FG to MG: smooth MG: uniform	FG to MG: ruderal veg - fine, row crops and ornamental veg - dense, trees - dense	FG to MG: smooth

SECTION D. CONTRAST RATING __SHORT TERM ✓LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1) STRONG	MODERATE	WEAK	NONE	VEGETATION (2) STRONG	MODERATE	WEAK	NONE	STRUCTURES (3) STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				✓				✓			✓	
	LINE				✓				✓			✓	
	COLOR				✓				✓				✓
	TEXTURE				✓				✓				✓

2. Does project design meet visual resource management objectives? ___Yes ___No
(Explain on reverses side)

3. Additional mitigating measures recommended
___Yes ___No (Explain on reverses side)

Evaluator's Names: Josh Hohn, Paula Fell
Date: 06/26/2024

(Continued on Page 2)

Comments from item 2.

Additional Mitigating Measures (See item 3)

Form 8400-4
(June 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 06/26/2024
District Office: N/A
Field Office: N/A
Land Use Planning Area: N/A

SECTION A. PROJECT INFORMATION

1. Project Name	4. KOP Location (T.R.S)	5. Location Sketch
Corby Battery Energy Storage System Project		
2. Key Observation Point (KOP) Name KOP 5, facing southwest		
3. VRM Class at Project Location Unclassified/Not on Federal Land	(Lat. Long)	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat BG: mountainous	FG: ruderal veg and row crops - low MG: ruderal veg and row crops - low, regular, trees - tall, irregular	MG: angular transmission towers, residential and agricultural structures
LINE	FG to MG: horizontal BG: silhouette	FG: ruderal veg, row crops - weak lines, MG: ruderal veg and row crops - weak lines, trees – horizontal, irregular lines	MG: angular transmission towers, residential and agricultural structures
COLOR	FG to MG: tan BG: tan, blue	FG: ruderal veg - green, tan, row crops - green, trees - green, brown MG: row crops - green, trees - green	MG: gray, red, white
TEX-TURE	FG to MG: smooth MG: uniform	FG to MG: ruderal veg - sparse, fine, row crops - dense, trees - dense	FG to MG: smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat BG: mountainous	FG: ruderal veg and row crops - low MG: ruderal veg and row crops - low, regular, trees - tall, irregular	MG: angular transmission towers, residential and agricultural structures
LINE	FG to MG: horizontal BG: silhouette	FG: ruderal veg, row crops - weak lines, MG: ruderal veg and row crops - weak lines, trees – horizontal, irregular lines	MG: angular transmission towers, residential and agricultural structures
COLOR	FG to MG: tan BG: tan, blue	FG: ruderal veg - green, tan, row crops - green, trees - green, brown MG: row crops - green, trees - green	MG: gray, red, white
TEX-TURE	FG to MG: smooth MG: uniform	FG to MG: ruderal veg - sparse, fine, row crops - dense, trees - dense	FG to MG: smooth

SECTION D. CONTRAST RATING __SHORT TERM ✓ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				✓				✓			✓	
	LINE				✓				✓			✓	
	COLOR				✓				✓				✓
	TEXTURE				✓				✓				✓

2. Does project design meet visual resource management objectives? ___Yes ___No
(Explain on reverses side)

3. Additional mitigating measures recommended
___Yes ___No (Explain on reverses side)

Evaluator's Names: Josh Hohn, Paula Fell
Date: 06/26/2024

(Continued on Page 2)

Comments from item 2.

Additional Mitigating Measures (See item 3)

Form 8400-4
(June 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 06/26/2024
District Office: N/A
Field Office: N/A
Land Use Planning Area: N/A

SECTION A. PROJECT INFORMATION

1. Project Name	4. KOP Location (T.R.S)	5. Location Sketch
Corby Battery Energy Storage System Project		
2. Key Observation Point (KOP) Name KOP 6, facing southwest		
3. VRM Class at Project Location Unclassified/Not on Federal Land	(Lat. Long)	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat BG: mountainous	FG: ruderal veg and row crops - low MG: ruderal veg and row crops - low, regular, trees - tall, irregular	MG: angular transmission towers, agricultural structures
LINE	FG to MG: horizontal BG: silhouette	FG: ruderal veg, row crops - weak lines, MG: ruderal veg and row crops - weak lines, trees – horizontal, irregular lines	MG: angular transmission towers, agricultural structures
COLOR	FG to MG: tan BG: tan, blue	FG: ruderal veg - green, tan, row crops - green, trees - green, brown MG: row crops - green, trees - green	MG: gray, white
TEX-TURE	FG to MG: smooth MG: uniform	FG to MG: ruderal veg - sparse, fine, row crops - dense, trees - dense	FG to MG: smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat BG: mountainous	FG: ruderal veg and row crops - low MG: ruderal veg and row crops - low, regular, trees - tall, irregular	MG: angular transmission towers, agricultural structures
LINE	FG to MG: horizontal BG: silhouette	FG: ruderal veg, row crops - weak lines, MG: ruderal veg and row crops - weak lines, trees – horizontal, irregular lines	MG: angular transmission towers, agricultural structures
COLOR	FG to MG: tan BG: tan, blue	FG: ruderal veg - green, tan, row crops - green, trees - green, brown MG: row crops - green, trees - green	MG: gray, white
TEX-TURE	FG to MG: smooth MG: uniform	FG to MG: ruderal veg - sparse, fine, row crops - dense, trees - dense	FG to MG: smooth

SECTION D. CONTRAST RATING __SHORT TERM ✓LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1) STRONG	MODERATE	WEAK	NONE	VEGETATION (2) STRONG	MODERATE	WEAK	NONE	STRUCTURES (3) STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				✓				✓			✓	
	LINE				✓				✓			✓	
	COLOR				✓				✓				✓
	TEXTURE				✓				✓				✓

2. Does project design meet visual resource management objectives? ___Yes ___No
(Explain on reverses side)

3. Additional mitigating measures recommended
___Yes ___No (Explain on reverses side)

Evaluator's Names: Josh Hohn, Paula Fell

Date: 06/26/2024

(Continued on Page 2)

Comments from item 2.

Additional Mitigating Measures (See item 3)

Form 8400-4
(June 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 01/22/2025
District Office: N/A
Field Office: N/A
Land Use Planning Area: N/A

SECTION A. PROJECT INFORMATION

1. Project Name	4. KOP Location (T.R.S)	5. Location Sketch
Corby Battery Energy Storage System Project		
2. Key Observation Point (KOP) Name KOP 7A, facing southeast		
3. VRM Class at Project Location Unclassified/Not on Federal Land	(Lat. Long)	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat	FG to MG: ruderal veg - low, Row crops - low, regular, trees - medium, irregular	FG: short canal MG: angular and linear transmission tower and lines
LINE	FG to MG: horizontal	FG to MG: ruderal veg - weak lines, row crops - weak lines, contiguous, trees - horizontal lines	FG: horizontal canal MG: horizontal and vertical transmission tower and lines
COLOR	FG to MG: tan	FG to MG: ruderal veg, row crops - green, tan, trees - brown	FG: brown MG: gray
TEX-TURE	FG: rough MG: uniform	FG to MG: ruderal veg - sparse, fine, row crops - dense, trees - medium	FG: rough canal MG: smooth transmission tower and lines

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat	FG to MG: ruderal veg - low, Row crops - low, regular, trees - medium, irregular	FG: short canal, angular and linear wall, gen-tie, fiber optic, substation MG: vertical transmission tower
LINE	FG to MG: horizontal	FG to MG: ruderal veg - weak lines, row crops - weak lines, contiguous, trees - horizontal lines	FG: horizontal canal, horizontal and vertical wall,gen-tie, fiber optic, substation MG: vertical transmission tower
COLOR	FG to MG: tan	FG to MG: ruderal veg, row crops - green, tan, trees - brown	FG: gray, brown MG: gray
TEX-TURE	FG: rough MG: uniform	FG to MG: ruderal veg - sparse, fine, row crops - dense, trees - medium	FG: rough canal, smooth wall, gen-tie, fiber optic, substation MG: smooth transmission tower

SECTION D. CONTRAST RATING __SHORT TERM ✓LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1) STRONG	MODERATE	WEAK	NONE	VEGETATION (2) STRONG	MODERATE	WEAK	NONE	STRUCTURES (3) STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM			✓				✓		✓			
	LINE			✓				✓				✓	
	COLOR			✓				✓				✓	
	TEXTURE			✓				✓					✓

2. Does project design meet visual resource management objectives? ___Yes ___No
(Explain on reverses side)

3. Additional mitigating measures recommended
___Yes ___No (Explain on reverses side)

Evaluator's Names: Josh Hohn. Paula Fell
Date: 01/22/2025

(Continued on Page 2)

Comments from item 2.

Additional Mitigating Measures (See item 3)

Form 8400-4
(June 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 01/22/2025
District Office: N/A
Field Office: N/A
Land Use Planning Area: N/A

SECTION A. PROJECT INFORMATION

1. Project Name	4. KOP Location (T.R.S)	5. Location Sketch
Corby Battery Energy Storage System Project		
2. Key Observation Point (KOP) Name KOP 7B, facing south-southeast		
3. VRM Class at Project Location Unclassified/Not on Federal Land	(Lat. Long)	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat	FG to MG: ruderal veg - low, Row crops - low, regular, trees - medium, irregular	FG: short canal
LINE	FG to MG: horizontal	FG to MG: ruderal veg - weak lines, row crops - weak lines, contiguous, trees - horizontal lines	FG: horizontal canal
COLOR	FG to MG: tan	FG to MG: ruderal veg, row crops - green, tan, trees - brown	FG: brown
TEX-TURE	FG: rough MG: uniform	FG to MG: ruderal veg - sparse, fine, row crops - dense, trees - medium	FG: rough canal

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG to MG: flat	FG to MG: ruderal veg - low, Row crops - low, regular, trees - medium, irregular	FG: short canal, angular and linear gen-tie, fiber optic, substation
LINE	FG to MG: horizontal	FG to MG: ruderal veg - weak lines, row crops - weak lines, contiguous, trees - horizontal lines	FG: horizontal canal, horizontal and vertical gen-tie, fiber optic, substation
COLOR	FG to MG: tan	FG to MG: ruderal veg, row crops - green, tan, trees - brown	FG: gray, brown
TEX-TURE	FG: rough MG: uniform	FG to MG: ruderal veg - sparse, fine, row crops - dense, trees - medium	FG: rough canal, smooth gen-tie, fiber optic, substation

SECTION D. CONTRAST RATING __SHORT TERM ✓LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM			✓				✓		✓			
	LINE			✓				✓		✓			
	COLOR			✓				✓		✓			
	TEXTURE			✓				✓		✓			

2. Does project design meet visual resource management objectives? ___Yes ___No (Explain on reverses side)

3. Additional mitigating measures recommended ___Yes ___No (Explain on reverses side)

Evaluator's Names: Josh Hohn. Paula Fell

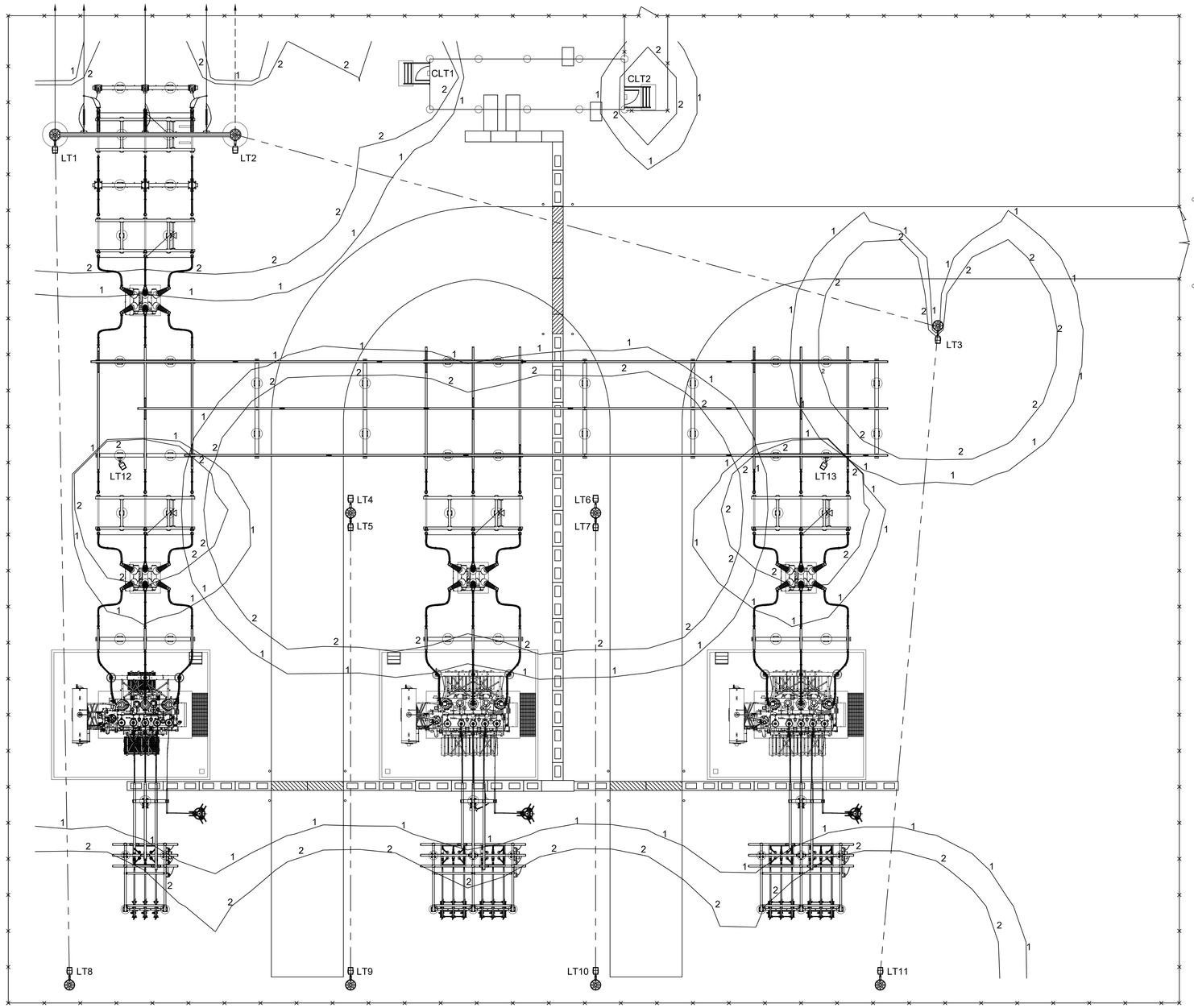
Date: 01/22/2025

(Continued on Page 2)

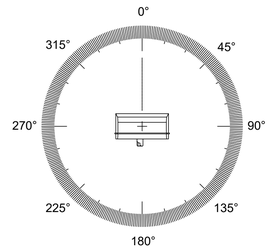
Comments from item 2.

Additional Mitigating Measures (See item 3)

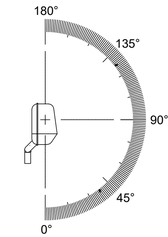
APPENDIX 10-B: SUBSTATIONS LIGHTING PLAN



	YARD LIGHTING SCHEDULE				
LIGHT NO.	TYPE	WATTAGE	MOUNTING HGT.	ORIENTATION	TILT
LT1	LITHONIA RSX2 AREA LT	190W	30Ft	180	0
LT2	LITHONIA RSX2 AREA LT	190W	30Ft	180	0
LT3	LITHONIA RSX2 AREA LT	190W	30Ft	180	0
LT4	LITHONIA RSX2 AREA LT	190W	30Ft	0	0
LT5	LITHONIA RSX2 AREA LT	190W	30Ft	180	0
LT6	LITHONIA RSX2 AREA LT	190W	30Ft	0	0
LT7	LITHONIA RSX2 AREA LT	190W	30Ft	180	0
LT8	LITHONIA RSX2 AREA LT	190W	30Ft	0	0
LT9	LITHONIA RSX2 AREA LT	190W	30Ft	0	0
LT10	LITHONIA RSX2 AREA LT	190W	30Ft	0	0
LT11	LITHONIA RSX2 AREA LT	190W	30Ft	0	0
LT12	LITHONIA DSXF2 FLOOD LT	145W	8Ft	150	135
LT13	LITHONIA DSXF2 FLOOD LT	145W	8Ft	210	135
CLT1	GE EVOLVE AREA LT WALL PACK	29W	10Ft	90	0
CLT2	GE EVOLVE AREA LT WALL PACK	29W	10Ft	270	0



YARD LIGHT
ORIENTATION ANGLE



YARD LIGHT
TILT

PRELIMINARY
NOT FOR CONSTRUCTION

NOTES

1. FOOT CANDLES SHOWN ARE AT THE 230KV SWITCH BLADE HEIGHT.

REFERENCE DRAWINGS

BCR-P003-01	GENERAL ARRANGEMENT PLAN
BCR-P004-01	GENERAL ARRANGEMENT ELEVATIONS A-A & B-B
BCR-P004-02	GENERAL ARRANGEMENT ELEVATIONS C-C, D-D, & E-E
BCR-P010-01	CONDUIT & CABLE PLAN

NO	DATE	REVISIONS AND RECORD OF ISSUE	DRWN	REV'D	APPR	COMP
--						
--						
--						
--						
--						
--						
--						
A	12/18/2024	ISSUED FOR BID	SV	FJG	BPR	S&L

SCALE: 1/16" = 1'-0"

0 5' 10' 20'

PREP: -- CHKD: --

APPD: -- DATE: --

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 IT'S SUB-CONTRACTOR(S)) PERFORMING THE WORK.

ANY MODIFICATION OR ADDITION TO THIS DRAWING BY ANY ORGANIZATION OTHER THAN SARGENT & LUNDY IS NOT THE RESPONSIBILITY OF SARGENT & LUNDY.

Sargent & Lundy

55 EAST MONROE ST., CHICAGO, ILL.

CORBY BESS, LLC
CORBY 230/34.5kV SUBSTATION
LIGHTING PLAN

BCR-P010-03

APPENDIX 10-C: LUMINAIRE SPECIFICATION SHEETS

RSX2 LED
Area Luminaire

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Introduction

The new RSX LED Area family delivers maximum value by providing significant energy savings, long life and outstanding photometric performance at an affordable price. The RSX2 delivers 11,000 to 31,000 lumens allowing it to replace 250W to 1000W HID luminaires.

The RSX features an integral universal mounting mechanism that allows the luminaire to be mounted on most existing drill hole patterns. This "no-drill" solution provides significant labor savings. An easy-access door on the bottom of mounting arm allows for wiring without opening the electrical compartment. A mast arm adaptor, adjustable integral slipfitter and other mounting configurations are available.

Specifications

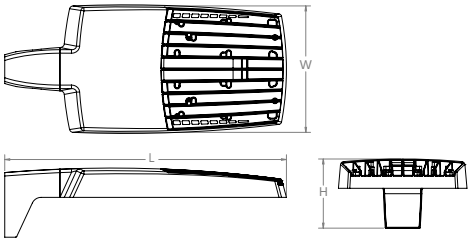
EPA (ft²@0°): 0.69 ft² (0.06 m²)

Length: 29.3" (74.4 cm) (SPA mount)

Width: 13.4" (34.0 cm)

Height: 3.0" (7.6 cm) Main Body 7.2" (18.3 cm) Arm

Weight: (SPA mount) 30.0 lbs (13.6 kg)



design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

Design Select options indicated by this color background.

Ordering Information

EXAMPLE: RSX2 LED P6 40K R3 MVOLT SPA DDBXD

RSX2 LED

Series	Performance Package	Color Temperature	Distribution	Voltage	Mounting
RSX2 LED	P1	30K 3000K	R2 Type 2 Wide	MVOLT (120V-277V) [2]	SPA Square pole mounting (3.0" min. SQ pole for 1 at 90°, 3.5" min. SQ pole for 2, 3, 4 at 90°)
	P2	40K 4000K	R3 Type 3 Wide	HVOLT (347V-480V) [3]	RPA Round pole mounting (3.2" min. dia. RND pole for 2, 3, 4 at 90°, 3.0" min. dia. RND pole for 1 at 90°, 2 at 180°, 3 at 120°)
	P3	50K 5000K	R3S Type 3 Short	XVOLT (277V-480V) [4]	MA Mast arm adaptor (fits 2-3/8" OD horizontal tenon)
	P4		R4 Type 4 Wide	(use specific voltage for options as noted)	IS Adjustable slipfitter (fits 2-3/8" OD tenon) [6]
	P5		R4S Type 4 Short	120 [3] 277 [5]	WBA Wall bracket [1]
	P6		R5 Type 5 Wide [1]	208 [3] 347 [5]	WBASC Wall bracket with surface conduit box
			R5S Type 5 Short [1]	240 [3] 480 [5]	AASP Adjustable tilt arm square pole mounting [6]
			AFR Automotive Front Row		AARP Adjustable tilt arm round pole mounting [6]
			AFRR90 Automotive Front Row Right Rotated		AAWB Adjustable tilt arm with wall bracket [6]
			AFRL90 Automotive Front Row Left Rotated		AAWSC Adjustable tilt arm wall bracket and surface conduit box [6]

Options

Shipped Installed

HS	House-side shield [7]
PE	Photocontrol, button style [8,9]
PER7	Seven-wire twist-lock receptacle only (no controls) [9, 10, 11]
SF	Single fuse (120, 277, 347) [5]
DF	Double fuse (208, 240, 480) [5]
SPD20KV	20KV Surge pack (10KV standard)
FAO	Field adjustable output [9]
DMG	0-10V dimming extend out back of housing for external control (control ordered separate) [9]
DS	Dual switching [9,12]

Shipped Installed

***Standalone and Networked Sensors/Controls (factory default settings, see table page 9)**

NLTAIR2 PIRHN	nLight AIR generation 2 ,with Networked, Bi-Level motion/ambient sensor [9, 13, 14, 15]
BAA	Buy America(n) Act and/or Build America Buy America Qualified
CCE	Coastal Construction [16]

*Note: NLTAIR2 PIRHN with nLight Air can be used as a standalone dimming sensor with out-of-box settings or as a wireless networked solution. See factory default settings table. Sensor coverage pattern is affected when luminaire is tilted.

Shipped Separately (requires some field assembly)

EGS	External glare shield [7]
EGFV	External glare full visor (360° around light aperture) [7]
BS	Bird spikes [17]

Finish

DDBXD	Dark Bronze
DBLXD	Black
DNAXD	Natural Aluminum
DWHXD	White
DDBTXD	Textured Dark Bronze
DBLBXD	Textured Black
DNATXD	Textured Natural Aluminum
DWHGXD	Textured White

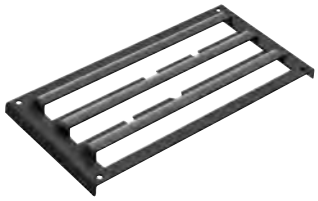
Ordering Information

Accessories
Ordered and shipped separately.

RSX2HS	RSX2 House side shield (includes 2 shields)
RSX2EGS (FINISH) U	External glare shield (specify finish)
RSX2HSAFRR (FINISH) U	RSX2 House side shields for AFR rotated optics (includes 2 shields)
RSX2EGFV (FINISH) U	External glare full visor (specify finish)
RSXRPA (FINISH) U	RSX Universal round pole adaptor plate (specify finish)
RSXWBA (FINISH) U	RSX WBA wall bracket (specify finish) [1]
RSXSCB (FINISH) U DLL127F 1.5 JU	RSX Surface conduit box (specify finish, for use with WBA, WBA not included) Photocell -SSL twist-lock (120-277V) [18]
DLL347F 1.5 CUL JU	Photocell -SSL twist-lock (347V) [18]
DLL480F 1.5 CUL JU	Photocell -SSL twist-lock (480V) [18]
DSHORT SBK U	Shorting cap [18]

NOTES
1. Any Type 5 distribution, is not available with WBA.
2. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
3. HVOLT driver operates on any line voltage from 347-480V (50/60 Hz).
4. XVOLT driver not available with P1. XVOLT driver operates on any line voltage from 277V-480V (50/60 Hz). XVOLT not available with fusing (SF or DF) and not available with PE.
5. Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
6. Maximum tilt is 90° above horizontal.
7. It may be ordered as an accessory.
8. Requires MVOLT or 347V.
9. Two or more of the following options cannot be combined including PE, DMG, PER7, FAO, DS and NLTAIR2 PIRHN. (Exception: PE and FAO can be combined; also PE and DMG can be combined.)
10. Compatible with standard twist-lock photocells for dusk to dawn operation or advanced control nodes that provide 0-10V dimming signals. Wire 4/Wire 5 wired to dimming leads on driver. Wire6/Wire7 capped inside luminaire. Twistlock photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
11. For units with option PER7, the mounting must be restricted to +/- 45° from horizontal aim per ANSI C136.10-2010.
12. DS requires (2) separately switched circuits. DS provides 50/50 fixture operation via (2) different sets of leads using (2) drivers. DS only available with packages P5 and P6.
13. Must be ordered with PIRHN.
14. Requires MVOLT or HVOLT.
15. Must be ordered with NLTAIR2. For additional information on PIRHN visit here.
16. CCE option not available with WBA, WBASC, AASP, AARP, AAWB, AAWBSC, EGS, EGFV and BS.
17. Must be ordered with fixture for factory pre-drilling.
18. Requires luminaire to be specified with PER7 option. Ordered and shipped as a separate line item from Acuity Brands Controls.

External Shields



House Side Shield

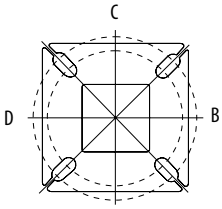
External Glare Shield

External 360 Full Visor

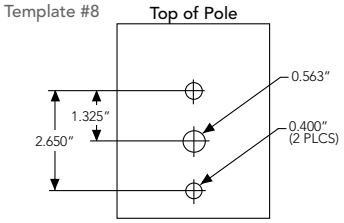
Pole/Mounting Informatiion

Accessories including bullhorns, cross arms and other adpaters are available under the accessories tab at Lithonia's Outdoor Poles and Arms product page. Click here to visit Accessories.

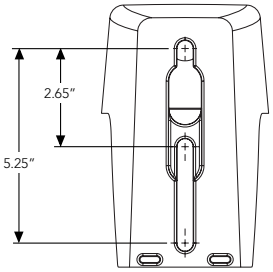
HANDHOLE ORIENTATION



RSX POLE DRILLING



RSX STANDARD ARM & ADJUSTABLE ARM



Round Tenon Mount - Pole Top Slipfitters

Tenon O.D.	RSX Mounting	Single	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2 - 3/8"	RPA, AARP	AS3-5 190	AS3-5 280	AS3-5 290	AS3-5 320	AS3-5 390	AS3-5 490
2 - 7/8"	RPA, AARP	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	RPA, AARP	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

Drill/Side Location by Configuration Type

Drilling Template	Mounting Option	Single	2 @ 180	2 @ 90	3 @ 120	3 @ 90	4 @ 90
	Head Location	Side B	Side B & D	Side B & C	Round Pole Only	Side B, C & D	Side A, B, C & D
#8	**Drill Nomenclature**	DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS

RSX2 - Luminaire EPA

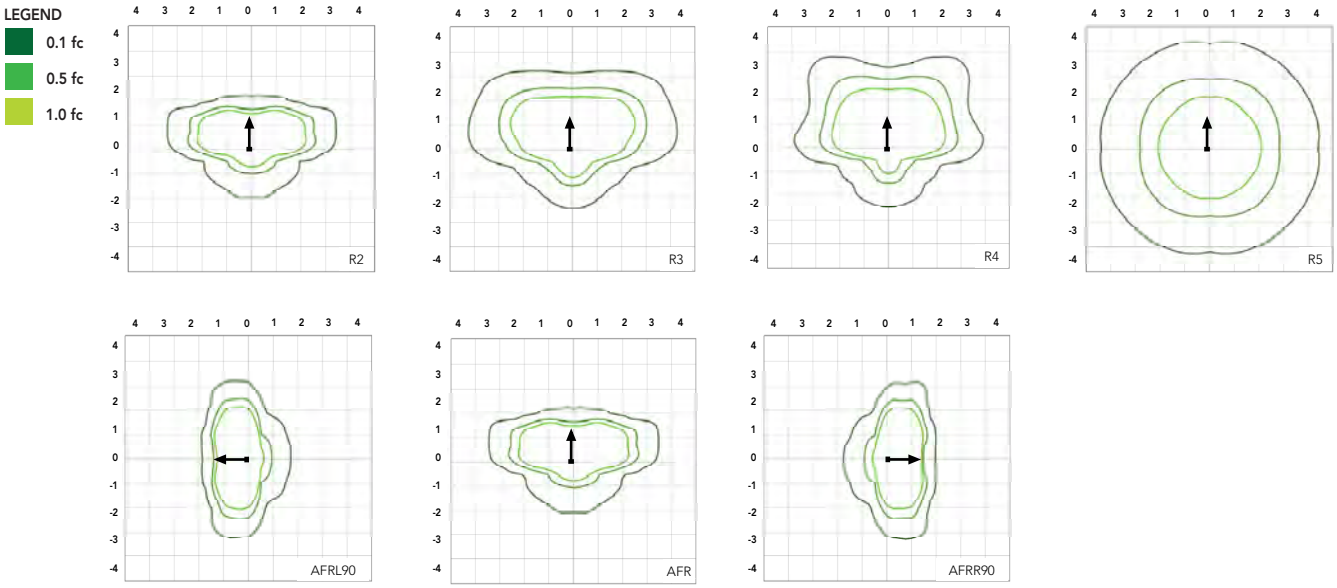
*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Fixture Quantity & Mounting Configuration		Single	2 @ 90	2 @ 180	3 @ 90	3 @ 120	4 @ 90	2 Side by Side	3 Side by Side	4 Side by Side
Mounting Type	**Tilt**									
SPA - Square Pole Adaptor	0°	0.69	1.22	1.27	1.8	1.61	2.39	1.37	2.06	2.74
RPA - Round Pole Adaptor		0.74	1.27	1.37	1.9	1.71	2.49	1.42	2.16	2.84
MA - Mast Arm Adaptor		0.61	1.14	1.11	1.64	1.45	2.23	1.29	1.9	2.58
IS - Integral Slipfitter AASP/AARP - Adjustable Arm Square/Round Pole	0°	0.69	1.22	1.27	1.8	1.61	2.39	1.37	2.06	2.74
	10°	0.53	1.06	1.05	1.58	1.37	2.08	1.06	1.59	2.12
	20°	0.52	1.02	1.03	1.52	1.33	2.02	1.03	1.55	2.07
	30°	0.64	1.11	1.18	1.63	1.45	2.21	1.27	1.91	2.54
	40°	0.81	1.21	1.35	1.74	1.65	2.39	1.62	2.43	3.23
	45°	0.91	1.25	1.5	1.81	1.75	2.48	1.82	2.73	3.64
	50°	1.34	1.83	2.17	2.61	2.56	3.62	2.68	4.02	5.36
	60°	2.2	2.97	3.57	4.24	4.17	5.89	4.41	6.61	8.82
	70°	2.86	4.13	4.7	5.89	5.71	8.21	5.71	8.57	11.42
	80°	3.4	5.13	5.67	7.34	7.09	10.21	6.79	10.19	13.59
	90°	3.85	5.96	6.55	8.58	8.31	11.88	7.70	11.56	15.41

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's RSX Area homepage.

Isofootcandle plots for the RSX2 LED P6 40K. Distances are in units of mounting height (30').



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-50°C (32-122°F).

Ambient	Ambient	Lumen Multiplier
0°C	32°F	1.05
5°C	41°F	1.04
10°C	50°F	1.03
15°C	59°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97
45°C	113°F	0.96
50°C	122°F	0.95

Electrical Load

		Current (A)					
Performance Package	System Watts (W)	120V	208V	240V	277V	347V	480V
P1	71W	0.59	0.34	0.30	0.26	0.20	0.15
P2	111W	0.93	0.53	0.46	0.40	0.32	0.23
P3	147W	1.23	0.70	0.61	0.53	0.42	0.31
P4	187W	1.55	0.90	0.78	0.68	0.53	0.38
P5	210W	1.75	1.01	0.87	0.76	0.60	0.44
P6	244W	2.03	1.17	1.01	0.88	0.70	0.51

Projected LED Lumen Maintenance

Operating Hours	50,000	75,000	100,000
Lumen Maintenance Factor	>0.97	>0.95	>0.92

Values calculated according to IESNA TM-21-11 methodology and valid up to 40°C.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

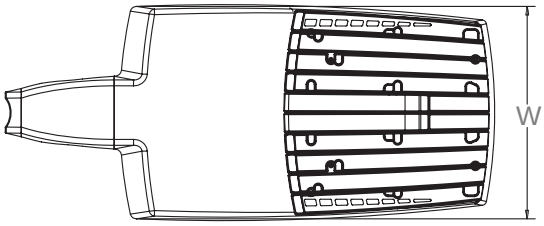
Performance Package	System Watts	Distribution. Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
			Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P1	71W	R2	10,040	2	0	1	139	11,031	2	0	1	153	11,031	2	0	1	153
		R3	10,005	2	0	2	141	10,992	2	0	2	155	10,992	2	0	2	155
		R3S	10,271	2	0	2	143	11,285	2	0	2	157	11,285	2	0	2	157
		R4	10,136	2	0	2	143	11,136	2	0	2	157	11,136	2	0	2	157
		R4S	9,779	2	0	2	138	10,744	2	0	2	151	10,744	2	0	2	151
		R5	10,271	4	0	2	145	11,285	4	0	2	159	11,285	4	0	2	159
		R5S	10,544	3	0	1	149	11,585	3	0	2	163	11,585	3	0	2	163
		AFR	10,026	2	0	1	141	11,016	2	0	1	155	11,016	2	0	1	155
		AFRR90	10,122	3	0	2	140	11,121	3	0	2	154	11,121	3	0	2	154
		AFRL90	10,164	3	0	2	141	11,167	3	0	2	155	11,167	3	0	2	155
P2	111W	R2	15,712	2	0	2	138	17,263	2	0	2	151	17,263	2	0	2	151
		R3	15,657	2	0	3	141	17,202	3	0	3	155	17,202	3	0	3	155
		R3S	16,075	2	0	2	141	17,661	2	0	2	155	17,661	2	0	2	155
		R4	15,862	2	0	3	143	17,427	2	0	3	157	17,427	2	0	3	157
		R4S	15,304	2	0	2	138	16,815	2	0	2	151	16,815	2	0	2	151
		R5	16,075	4	0	2	145	17,661	5	0	3	159	17,661	5	0	3	159
		R5S	16,502	4	0	2	149	18,130	4	0	2	163	18,130	4	0	2	163
		AFR	15,691	2	0	2	141	17,240	2	0	2	155	17,240	2	0	2	155
		AFRR90	15,841	3	0	3	139	17,404	4	0	3	153	17,404	4	0	3	153
		AFRL90	15,907	3	0	3	139	17,477	4	0	3	153	17,477	4	0	3	153
P3	147W	R2	19,855	3	0	2	132	21,814	3	0	2	145	21,814	3	0	2	145
		R3	19,785	3	0	3	135	21,737	3	0	4	148	21,737	3	0	4	148
		R3S	20,312	3	0	3	135	22,317	3	0	3	149	22,317	3	0	3	149
		R4	20,044	3	0	3	136	22,022	3	0	4	150	22,022	3	0	4	150
		R4S	19,339	3	0	3	132	21,247	3	0	3	145	21,247	3	0	3	145
		R5	20,313	5	0	3	138	22,317	5	0	3	152	22,317	5	0	3	152
		R5S	20,852	4	0	2	142	22,910	4	0	2	156	22,910	4	0	2	156
		AFR	19,828	3	0	2	135	21,785	3	0	2	148	21,785	3	0	2	148
		AFRR90	20,017	4	0	3	133	21,992	4	0	3	147	21,992	4	0	3	147
		AFRL90	20,101	4	0	3	134	22,084	4	0	3	147	22,084	4	0	3	147
P4	187W	R2	22,836	3	0	2	120	25,090	3	0	2	132	25,090	3	0	2	132
		R3	22,756	3	0	4	122	25,002	3	0	4	134	25,002	3	0	4	134
		R3S	23,363	3	0	3	123	25,668	3	0	3	135	25,668	3	0	3	135
		R4	23,054	3	0	4	123	25,329	3	0	4	135	25,329	3	0	4	135
		R4S	22,243	3	0	3	119	25,059	3	0	3	134	25,059	3	0	3	134
		R5	23,363	5	0	3	125	25,669	5	0	4	137	25,669	5	0	4	137
		R5S	23,983	4	0	2	128	26,350	4	0	2	141	26,350	4	0	2	141
		AFR	22,806	3	0	2	122	25,056	3	0	2	134	25,056	3	0	2	134
		AFRR90	23,023	4	0	3	121	25,295	4	0	3	133	25,295	4	0	3	133
		AFRL90	23,120	4	0	3	122	25,401	4	0	3	134	25,401	4	0	3	134
P5	210W	R2	26,141	3	0	2	122	28,721	3	0	2	135	28,721	3	0	2	135
		R3	26,049	3	0	4	124	28,620	3	0	4	136	28,620	3	0	4	136
		R3S	26,744	3	0	3	125	29,383	3	0	4	138	29,383	3	0	4	138
		R4	26,390	3	0	4	126	28,994	3	0	4	138	28,994	3	0	4	138
		R4S	25,462	3	0	3	121	27,974	3	0	3	133	27,974	3	0	3	133
		R5	26,744	5	0	4	127	29,383	5	0	4	140	29,383	5	0	4	140
		R5S	27,454	4	0	2	131	30,163	4	0	2	144	30,163	4	0	2	144
		AFR	26,106	3	0	2	124	28,682	3	0	2	137	28,682	3	0	2	137
		AFRR90	26,354	4	0	3	123	28,955	5	0	3	136	28,955	5	0	3	136
		AFRL90	26,465	4	0	3	124	29,077	5	0	3	136	29,077	5	0	3	136
P6	244W	R2	27,646	3	0	2	112	30,374	3	0	2	123	30,374	3	0	2	123
		R3	27,549	3	0	4	113	30,267	3	0	4	124	30,267	3	0	4	124
		R3S	28,283	3	0	3	115	31,075	3	0	4	126	31,075	3	0	4	126
		R4	27,909	3	0	4	114	30,663	3	0	4	126	30,663	3	0	4	126
		R4S	26,928	3	0	3	110	29,585	3	0	3	121	29,585	3	0	3	121
		R5	28,284	5	0	4	116	31,075	5	0	4	127	31,075	5	0	4	127
		R5S	29,035	4	0	2	119	31,900	5	0	3	131	31,900	5	0	3	131
		AFR	27,608	3	0	2	112	30,332	3	0	2	123	30,332	3	0	2	123
		AFRR90	27,872	4	0	3	113	30,622	5	0	3	124	30,622	5	0	3	124
		AFRL90	27,989	4	0	3	113	30,751	5	0	3	125	30,751	5	0	3	125

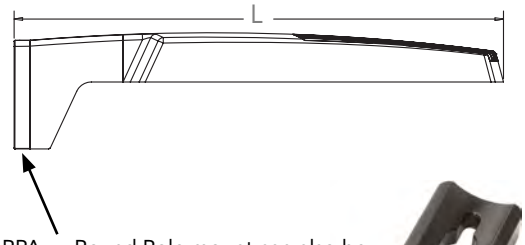
Dimensions & Weights

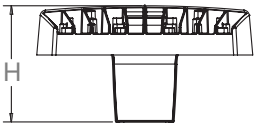
Luminaire Weight by Mounting Type

Mounting Configuration	Total Luminaire Weight
SPA	30 lbs
RPA	32 lbs
MA	30 lbs
WBA	33 lbs
WBASC	36 lbs
IS	33 lbs
AASP	33 lbs
AARP	35 lbs
AAWB	36 lbs
AAWSC	39 lbs

RSX2 with Round Pole Adapter (RPA)



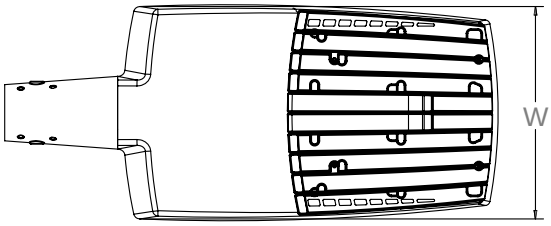


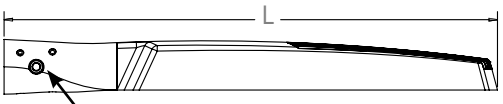


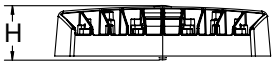
Length: 30.3" (77.0 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
7.2" (18.3 cm) Arm

Note: RPA — Round Pole mount can also be used to mount on square poles by omitting the round pole adapter plate shown here.

RSX2 with Mast Arm Adapter (MA)

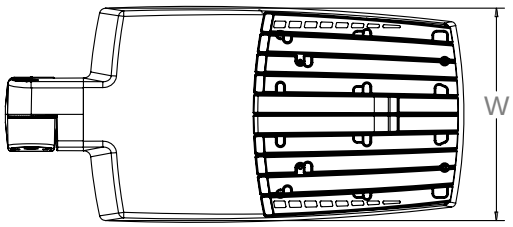


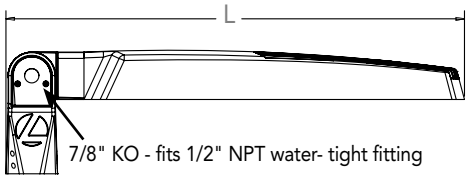


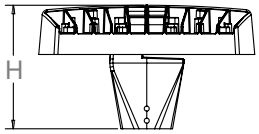


Length: 30.6" (77.7 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
3.5" (8.9 cm) Arm

RSX2 with Adjustable Slipfitter (IS)



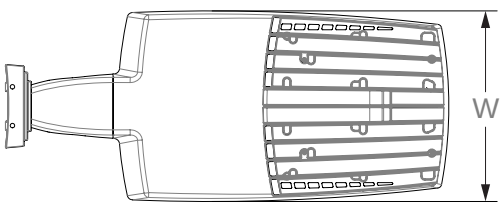


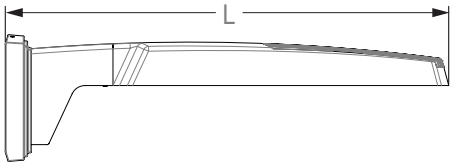


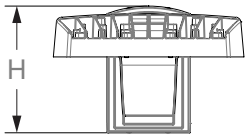
Length: 28.3" (71.9 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
7.6" (19.3 cm) Arm

Dimensions

RSX2 with Wall Bracket (WBA)

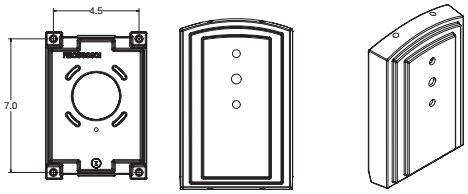




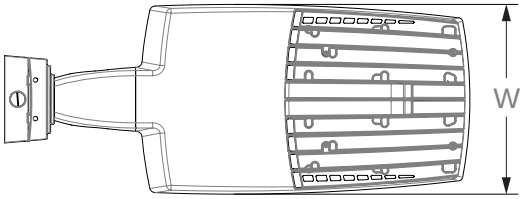


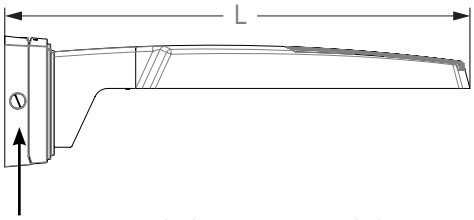
Length: 31.2" (79.2 cm)
Width: 13.4" (41.7 cm)
Height: 3.0" (7.6 cm) Main Body
8.9" (22.6 cm) Arm

Wall Bracket (WBA) Mounting Detail

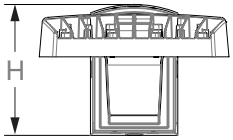


RSX2 with Wall Bracket with Surface Conduit Box (WBASC)



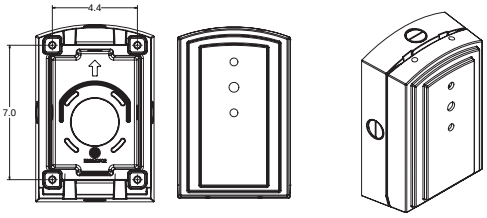


3/4" NPT taps with plugs - Qty (4) provided



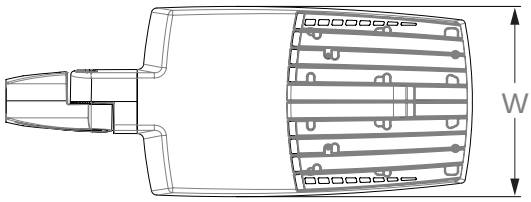
Length: 32.8" (83.3 cm)
Width: 13.4" (41.7 cm)
Height: 3.0" (7.6 cm) Main Body
9.2" (23.4 cm) Arm

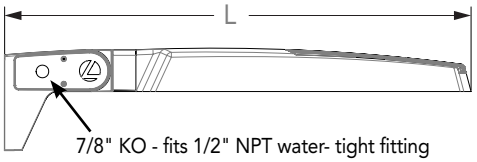
Surface Conduit Box (SCB) Mounting Detail

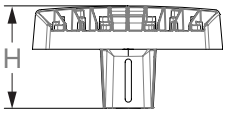


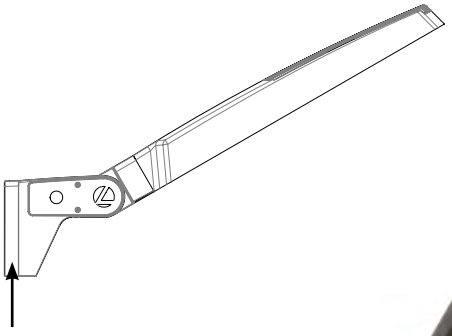
Dimensions

RSX2 with Adjustable Tilt Arm - Square or Round Pole (AASP or AARP)









Length: 32.8" (83.3 cm) **AASP**
33.8" (85.9 cm) **AARP**
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
7.2" (18.2 cm) Arm

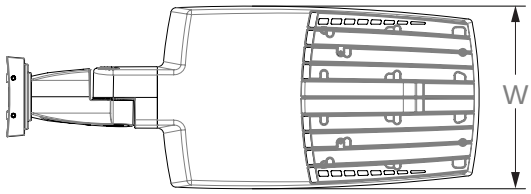
NOTE:
RPA - Round Pole mount can also be used to mount on square poles by omitting the round pole adapter plate shown here.

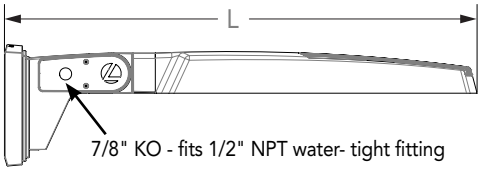
Notes

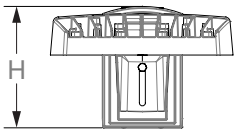
AASP: Requires 3.0" min. square pole for 1 at 90°. Requires 3.5" min. square pole for mounting 2, 3, 4 at 90°.

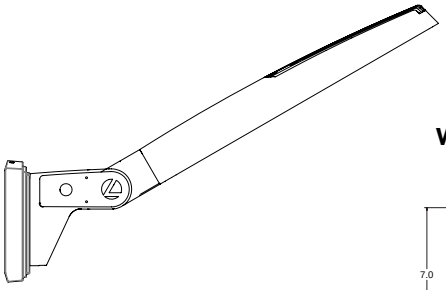
AARP: Requires 3.2" min. dia. round pole for 2, 3, 4 at 90°. Requires 3.0" min. dia. round pole for mounting 1 at 90°, 2 at 180°, 3 at 120°.

RSX2 with Adjustable Tilt Arm with Wall Bracket (AAWB)



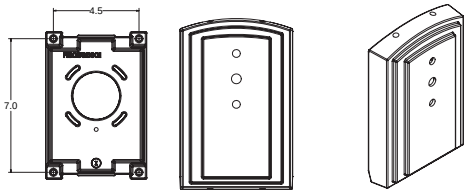






Length: 34.7" (88.0 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
8.9" (22.6 cm) Arm

Wall Bracket (WBA) Mounting Detail



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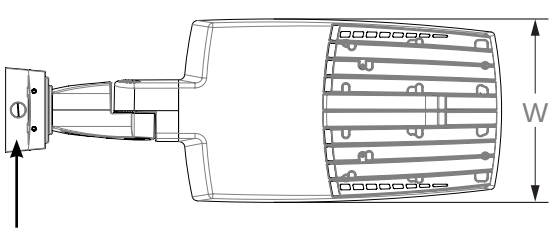
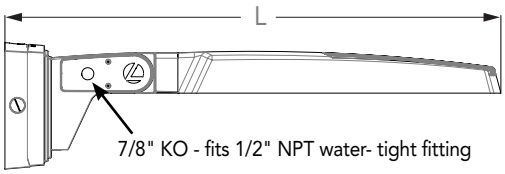
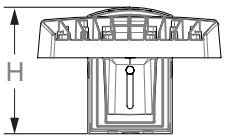
Dimensions

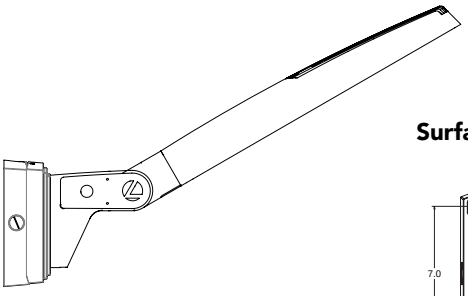
RSX2 with Adjustable Tilt Arm with Wall Bracket and Surface Conduit Box (AAWSC)



3/4" NPT taps
with plugs - Qty (4)
provided

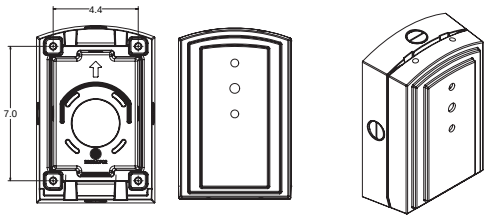




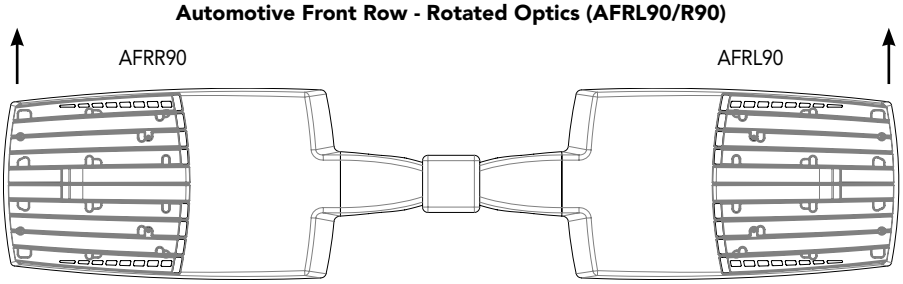


Length: 36.2" (91.9 cm)
Width: 13.4" (40.0 cm)
Height: 3.0" (7.6 cm) Main Body
9.2" (23.4 cm) Arm

Surface Conduit Box (SCB) Mounting Detail



Automotive Front Row - Rotated Optics (AFRL90/R90)

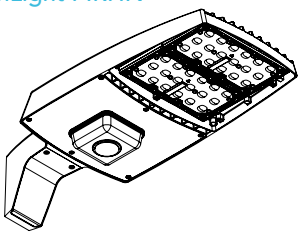


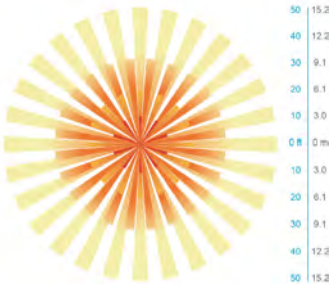
(Example: 2@180 - arrows indicate direction of light exiting the luminaire)

nLight Control - Sensor Coverage and Settings

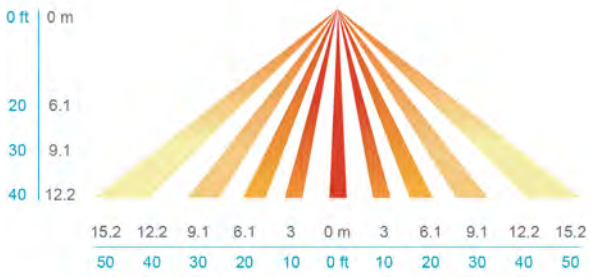
NLTAIR2 PIRHN nLight Sensor Coverage Pattern

nLight PIRHN





Top



Side

Motion Sensor Default Settings - Option PIRHN						
Option	Dimmed State (unoccupied)	High Level (when occupied)	Photocell Operation	Dwell Time (occupancy time delay)	Ramp-up Time (from unoccupied to occupied)	Ramp-down Time (from occupied to unoccupied)
NLTAIR2 PIRHN	Approx. 30% Output	100% Output	Enabled @ 1.5FC	7.5 minutes	3 seconds	5 minutes

*Note: NLTAIR2 PIRHN default settings including photocell set-point, high/low dim rates, and occupancy sensor time delay are all configurable using the Clairity Pro App. Sensor coverage pattern shown with luminaire at 0°. Sensor coverage pattern is affected when luminaire is titled.

FEATURES & SPECIFICATIONS

INTENDED USE
The RSX LED area family is designed to provide a long-lasting, energy-efficient solution for the one-for-one replacement of existing metal halide or high pressure sodium lighting. The RSX2 delivers 11,000 to 31,000 lumens and is ideal for replacing 250W to 1000W HID pole-mounted luminaires in parking lots and other area lighting applications.

CONSTRUCTION AND DESIGN
The RSX LED area luminaire features a rugged die-cast aluminum main body that uses heat-dissipating fins and flow-through venting to provide optimal thermal management that both enhances LED performance and extends component life. Integral "no drill" mounting arm allows the luminaire to be mounted on existing pole drillings, greatly reducing installation labor. The light engines and housing are sealed against moisture and environmental contaminants to IP66. The low-profile design results in a low EPA, allowing pole optimization. Vibration rated per ANSI C136.31: 3G Mountings: Include SPA, RPA, MA, IS, AASP, AARP rated for 3G vibration. 1.5G Mountings: Include WBA, WBASC, AAWB and AAWSC rated for 1.5G vibration.

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures superior adhesion as well as a minimum finish thickness of 3 mils. The result is a high-quality finish that is warrantied not to crack or peel.

OPTICS
Precision acrylic refractive lenses are engineered for superior application efficiency, distributing the light to where it is needed most. Available in short and wide pattern distributions including Type 2, Type 3, Type 3S, Type 4, Type 4S, Type 5, Type 5S, AFR (Automotive Front Row) and AFR rotated AFRR90 and ARFL90.

COASTAL CONSTRUCTION (CCE)
Optional corrosion resistant construction is engineered with added corrosion protection in materials and/or pre-treatment of base material under super durable paint. Provides additional corrosion protection for applications near coastal areas. Finish is salt spray tested to over 5,000 hours per ASTM B117 with scribe rating of 10. Additional lead-times apply.

ELECTRICAL
Light engine(s) configurations consist of high-efficacy LEDs mounted on metal-core circuit boards and aluminum heat sinks to maximize heat dissipation. Light engines are IP66 rated. LED lumen maintenance is >L92/100,000 hours. CCT's of 3000K, 4000K and 5000K (minimum 70 CRI) are available. Fixtures ship standard with 0-10v dimming driver. Class 1 electronic drivers ensure system power factor >90% and THD <20%. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

STANDARD CONTROLS
The RSX LED area luminaire has a wide assortment of control options. Dusk to dawn controls include MVOLT and 347V button-type photocells and NEMA twist-lock photocell receptacles.

nLIGHT AIR CONTROLS
The RSX LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing with photocontrol functionality and is suitable for mounting heights up to 40 feet. No commissioning is required when using factory default settings that provide basic stand-alone motion occupancy dimming that is switched on and off with a built-in photocell. See chart above for motion sensor default out-of-box settings. For more advanced wireless functionality, such as group dimming, nLight AIR can be commissioned using a smartphone and the easy-to-use CLAIRITY app. nLight AIR equipped luminaries can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclypse. Additional information about nLight Air can be found here.

INSTALLATION
Integral "no-drill" mounting arm allows for fast, easy mounting using existing pole drillings. Select the "SPA" option for square poles and the "RPA" option to mount to round poles. Note, the RPA mount can also be used for mounting to square poles by omitting the RPA adapter plate. Select the "MA" option to attach the luminaire to a 2 3/8" horizontal mast arm or the "IS" option for an adjustable slipfitter that mounts on a 2 3/8" OD tenon. The adjustable slipfitter has an integral junction box and offers easy installation. Can be tilted up to 90° above horizontal. Additional mountings are available including a wall bracket, adjustable tilt arm for direct-to-pole and wall and a surface conduit box for wall mount applications.

LISTINGS
CSA Certified to meet U.S. and Canadian standards. Suitable for wet locations. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only. US Patent No. D882, 146S

GOVERNMENT PROCUREMENT
BAA – Buy America(n) Act: Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

d⁼series

D-Series DSXF2
LED Floodlight

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

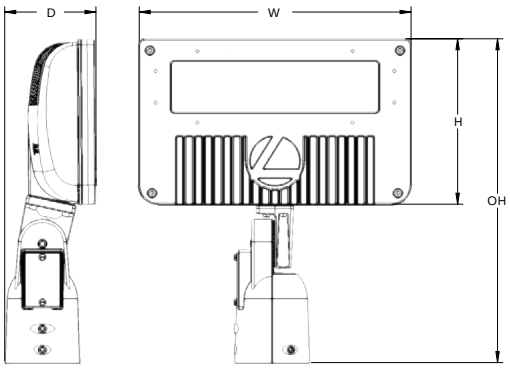
Introduction

The D-Series floodlights feature a site-wide offering to meet specifier's every floodlighting need in application. The D-Series flood offers three sizes delivering 3,000 to 27,000 lumens. Available with seven precision optics, three mountings and three color temperatures, D-Series floodlights offer vast design capabilities while delivering significant energy savings and long life.

The DSXF2 delivers 7,000 to 17,000 lumens, meeting a large breadth of illumination requirements for design and renovation when replacing 175W, 250W and 400W HID floodlights. All configurations are assembled in the USA allowing for quick delivery.

Specifications

EPA @ 90°:	0.8 ft² *(0.07 m²)*
Depth:	4.32" *(11.0 cm)*
Width:	12.87" *(32.7 cm)*
Height:	7.83" *(19.9 cm)*
Overall Height	15.33" *(39.0 cm)*
Weight:	12.0 lbs *(5.4 kg)*



Ordering Information

EXAMPLE: DSXF2 LED P1 40K 70CRI MSP MVOLT THK DDBXD

DSXF2 LED						
Series	**Performance Package**	**Color Temperature**	**CRI**	**Distribution**	**Voltage**	**Mounting**
DSXF2 LED	P1 P2 P3 P4[1]	30K 3000K 40K 4000K 50K 5000K	70CRI	WFL Wide flood (6X6) FL Flood (5X5) MFL Medium flood (4X4) WFR Wide flood, rectangular (6X5) HMF Horizontal flood (6X4) MSP Medium spot (4X4) NSP Narrow spot (3X3)	MVOLT[2] 347 480	**Shipped included** THK Knuckle with 1/2" NPT threaded pipe YKC62 Yoke with 2ft 16-3 SO cord IS Integral slipfitter (fits 2-3/8" O.D. tenon)

Options

Shipped installed

PE	Photocontrol, button style (MVOLT or 347V)[3]
DMG	0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately)
SPD10KV	Separate surge protection
CCE	Coastal Construction[4]

Shipped separately[5]

UBV	Upper/bottom visor (universal)
FV	Full visor
VG	Vandal guard

Finish (required)

DDBXD	Dark bronze
DBLXD	Black
DNAXD	Natural aluminum
DWHXD	White

Accessories[4]

Ordered and shipped separately.

DSXF1/2TS DDBXD U	Slipfitter for 1-1/4" to 2-3/8" OD tenons; 1/2" THK required (specify finish)
FTS CG6 DDBXD U	Slipfitter for 2-3/8" to 2-7/8" OD tenons; YKC62 required (specify finish)
FRWB DDBXD U	Radius wall bracket, 2-3/8" OD tenon (specify finish)
FSPB DDBXD U	Steel square pole bracket, 2-3/8" OD tenon (specify finish)
DSXF2UBV DDBXD U	Upper/bottom visor accessory (specify finish)
DSXF2FV DDBXD U	Full visor accessory (specify finish)
DSXF2VG U	Vandal guard accessory

For more mounting options, visit our Floodlighting Accessories pages.

NOTES

1. Performance package P4 is not available with HMF, MFL, MSP and NSP optics.
2. MVOLT driver operates on line voltage from 120-277V.
3. Requires MVOLT or 347V (Not available in 480V).
4. CCE option not available with DSXF1/2 TS or FTS CG6
5. Also available as separate accessories; see Accessories information at left.

Mountings

IS – Adjustable Slipfitter
(Fits 2-3/8" O.D. tenon)

YKC62 - Yoke with 16-3
SO cord, 2ft

THK - Threaded Knuckle with
1/2" NPT threaded pipe

External Shields

UBV Visor
Top Mounted

UBV Visor
Bottom Mounted

FV - Full Visor

Accessories

VG - Vandal Guard

DSXF1/2TS - THK
Slipfitter Accessory

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown within applicable tolerances. Actual performance may differ as a result of end-user environment and application. Actual wattage may differ by +/- 8% when operating between 120-480V +/- 10%. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Dist.Type	NEMA Type	Field Angle		Beam Angle		30K (3000K, 70 CRI)			40K (4000K, 70 CRI)			50K (5000K, 70 CRI)		
				°H	°V	°H	°V	Lumens	LPW	Max Cd	Lumens	LPW	Max Cd	Lumens	LPW	Max Cd
P1	52	WFL	6 X 6	109	106	83	87	7,353	140	3,777	7,489	143	3,847	7,625	145	3,917
		FL	5 X 5	94	93	68	69	7,290	139	5,804	7,426	142	5,912	7,561	144	6,019
		WFR	6 X 5	108	93	84	69	7,375	141	4,722	7,512	143	4,810	7,648	146	4,897
	64	HMF	6 X 4	125	65	96	54	7,576	119	6,204	7,850	123	6,428	7,774	122	6,365
		MFL	4 X 4	61	60	46	46	7,915	124	12,766	8,201	128	13,228	8,121	127	13,099
		MSP	4 X 4	51	52	27	30	8,138	128	29,618	8,433	132	30,690	8,351	131	30,391
		NSP	3 X 3	41	40	20	17	8,248	129	47,865	8,546	134	49,597	8,463	133	49,114
P2	75	WFL	6 X 6	109	106	83	87	10,161	135	5,219	10,349	138	5,316	10,538	140	5,142
		FL	5 X 5	94	93	68	69	10,192	136	6,526	10,262	137	8,169	10,448	139	8,318
		WFR	6 X 5	108	93	84	69	10,075	134	8,021	10,381	138	6,646	10,570	141	6,767
	80	HMF	6 X 4	125	65	96	54	8,963	113	7,340	9,288	117	7,605	9,197	115	7,531
		MFL	4 X 4	61	60	46	46	9,364	118	15,104	9,703	122	15,651	9,609	121	15,498
		MSP	4 X 4	51	52	27	30	9,629	121	35,043	9,977	125	36,310	9,880	124	35,957
		NSP	3 X 3	41	40	20	17	9,758	122	56,632	10,111	127	58,681	10,013	126	58,109
P3	93	WFL	6 X 6	109	106	83	87	12,054	130	6,191	12,278	132	6,306	12,501	135	6,421
		FL	5 X 5	94	93	68	69	11,952	129	9,515	12,173	131	9,691	12,395	133	9,868
		WFR	6 X 5	108	93	84	69	12,091	130	7,741	12,315	133	7,885	12,539	135	8,028
	100	HMF	6 X 4	125	65	96	54	10,487	105	8,588	10,867	109	8,898	10,761	108	8,812
		MFL	4 X 4	61	60	46	46	10,956	110	17,672	11,353	114	18,311	11,242	113	18,133
		MSP	4 X 4	51	52	27	30	11,266	113	41,000	11,674	117	42,483	11,560	116	42,070
		NSP	3 X 3	41	40	20	17	11,417	114	66,260	11,830	119	68,657	11,715	117	67,988
P4	145	WFL	6 X 6	109	106	83	87	17,104	118	8,785	17,421	120	8,948	17,738	123	9,110
		FL	5 X 5	94	93	68	69	16,959	117	13,501	17,273	119	13,751	17,587	122	14,001
		WFR	6 X 5	108	93	84	69	17,156	119	10,984	17,473	121	11,188	17,791	123	11,391

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient Temperature		Lumen Multiplier (Optics WFL, FL, WFR)	Lumen Multiplier (Optics HMF, MFL MSP, NSP)
0°C	32°F	1.04	1.06
5°C	41°F	1.04	1.05
10°C	50°F	1.03	1.04
15°C	59°F	1.02	1.03
20°C	68°F	1.01	1.01
25°C	**77°F**	**1.00**	**1.00**
30°C	86°F	0.99	0.99
35°C	95°F	0.98	0.97
40°C	104°F	0.97	0.96

Reported LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient and hours of LED testing (tested per IESNA LM-80-08 and reported per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Optic Type	Performance Package	TM-21 Percent Lumen Maintenance at 60,000 hrs
WFL, FL, WFR	P1 / P2 / P3 / P4	85%
MFL, HMF, MSP, NSP	P1 / P2 / P3	88%

Electrical Load

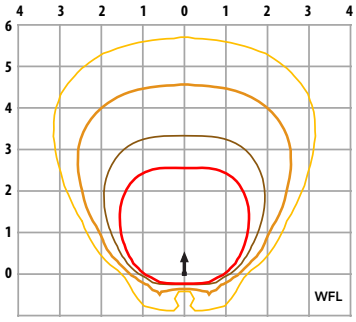
			Current (A)					
	Performance Package	System Watts (W)	120V	208V	240V	277V	347V	480V
Optic Type WFL, FL, WFR	P1	52	0.45	0.26	0.23	0.20	0.16	0.12
	P2	75	0.63	0.36	0.31	0.27	0.22	0.16
	P3	93	0.77	0.45	0.38	0.33	0.27	0.20
	P4	145	1.18	0.68	0.59	0.51	0.41	0.30
Optic Type HMF, MFL, MSP, NSP	P1	64	0.54	0.31	0.27	0.23	0.19	0.14
	P2	80	0.67	0.39	0.34	0.29	0.24	0.17
	P3	100	0.85	0.49	0.42	0.36	0.29	0.21

Photometric Diagrams

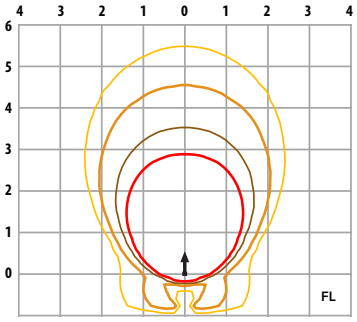
To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Flood Size 2 homepage.

Isofootcandle plots for DSXF2. Distances are in units of mounting height (20ft).

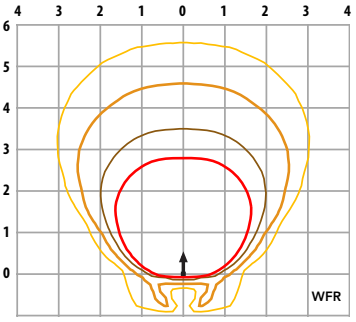
LEGEND
- 0.1 fc
- 0.25 fc
- 0.5 fc
- 1.0 fc



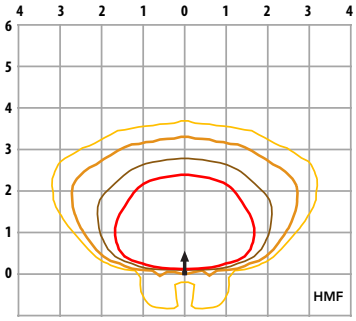
DSXF2 LED P4 40K - Tilted at 45°



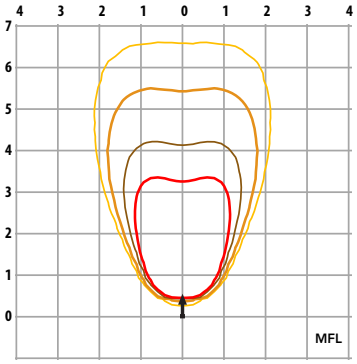
DSXF2 LED P4 40K - Tilted at 45



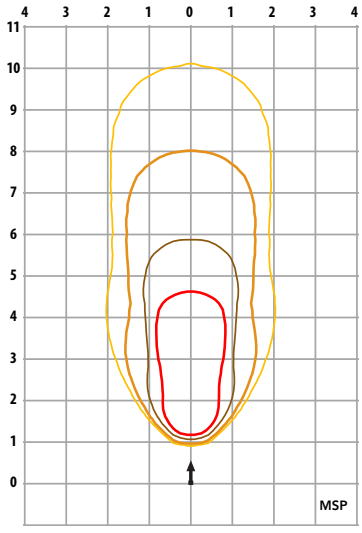
DSXF2 LED P4 40K - Tilted at 45



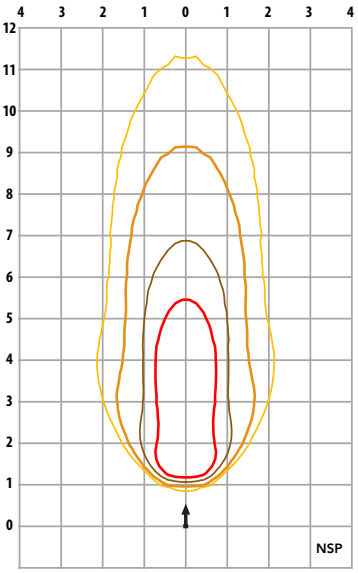
DSXF2 LED P3 40K - Tilted at 45



DSXF2 LED P3 40K - Tilted at 60



DSXF2 LED P3 40K - Tilted at 80

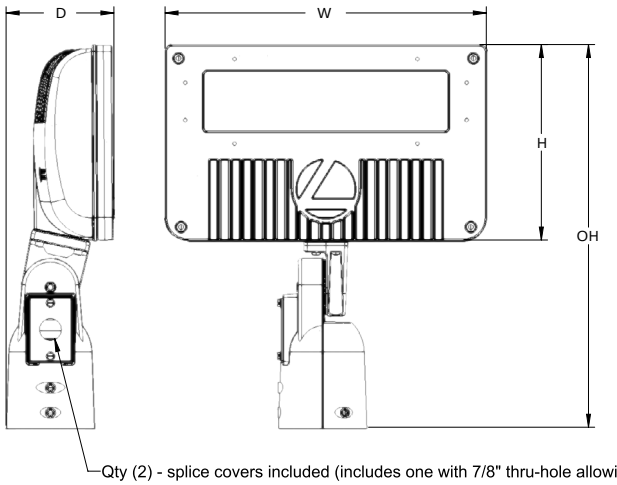


DSXF2 LED P3 40K - Tilted at 80

MH = 20ft
Grid = 20ft x 20ft

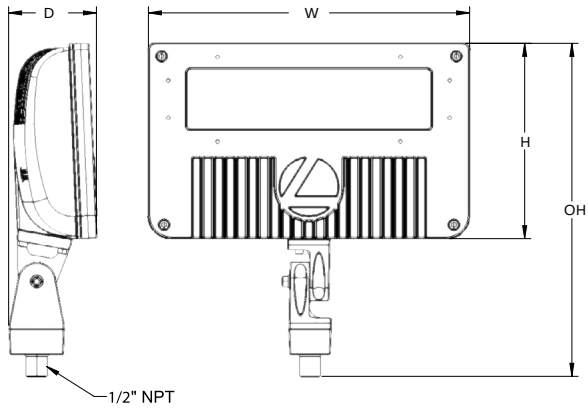
Dimensions

Adjustable Slipfitter (IS)



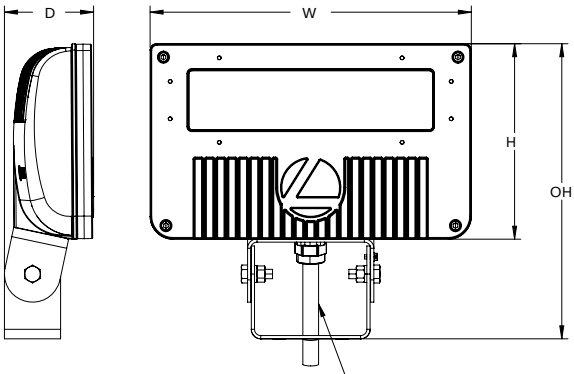
Width: 12.87" (32.7 cm)
Depth: 4.32" (11.0 cm)
Height: 7.83" (19.9 cm) main body
Overall:15.33" (39.0 cm) with arm
Weight: 12 lbs

Threaded Knuckle (THK)



Width: 12.87" (32.7 cm)
Depth: 3.52" (8.9 cm)
Height: 7.83" (19.9 cm) main body
Overall:13.34" (33.9 cm) with arm
Weight: 10.5 lbs

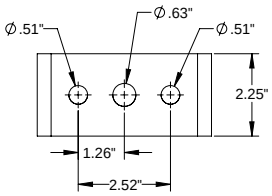
Yoke (YKC62)



Width: 12.87" (32.7 cm)
Depth: 3.57" (9.0 cm)
Height: 7.83" (19.9 cm) main body
Overall:11.82" (30.0 cm) with arm
Weight: 10.5 lbs

Note: Standard cord is 16-3 wire, 2 ft cord. Other lengths can be specified.
Ex: YKC62
YK = Yoke Mount
C6 = 16 gage, 3 wire cord
2 = 2 feet (5 = 5ft, 6 = 6ft, etc.)

Yoke (YK) Mounting Detail



Pole Mounting Information

Accessories including bullhorns, cross arms and other adapters are available. For the complete line of accessories available, visit the accessories tab at Lithonia's Outdoor Poles and Arms product page. Click here to visit Accessories.

FEATURES & SPECIFICATIONS

INTENDED USE
The sleek and compact design of the D-Series floodlights reflects the embedded high performance LED technology while offering a clean aesthetic suitable for specification and general purpose floodlighting applications. Three sizes are available with seven precision optics allowing for maximum design versatility. DSXF2 delivers 7,000 to 17,000 lumens and is ideal for commercial lighting applications including new construction and replacing 175W, 250w and 400W HID floodlights. DSXF2 is ideal for area, security, facade, flagpole and signage lighting applications.

CONSTRUCTION
The DSXF2 LED floodlight features rugged die-cast aluminum construction with integral heat sink fins that optimize thermal management through conductive and convective cooling. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. The housing and lens frame are completely sealed against moisture and environmental contaminants providing an IP66 rating. Low EPA (0.8 ft2) for optimized wind loading. DSXF2 is 1.5G vibration rated per ANSI C136.31.

FINISH
Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Standard Super Durable colors include dark bronze, black, natural aluminum, and white. Available in textured and non-textured finishes.

COASTAL CONSTRUCTION (CCE)
Optional corrosion resistant construction is engineered with added corrosion protection in materials and/or pre-treatment of base material under super durable paint. Provides additional corrosion protection for applications near coastal areas. Finish is salt spray tested to over 5,000 hours per ASTM B117 with scribe rating of 10. Additional lead-times may apply.

OPTICS
Seven unique precision-molded vacuum-metalized specular reflectors are engineered for superior field-to-beam ratios, uniformity and spacing. Light engines are available in 3000K, 4000K or 5000K (minimum 70 CRI) configurations. Optional visors offer additional versatility when shielding is required.

ELECTRICAL
Light engines consist of chip-on-board (COB) LEDs directly coupled to the housing to maximize heat dissipation and promote long life. LED lumen maintenance is L85/60,000 hours for WFL, FL and WFR optics and L88/60,000 hours for HMF, MFL, MSP and NSP optics. Class 1 electronic 0-10V continuous dimmable drivers ensure system power factor. 90% and THD <20%. Optional 10kV surge protection device meets a minimum Category C low operation (per ANSI/IEEE C62.41.2).

INSTALLATION
The die-cast integral "IS" mount features an adjustable slipfitter that mounts on a 2 3/8" OD tenon. Includes integral splice compartment offering easy installation and wiring. An extra cover plate with 7/8" through hole is provided to accommodate 1/2" water-tight fitting for power run from outside of the tenon. The "THK" adjustable knuckle mount includes a 1/2-14 NPT pipe thread. A steel yoke "YK" mount is available and includes a water tight cord grip and cord. DSXF2 features a glass lens enclosure that is protected to IP66 and is rated for lighting aimed up above 90°. Suitable for mounting within 4 feet of ground.

CONTROLS
DSXF2 features MVOLT (120-277V) and 347V button photocontrol.

LISTINGS
CSA Certified to meet U.S. and Canadian standards. Suitable for wet locations. Rated for -40°C minimum ambient.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

GOVERNMENT PROCUREMENT
BAA – Buy America(n) Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

Evolve™ LED Area Light

Scalable Wall Pack (EWS3)

current
powered by GE

Product Features

The GE Evolve LED Scalable Wall Pack is optimized for customers looking for an efficient and reliable LED solution to replace 75W - 250W Metal Halide wall mounted, site, area and general lighting applications.

Depending on the application, Evolve™ LED Scalable Wall Pack can yield up to a 75% reduction in system energy consumption compared with standard HID systems. Standard 0-10V dimming and an optional motion sensor with daylight harvesting can provide additional energy savings. The EWS3 offers a typical 105 LPW and is available in key lumen packages and reflective optics to optimize light output for most applications. This reliable system operates well in cold temperatures and offers more than 11 years of service life to reduce maintenance frequency and expense, based on a 50,000 hour rated life and 12 hours of operation per day. Containing no mercury or lead, this environmentally responsible product is RoHS compliant.

Applications

- Wall mounted, site, area and general lighting utilizing an advanced LED optical system providing uniformity, vertical light distribution, reduced offsite visibility, reduced on-site glare and effective security light levels.

Housing

- Die-cast aluminum housing.
- Sleek architectural design incorporating a heat sink directly into the unit ensuring maximum heat transfer and long LED life.
- Meets 1.5 G vibration standards per ANSI C136.31-2010.

LED & Optical Assembly

- Structured LED array for optimized light distribution.
- Evolve™ LED light engine utilizes reflective technology to optimize application efficiency and minimize glare.
- Utilizes high brightness LEDs, 70 CRI at 3000K, 4000K & 5000K typical.
- LM-79 tests and reports are performed in accordance with IESNA standards.

Lumen Maintenance

- Projected L90>47,000 hours per IES TM-21
- Projected Lxx per IES TM-21 at 25°C for reference:

SKU	LXX (10K)@HOURS		
	25,000 HR	50,000 HR	100,000 HR
EWS3	L94	L89	L80

Note: 1) Projected Lxx based on LM80 (10,000 hour testing). 2) DOE Lighting Facts Verification Testing Tolerances apply to initial Luminous flux and lumen maintenance measurements.

Lumen Ambient Temperature Factors:

AMBIENT TEMPERATURE (°C)	INITIAL FLUX FACTOR
10	1.02
20	1.01
25	1.00
30	0.99
40	0.98
50	0.97

Ratings

- UL listed, suitable for wet locations.
- cUL listed with option code "J" SKUs.
- IP 65 rated optical enclosure per ANSI C136.25-2013.
- Title 24 compliant with motion sensor option.
- Temperature rated at –40° to 50°C. (35°C for high wattage 90W SKU).
- Upward Light Output Ratio (ULOR) = 0
- Complies with the material restrictions of RoHS.

DLC Standard qualified models available. Please refer to http://www.designlights.org/QPL for complete information.

Mounting

- Flush wall mount to "J" box with inspection hole for IP 65.

Finish

- Corrosion resistant polyester powder paint, minimum 2.0 mil. thickness.
- Standard colors: Black and Dark Bronze.
- RAL & custom colors available.

Electrical

- 120-277 volt and 347-480 volt available.
- System power factor is >90% and THD <20%*.
- Surge protection per ANSI C136.2-2015:
  - Exceeds "Basic" (6kV/3kA) (120 strike)
- EMI: FCC Title 47 CFR Part 15 Class A.
- Motion sensor with dimming capability available with "H" option code.
- Button PE Sensitivity: Fixture on-3.5Fc
  Fixture off-11.8 Fc

** System THD <26% for 347-480v supply with A7 power level.*

Accessories

- Escutcheon Plates - See page 6

Warranty

- 5 Year standard

Ordering Number Logic

Scalable Wall Pack (EWS3)

E W S 3

_ _ _ _   _   _ _   _ _   _ _   _   _ _ _ _   _ _ _

PROD. ID	VOLTAGE	POWER LEVEL	PHOTOMETRIC TYPE	LED COLOR TEMP	PE FUNCTION	COLOR	OPTIONS
E = Evolve **W** = Wallpack **S** = Scalable **3** = Product Generation	**0** = 120-277* **1** = 120 **2** = 208 **3** = 240 **4** = 277 **5** = 480 **D** = 347 **H** = 347-480* *Not available with Fusing. Must choose a descreet voltage with F Option.		**D1** = Asymmetric Forward **E1** = Asymmetric Medium	**30** = 3000K◇ **40** = 4000K **50** = 5000K ◇Select 3000K CCT for IDA Approved units	**1** = None **3** = Button PE* *Button PE not available with motion sensor option. Only available with descreet voltages. Not available with voltage options D, H or 5.	**BLCK** = Black **DKBZ** = Dark Bronze **GRAY** = Gray **WHTE** = White Contact manufacturer for other colors.	**F** = Fusing **H** = Motion Sensor* **J** = cUL/Canada **XXX** = Special Options *Option H only available in 120-277V. Reference page 5 (under H Motion Sensing Option) for more details.

Table 1: 120-277 Voltage Versions

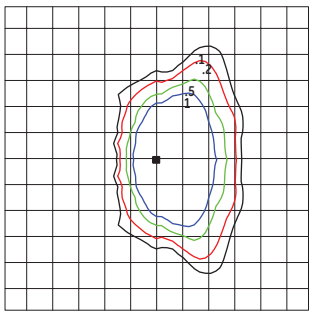
POWER LEVEL	PHOTOMETRIC TYPE	TYPICAL INITIAL LUMENS 3000K	TYPICAL INITIAL LUMENS 4000K & 5000K	TYPICAL SYSTEM WATTAGE 120-277V	TYPICAL SYSTEM WATTAGE 347-480V	B-U-G RATING 3000K	B-U-G RATING 4000K & 5000K	IES FILE NUMBERS 120-277V 3000K	IES FILE NUMBERS 120-277V 4000K	IES FILE NUMBERS 120-277V 5000K
A7	D1	2800	2900	25	28	1-0-1	1-0-1	EWS3_A7D130____-120-277V.IES	EWS3_A7D140____-120-277V.IES	EWS3_A7D150____-120-277V.IES
	E1	2800	2900	25	28	1-0-0	1-0-1	EWS3_A7E130____-120-277V.IES	EWS3_A7E140____-120-277V.IES	EWS3_A7E150____-120-277V.IES
B7	D1	3700	3800	32	35	1-0-1	1-0-1	EWS3_B7D130____-120-277V.IES	EWS3_B7D140____-120-277V.IES	EWS3_B7D150____-120-277V.IES
	E1	3700	3800	32	35	1-0-1	1-0-1	EWS3_B7E130____-120-277V.IES	EWS3_B7E140____-120-277V.IES	EWS3_B7E150____-120-277V.IES
C7	D1	4900	5000	41	45	1-0-1	1-0-1	EWS3_C7D130____-120-277V.IES	EWS3_C7D140____-120-277V.IES	EWS3_C7D150____-120-277V.IES
	E1	4900	5000	41	45	1-0-1	1-0-1	EWS3_C7E130____-120-277V.IES	EWS3_C7E140____-120-277V.IES	EWS3_C7E150____-120-277V.IES
D3	D1	6500	6700	67	67	2-0-1	2-0-1	EWS3_D3D130____.IES	EWS3_D3D140____.IES	EWS3_D3D150____.IES
	E1	6500	6700	67	67	2-0-1	2-0-1	EWS3_D3E130____.IES	EWS3_D3E140____.IES	EWS3_D3E150____.IES
E3	D1	8200	8600	90	90	2-0-2	2-0-2	EWS3_E3D130____.IES	EWS3_E3D140____.IES	EWS3_E3D150____.IES
	E1	8200	8600	90	90	2-0-1	2-0-1	EWS3_E3E130____.IES	EWS3_E3E140____.IES	EWS3_E3E150____.IES

Table 2: 347-480 Voltage Versions

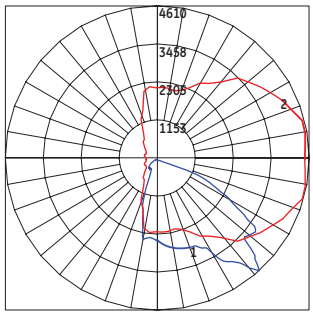
POWER LEVEL	PHOTOMETRIC TYPE	TYPICAL INITIAL LUMENS 3000K	TYPICAL INITIAL LUMENS 4000K & 5000K	TYPICAL SYSTEM WATTAGE 120-277V	TYPICAL SYSTEM WATTAGE 347-480V	B-U-G RATING 3000K	B-U-G RATING 4000K & 5000K	IES FILE NUMBERS 347-480V 3000K	IES FILE NUMBERS 347-480V 4000K	IES FILE NUMBERS 347-480V 5000K
A7	D1	2800	2900	25	28	1-0-1	1-0-1	EWS3_A7D130____-347-480V.IES	EWS3_A7D140____-347-480V.IES	EWS3_A7D150____-347-480V.IES
	E1	2800	2900	25	28	1-0-0	1-0-1	EWS3_A7E130____-347-480V.IES	EWS3_A7E140____-347-480V.IES	EWS3_A7E150____-347-480V.IES
B7	D1	3700	3800	32	35	1-0-1	1-0-1	EWS3_B7D130____-347-480V.IES	EWS3_B7D140____-347-480V.IES	EWS3_B7D150____-347-480V.IES
	E1	3700	3800	32	35	1-0-1	1-0-1	EWS3_B7E130____-347-480V.IES	EWS3_B7E140____-347-480V.IES	EWS3_B7E150____-347-480V.IES
C7	D1	4900	5000	41	45	1-0-1	1-0-1	EWS3_C7D130____-347-480V.IES	EWS3_C7D140____-347-480V.IES	EWS3_C7D150____-347-480V.IES
	E1	4900	5000	41	45	1-0-1	1-0-1	EWS3_C7E130____-347-480V.IES	EWS3_C7E140____-347-480V.IES	EWS3_C7E150____-347-480V.IES
D3	D1	6500	6700	67	67	2-0-1	2-0-1	EWS3_D3D130____.IES	EWS3_D3D140____.IES	EWS3_D3D150____.IES
	E1	6500	6700	67	67	2-0-1	2-0-1	EWS3_D3E130____.IES	EWS3_D3E140____.IES	EWS3_D3E150____.IES
E3	D1	8200	8600	90	90	2-0-2	2-0-2	EWS3_E3D130____.IES	EWS3_E3D140____.IES	EWS3_E3D150____.IES
	E1	8200	8600	90	90	2-0-1	2-0-1	EWS3_E3E130____.IES	EWS3_E3E140____.IES	EWS3_E3E150____.IES

Photometrics

EWS3 - Asymmetric Forward (D1)
8,600 Lumens, 5000K (EWS3_E3D150_____.IES)

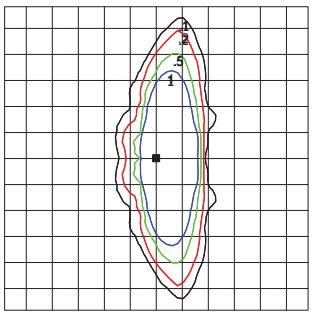


Grid Distance in Units of Mounting Height at 12'
Initial Footcandle Values at Grade

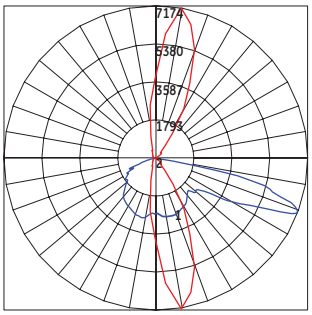


Polar Trace Vertical and Horizontal Plane through
Horizontal Angle of Maximum Candlepower

EWS3-Asymmetric Medium (E1)
8,600 Lumens, 5000K (EWS3_E3E150_____.IES)



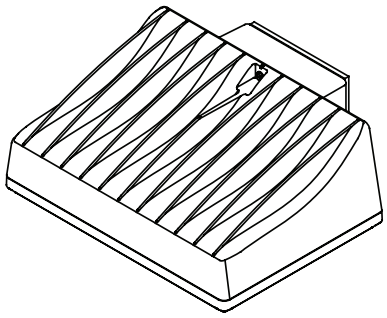
Grid Distance in Units of Mounting Height at 12'
Initial Footcandle Values at Grade



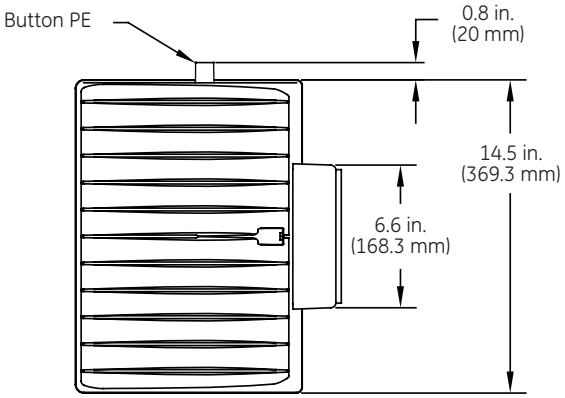
Polar Trace Vertical and Horizontal Plane through
Horizontal Angle of Maximum Candlepower

Product Dimensions

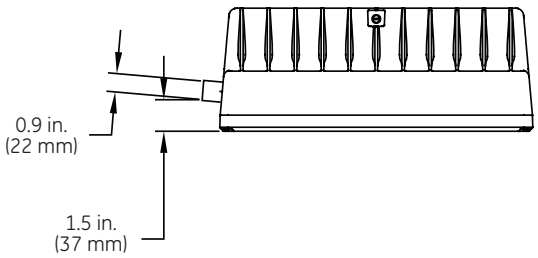
Top/Side View



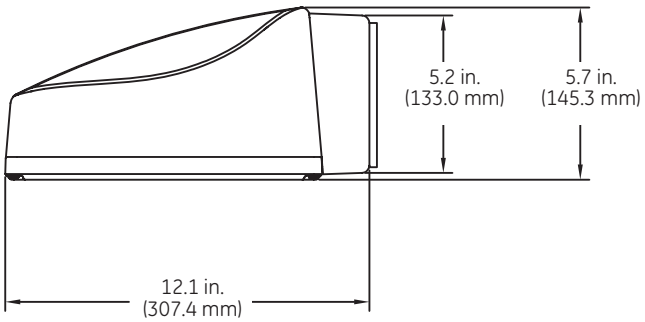
Top View



Front View

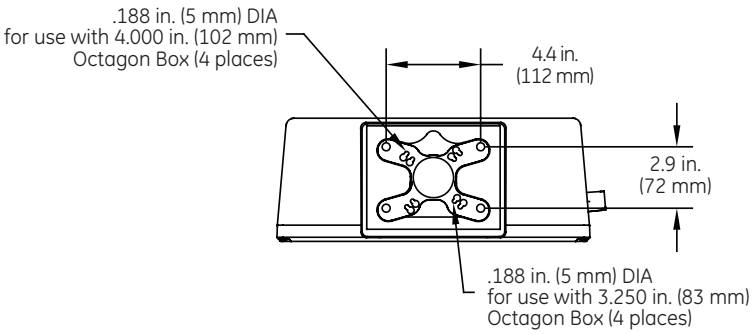


Side View



Product Dimensions

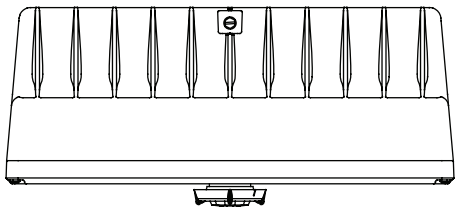
Back View



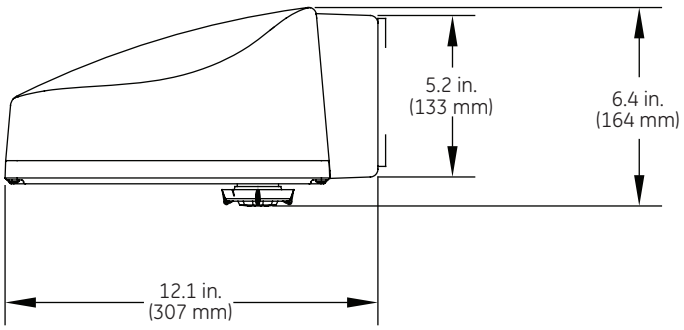
DATA

- Approximate Net Weight: 21 lbs (9.53 kgs)

Front View with Motion Sensor Option



Side View with Motion Sensor Option



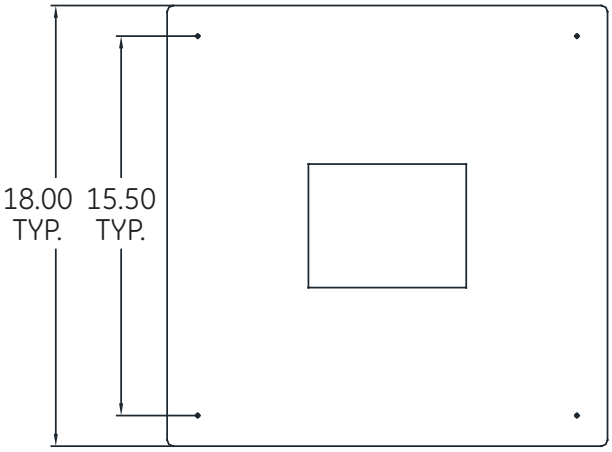
Accessories:

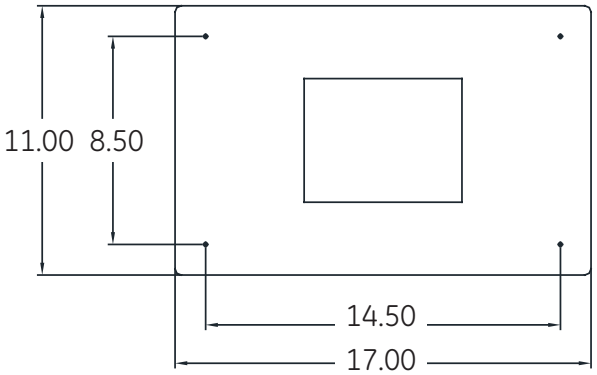
Escutcheon Plates

Cover unsightly debris and marks left behind from replacing HID product with escutcheon plates. Available in square and rectangular sizes, as well as in an assortment of colors to match the luminaire. Accessories are ordered and shipped separately from the luminaire.

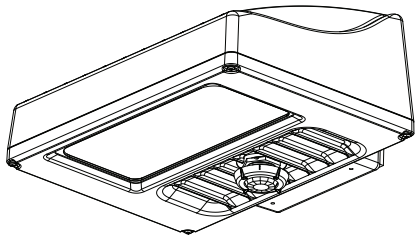
E W N — **E** — — ____

PROD. ID	PHOTOMETRIC SERIES	DETAIL	COLOR
E = Evolve **W** = Wall Pack **N** = Housing Series	**E** = Escutcheon Plate	**1** = 17" x 11" **2** = 18" x 18"	**BLCK** = Black **DKBZ** = Dark Bronze **GRAY** = Gray **WHTE** = White RAL custom colors available. Contact Manufacturer.





H-Motion Sensing Option:



- Intended for 8-25ft mounting heights.
- Provides a coverage area radius for walking motion of 25-30ft.
- Provides 180° of coverage (~180° is blocked by the wall).
- Factory preset to 50% dimming with no occupancy.
- May be reprogrammed using additional remote programmer.
  Remote Programmer part number: WS FSIR-100 PROGRAMMER (197634)
- Photoelectric control is integrated through the motion sensor, and is offered as standard.

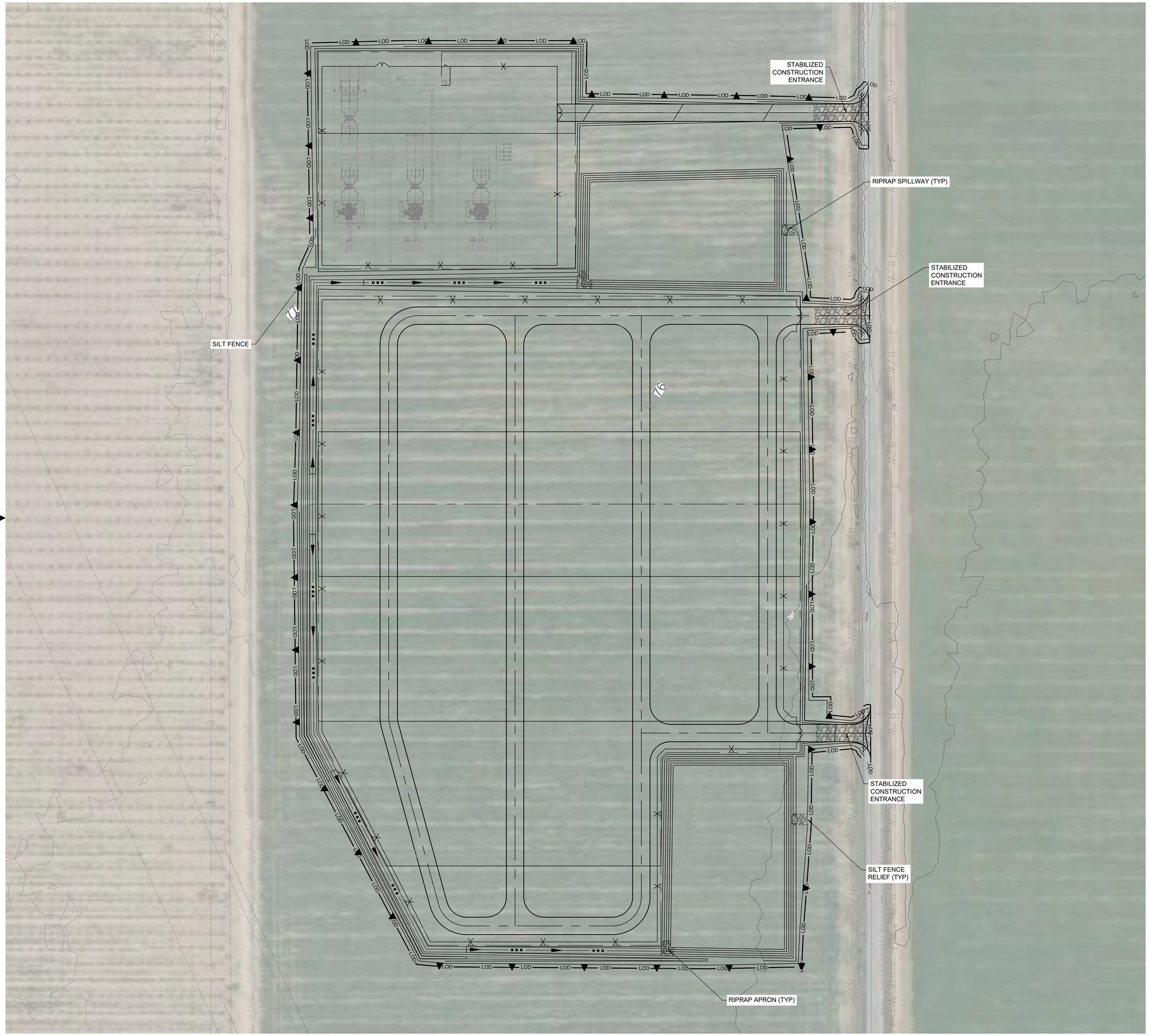
Sensor Pattern:

Sensing Pattern Wall Pack Fixture
Up to 25ft.

www.currentbyge.com

OLP3115 (Rev 05/04/17)

APPENDIX 11-A: SEDIMENT AND EROSION CONTROL PLAN



Scale For Microfilming
Millimeters
Inches

REV	DATE	BY	CKD	DESCRIPTION
A	05/03/24	DCR	ERA	ISSUED FOR 60% REVIEW
B	02/14/25	DCR	ERA	ISSUED FOR 60% REVIEW

PRELIMINARY - NOT FOR CONSTRUCTION

BURNS McDONNELL

BURNS & McDONNELL WESTERN ENTERPRISES, INC.
140 S STATE COLLEGE BLVD., SUITE 100
BREA, CA 92821

date 05/03/2024	detailed J. DOLL
designed D. ROSENBLUM	checked J.T. DOWELL

NORTH

0 50' 100'
SCALE IN FEET

CORBY ENERGY STORAGE, LLC
700 UNIVERSE BLVD.
JUNO BEACH, FL 33408

CORBY BESS PROJECT
6865 BYRNES ROAD
VACAVILLE, CALIFORNIA 95687

CORBY BESS
SEDIMENT & EROSION CONTROL PLAN

project 163851	contract 8410
drawing BCR-C-200	rev. B
.....	sheets ..

file 163851BCR-C-200.dwg