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Description:	Response from the Service on the Potentia-Viridi BESS Project to the Corps 9/6/24 request for formal consultation.
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Organization:	Dudek
Submitter Role:	Applicant Consultant
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In Reply Refer to:
2024-0094382-S7

June 25, 2025
Sent Electronically

Regulatory Project Manager
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Subject: Formal Consultation on the Potentia Viridi Battery Storage System Project, Alameda County, California (Corps File Number: SPK-2024-00486)

Dear Regulatory Project Manager:

This letter is in response to the U.S. Army Corps of Engineers (Corps) September 6, 2024, request for initiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the Potentia Viridi Battery Storage System Project (proposed project) in Alameda County, California. Your request was received electronically by the Service on September 6, 2024. At issue are the proposed project's effects on the federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*) (kit fox), the federally threatened Central California Distinct Population Segment of the California tiger salamander (*Ambystoma californiense*) (salamander or Central California tiger salamander), and the federally threatened California red-legged frog (*Rana draytonii*) (frog) and its critical habitat. This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq*.) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

The Service has determined that the proposed project is appropriate to append to the May 31, 2012, *Programmatic Biological Opinion for the Corps Permitted Projects Utilizing the East Alameda County Conservation Strategy that May Affect Federally Listed Species in East Alameda County, California* (Service 2012) (programmatic). The proposed actions meet the suitability criteria of and is within the geographic area analyzed in the programmatic. Therefore, this letter is an agreement by the Service to append the proposed action to the programmatic and represents the Service's biological opinion on the effects of the proposed action on the salamander and the frog. By appending the proposed action to the programmatic, the applicant (Levy Alameda, LLC) acknowledges and accepts all of the conservation measures outlined within the programmatic, including, but not limited to, the proposed conservation measures that will minimize adverse effects to these species.

The federal action on which we are consulting is the Corps issuing a permit to Levy Alameda, LLC (Applicant), a wholly owned subsidiary of Obra Maestra Renewables, LLC, who proposes

to construct, operate, and eventually repower or decommission the 400 megawatt (MW) Potentia-Viridi Battery Energy Storage System pursuant to Section 404 of the Clean Water Act of 1972, as amended (33 U.S.C. § 1344 et seq.). The Corps is responsible for enforcing actions carried out in Corps' jurisdictional waters and the applicant and Service will enforce all other actions associated with the proposed action. Pursuant to 50 CFR 402.12(j), the Corps submitted a biological assessment for our review and requested concurrence with the findings presented therein. These findings conclude that the proposed project may affect, and is not likely to adversely affect the kit fox. The findings also conclude that the proposed project may affect, and is likely to adversely affect the salamander, the frog, and frog critical habitat.

In considering your request, we based our evaluation on the following: (1) your September 6, 2024, letter; (2) the March 2025 Biological Assessment – Potentia-Viridi Battery Energy Storage Project (Stantec 2024); (3) and other information available to the Service.

The Service concurs with your determination that the proposed project may affect and is not likely to adversely affect the kit fox. Based on the following factors, the Service believes that any potential adverse effects to the kit fox from the proposed project are unlikely to occur and are therefore discountable for purposes of this consultation:

1. The action area is within the northern limits of the known kit fox dispersal and migration boundary, and minimal impacts will occur.

2. The conservation measures proposed for the project will minimize adverse effects to this species.

The remainder of this document provides our biological opinion on the effects of the proposed project on the salamander, the frog, and the frog's critical habitat.

Consultation History

September 6, 2024: The Service received the Corps' September 6, 2024, letter requesting initiation of consultation for the proposed project as well as including a biological assessment, dated June 2024, for the proposed project.

October 7, 2024: The Service requested additional information including recommendations and comments on the June 2024 biological assessment before beginning consultation.

January 24, 2025: The Corps, applicants, and the Service met to discuss the biological assessment.

February 4, 2025: The Service received a revised biological assessment, dated February 2024.

February 11, 2025: The Service requested additional information on the revised February 2024 biological assessment.

March 7, 2025: The Service received an amended biological assessment, dated March 2025.

BIOLOGICAL OPINION

Description of the Proposed Action

The proposed project is located at 17257 Patterson Road, Alameda County, California (Latitude 37.7121°, Longitude -121.57336°). The location is south of Interstate 580 (I-580) and north of Patterson Pass Road in the eastern portion of unincorporated Alameda County. The proposed project includes the construction, operation, and eventually repowering or decommissioning of the 400 megawatt (MW) Potentia-Viridi Battery Energy Storage System (BESS) with an energy storage capacity up to 3,200 MWhs. Charging from or discharging to the electrical grid will be a 500kV gen-tie connecting the proposed project substation to the point of interconnect within the existing Pacific Gas and Electric (PG&E) Tesla Substation. The BESS Facility will include the following components:

- Battery Energy Storage System (BESS)
- Power Conversion Systems (PCS)
- Medium voltage (MV) Collection System
- Project Substation, Control Building, and Telecommunications Facilities
- Access Roads
- Laydown Yards
- Stormwater Facilities and Outfall
- Site Security and Fencing, including fire detection system

Battery Energy Storage System

The energy storage facility will utilize a modular and containerized BESS. There are several battery cell technologies commercially available, with one of the most common at present being lithium iron phosphate (LFP) cells (often colloquially referred to as 'lithium-ion'). LFP technology is considered one of the safest, most efficient, and commercially financeable energy storage technologies available on the market. The initial proposed project concept has been developed assuming an LFP technology; however, due to the continuous improvement of these energy storage systems, a specific manufacturer and model has not been selected at this time. By the time the proposed project reaches the procurement stage, it is possible for other battery cell technology with proven safety and performance records to be suitable for the proposed project. Although the number and dimensions of the containers may change (as it does between LFP technology providers), the technology ultimately procured will result in potential environmental impacts substantially similar to, or less than, those analyzed.

The BESS enclosures will be prefabricated off-site and arrive at the site ready to be installed and commissioned. Each modular BESS enclosure will include battery packs on racks, a battery management system (BMS), fire protection, and ancillary power electronics within a specialized steel-framed, non-occupiable container. The BESS enclosures will not exceed approximately ten feet in height. The BESS enclosures may also have a heating, ventilation, and air conditioning (HVAC) system for optimal performance and safety. Power for the HVAC system, lighting, and other electrical systems will be provided through separate auxiliary power connection to the on-site proposed project substation with connection lines installed above and/or below ground.

Power Conversion System

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

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

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

MV Collection System

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

Project Substation

The proposed project substation will include three main power transformers (MPTs) – two active and a live spare. When the BESS facility is charging, power from the regional electric transmission grid will be stepped down from 500kV to 34.5kV and sent from the proposed project substation through the MV collection system and PCS units into the battery packs within the BESS enclosures. When the BESS facility is discharging, power from the battery packs within the BESS enclosures will be sent to the PCS units, stepped up to 34.5kV, and transported to the proposed project substation through the MV collection system before being stepped up to 500kV at the MPTs and delivered back to the regional electric transmission grid. A prefabricated control building will be installed within the proposed project substation area and contain an energy management system, metering, and telecommunication equipment for communication with PG&E/ California Independent System Operator (CAISO) facilities and to support remote project operations monitoring, as well as monitoring by the 18 full-time operations staff members. The proposed project substation area will also include five static masts for lightning protection and a wireless communication tower mounted with an antenna up to 15 feet in diameter for external telecommunications.

Access Roads

The proposed project's roadway system will include two new facility access roads and driveways, a perimeter road, and internal access roads, the Northern Access Road and the Southeast Emergency Access Road. The Northern Access Road will be constructed from an

existing private road near the northeastern portion of the site and will serve as the primary access to the site. The Southeast Emergency Access Road will be constructed from Patterson Pass Road near the southeastern portion of the site and will be used for emergency access only. As such, the majority of proposed project traffic will not be expected to travel along the unimproved stretches of Patterson Pass Road. The driveway apron of the Southeast Emergency Access Road will be expanded to allow vehicles space to decelerate off the main road and to provide additional visibility for exiting vehicles to enter onto Patterson Pass Road. In addition, this emergency entrance road has been designed according to the Engineering Design Guidelines for Unincorporated Alameda County to provide 100 feet of straight driveway perpendicular to the centerline of Patterson Pass Road. The grade has been adjusted to provide a maximum 6% grade for 50 feet from the road edge.

A proposed project substation access road will be constructed outside of the perimeter fence, connecting the northeast and southwest driveways, to facilitate proposed project substation access by third parties during operations. All new access roads, driveways, internal and perimeter roads will be bladed, compacted, and surfaced with aggregate. All internal roadways and private driveways will be constructed to meet access requirements for construction, Operations and Maintenance (O&M), and emergency response requirements.

Laydown Yards/Storage Area

The proposed project will include up to four laydown yards for equipment and material staging and storage during construction. These areas will also be used for worker parking during construction. The primary laydown yard will be located directly adjacent to the proposed project substation area. The primary laydown yard will be cleared of vegetation, bladed, compacted, and surfaced with aggregate. Landscape fabric may also be installed under the surface of all laydown yards to prevent vegetation growth, if required to comply with fire prevention standards.

If the BESS technology ultimately procured prior to construction requires larger BESS yards to accommodate BESS enclosures with larger dimensions, a greater number of BESS enclosures, or greater spacing requirements to comply with regulations, portions of the additional laydown yards may be used to accommodate larger BESS than those currently proposed. The proposed project's preliminary layout, earthwork volumes, and proposed project component dimensions assumed for environmental analyses in subsequent descriptions are conservatively large to allow for design flexibility and proposed project schedule preservation.

Stormwater Facilities

The proposed BESS facility site currently consists of annual grassland with rolling topography. Regulatory standards require that volumes and flow rates of stormwater discharge after construction not exceed pre-development conditions. Stormwater generated on-site will flow southwest to northeast to be captured in a detention basin located on the northeast end of the BESS site, and southward to a detention basin located parallel to Patterson Pass Road. Additional detention basins will be located around the perimeter of the site to capture stormwater runoff from side slopes. Stormwater treatment and storage sizing will be designed to hold the anticipated runoff from a 100-year, 24-hour storm event in compliance with applicable regulations. In the event stormwater basins reach capacity, stormwater will be discharged from the detention basins via storm drainpipes and sheet flow at rates no greater than pre-development conditions following natural drainage patterns.

A stormwater drainage outfall utilizing a new 36-inch corrugated metal pipe or bioswale/ditch will be constructed from one or more of the detention basins located in the southwest portion of the site to the inlet of a new or existing culvert on the north side of Patterson Pass Road. Approximately ten cubic yards of clean riprap will be placed as an energy dissipator at the outfall to discharge clean stormwater at or below current rates at the elevation of the ordinary high water mark of the existing drainage on the south side of Patterson Pass Road.

Site Security

The BESS facility site will be enclosed with an eight-foot-tall chain link fence topped with one foot of three-strand barbed wire or razor wire. The fence will be installed on the outside of the perimeter road. An additional fence with the same specifications will be installed around the proposed project substation area. The fences will be required to prevent unauthorized access and to comply with human health and safety regulations. Gates will be installed at various access points along the fence lines and equipped with lock boxes to allow for authorized personnel (e.g., transmission service provider, O&M staff, emergency response) to access appropriate portions of the BESS facility site.

Lighting will only be in areas where it is required for safety, security, or operations. Low-elevation (less than 14 feet) controlled security lighting will be installed at the proposed project substation and around the BESS yards, in accordance with applicable requirements and regulations. Permanent motion-sensitive, directional security lights will be installed to provide adequate illumination around the substation area and points of ingress/egress. All lighting will be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties, compliant with applicable codes and regulations. Security cameras will be placed on site and monitored 24 hours a day, 7 days a week.

Fire Protection System

Fire protection will include multiple fire detection systems on-site and within the individual BESS enclosures. An infrared camera system will be installed throughout the BESS facility to achieve 100% of electrical infrastructure and trigger an alarm in case of an onsite fire. Each BESS enclosure will have a fire rating in conformance with the California Fire Code 2022. In addition, each BESS enclosure will contain an onboard BMS that monitors the appropriate state of individual battery cells and relays information 24 hours a day, 7 days a week. In the event of an anomaly, the system is designed to shut down and mitigate the hazard.

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

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

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

UL 1642 – Standard for Lithium Batteries (cell level certification).

UL 1973 – Standard for Batteries for Use in Stationary Applications (module level certification).

UL 9540 – Standard for Energy Storage Systems and Equipment (system level certification).

UL 9540A – Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems.

IEC 62619 – Standard for Battery Safety in Stationary Applications.

The California Department of Forestry and Fire Protection (CAL FIRE) will review and comment on the facility fire protection plans.

Operations and Maintenance Building

Following construction of the BESS facility, three O&M buildings will be constructed a minimum of 20 feet apart within the primary laydown yard for the proposed project's anticipated 18 full-time operations staff. The main O&M building will include basic offices, meeting rooms, and washroom facilities. A 10,000 gallon above ground potable water storage tank will provide water for washroom and sanitary facilities, and sewage/wastewater will be collected in two separate 5,000 gallon below ground sewer holding tanks. Potable water will be trucked to the water storage tank periodically during O&M, and sewage/wastewater will be pumped from the storage tank, transported offsite via truck, and disposed of at a sanitary dump station, as needed, during operations. The remaining two O&M buildings will be used primarily for storage, maintenance and repair activities associated with the proposed project. Neither of these buildings will have washroom facilities. All O&M buildings will be powered via a distribution line from the proposed project substation.

Transmission and Interconnection Description, Design, and Operation

The proposed project will be interconnected to the regional electrical transmission grid via an approximately 2,884-foot long new single-circuit 500kV gen-tie line within a 200-foot wide corridor between the proposed project substation and the PG&E Tesla Substation. The Applicant will construct and own the portion of the gen-tie line between the proposed project substation and the Point of Change of Ownership (POCO) transmission structure, and PG&E will construct and own the remaining portion of the gen-tie from the POCO to the Point of Interconnection (POI) within the Tesla Substation. The proposed project's transmission and interconnection facilities will include the following components:

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

The proposed route location was selected to minimize the number of existing utility crossings, cross existing utilities at the optimum locations, minimize the total gen-tie line length and number of transmission structures required, minimize the number of turning structures required, and enter the Telsa Substation as close as possible to the POI. The proposed transmission structures were sited to avoid potential impacts to environmental resources. Proposed project components associated with transmission and interconnection facilities are described in the following subsections.

500kV Gen-Tie Line

The 500kv gen-tie line will originate at the proposed project substation within the BESS facility site and extend southeast, crossing Patterson Pass Rd overhead until reaching the POCO structure. After reaching the POCO structure the route will proceed east to an angled dead-end structure outside of the Tesla Substation fence line before extending north to a new substation dead-end structure at the POI bay within the Tesla Substation footprint. The 200-foot-wide transmission corridor will be within the BESS facility lease area on APN 99B-7890-2-4 and within an easement on APN 99B-7890-2-6 until reaching the parcel's eastern boundary about 255 feet east of the POCO structure. Both parcels comprising the BESS facility lease area and transmission corridor easement are private lands owned by the same landowner. After crossing the eastern boundary of APN 99B-7890-2-6, the remaining portion of the gen-tie will be on the same PG&E-owned parcel that includes the 500kV Tesla Substation and POI. The gen-tie will be designed consistent with the Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Interaction Committee 2006).

Transmission Structure Access Path

A transmission structure access path will be located within portions of the transmission corridor outside of the BESS facility and Tesla Substation footprints and generally follow the centerline of the gen-tie. The portion of the transmission structure access path between Patterson Pass Road and the POCO structure will include an Arizona crossing of Patterson Run and require clean fill material (e.g., large cobbles, clean, native gravel, prefabricated mats) to be placed beneath the ordinary high water mark elevation for stabilization and erosion and sedimentation control.

Telecommunication Facilities

Telecommunications equipment will be installed between the control building at the proposed project substation and the Tesla Substation to facilitate communication with PG&E/CAISO facilities. PG&E interconnection policies require two redundant fiber optic cables to be installed on diverse paths without a single point of failure (i.e., both fiber optic lines cannot be installed on a single set of structures). Between the control building within the proposed project substation area and the POCO structure, the Applicant will install the two fiber optic lines above ground on separate utility structures within the transmission corridor. One route will be installed near the northern boundary of the transmission corridor and the other will be installed near the southern boundary of the transmission corridor. The fiber optic utility poles will be accessed via overland travel from the transmission structure pads or the transmission structure access path. At the POCO structure, each of the fiber optic cables will be brought down to an underground pull box. PG&E will install the fiber optic cables underground from the pull boxes to the PG&E control building at the Tesla Substation. A microwave antenna installed on a communications tower within the proposed project substation area, an optical ground wire installed on the 500kV

structures, or placed underground within the transmission structure access path, between the proposed project substation and POCO may be used in lieu of a second set of utility poles.

Interconnection Facilities within Existing PG&E Tesla Substation Footprint

To facilitate interconnection of the BESS facility to the electric transmission grid, PG&E will need to install a substation bay dead-end transmission structure and expand the POI's 500kV breaker-and-a-half bay with a new circuit breaker.

Construction

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

Schedule and Workforce

The proposed project is anticipated to be built over an approximately 18-month period from the onset of site preparation activities through energization, with seasonal restrictions (May 1 to October 30) to avoid impacts to covered species. Following energization, testing and commissioning will take place over six months. Initial mobilization and site preparation is anticipated to begin no later than the fourth quarter of 2026 and testing and commissioning is anticipated to conclude no later than the second quarter of 2028. It is anticipated that construction crews will work 8 to 10 hours per day, with work occurring Monday through Friday. Overtime, night work, and weekend work will be used only as necessary to meet the proposed project schedule or complete time-sensitive or safety critical work. All work schedules will comply with applicable California labor laws, county regulations, and the Project Labor Agreement. However, the duration of particular construction activities may be affected by weather, unanticipated site conditions, the supply chain, and coordination between the different activities.

Sequencing

During construction activities, multiple crews will be working on the site with various equipment and vehicles. The total number of construction workers (consisting of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel) will range from approximately five to 200 workers, depending on the phase of construction.

Site Preparation

Environmental clearance surveys will be performed at the proposed project site prior to commencement of construction activities. The limits of construction disturbance areas delineated in the final approved engineering design packages will be surveyed and staked. Initial ground disturbing activities in preparation for construction will include installation of erosion and sediment control measures prior to start of major earthworks activities. Rough grading and grubbing/vegetation removal will be performed where required to accommodate site drainage and allow construction equipment to access the site. Detention basins and stormwater facilities will be created for hydrologic control. These facilities will be constructed during the dry season, prior to the onset of winter rains. Similarly, the outfall and rock energy dissipater will be constructed in advance of winter rains. All grading and placement of rock stabilization measures associated with the Arizona crossing of Patterson Run will be completed prior to winter rains. The construction contractor will be required to incorporate applicable best management practices

(BMPs) including the guidelines provided in the California Stormwater Quality Association's Construction BMP Handbook (CASQA 2019), as well as a soil erosion and sedimentation control plan to reduce potential impacts related to construction of the proposed project. Stabilized construction entrances and exits will be installed at driveways to reduce tracking of sediment onto adjacent public roadways.

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

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

Site Grading and Civil Work

Following site preparation activities, grading and civil work will commence. Construction activities during this phase will include excavation and grading of the proposed project site. Earthwork on the site is ultimately anticipated to result in nearly balanced cut and fill volumes, but the preliminary designs conservatively assume that grading will include up to approximately 588,018 cubic yards (cy) of cut and up to approximately 344,900 cy of fill, resulting in up to approximately 243,118 cy of export material. As appropriate, all, or a portion of, of the proposed project's excess material resulting from earthwork may be used beneficially on-site for the construction of berms or other onsite needs. Where appropriate, excess material will be processed in one or more different types of rock crushing equipment depending on the requirements of the various potential beneficial uses onsite.

Conventional grading will be performed throughout the proposed project site but minimized to the maximum extent feasible to reduce unnecessary soil movement that may result in dust. Land-leveling equipment, such as a smooth steel drum roller, will be used to even the ground surface and compact the upper layer of soil to a value recommended by a geotechnical engineer for structural support. Following major civil work within the BESS facility site, site access roads and driveways, the perimeter and substation access roads, and interior roadways to access the laydown areas and BESS yards will be graded, compacted, and surfaced with gravel or aggregate. Class II road base will be imported to create necessary compaction under the equipment, as determined by geotechnical testing and proposed project specifications. Once the roadways have been constructed, the proposed project perimeter fence and access gates will be constructed.

All of this work will occur during the dry season, prior to the onset of winter rains. Similarly, the outfall and rock energy dissipater associated with Patterson Run will be constructed in advance

of winter rains. All grading and placement of rock stabilization measures associated with the Arizona crossing of Patterson Run will be completed prior to winter rains.

Foundations and Underground Equipment Installation

Following completion of major site grading and civil work, equipment foundations and below grade equipment will be installed. A grounding grid and underground conduit will be installed below grade beneath the proposed project substation area and BESS components. Typical ground grids consist of direct-buried copper conductors with copper-clad ground rods arranged in a grid pattern. After installation of the grounding grid, the area will be backfilled, compacted, and leveled followed by application of an aggregate rock base. A containment area within the MPT foundations will be sized to hold the full volume of oil within the MPTs. The MPT foundations within the substation area are anticipated to be concrete slab foundations poured into excavations up to ten feet deep. Foundations for the control building, static masts, other aboveground substation equipment, O&M building, BESS enclosures, PCS units, DC/DC converters, and BESS auxiliary transformers and panels are anticipated to be pile foundations embedded up to 40 feet below ground level. Depending on soil conditions, the piles may be drilled or driven and set with a slurry. However, some of these proposed project components may be installed on concrete slab foundations depending on the geotechnical conditions at the final locations.

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

BESS and Project Substation Equipment Installation

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

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

Gen-Tie Structure Erection

Environmental clearance surveys will be performed within the gen-tie corridor prior to commencement of construction activities. The gen-tie corridor boundaries, gen-tie centerline, telecommunications route centerlines, and transmission structure access path will be surveyed and flagged. Initial activities will include the installation of erosion and sediment control measures and materials to facilitate the dry crossing of Patterson Run, and preparation of the transmission structure and fiber optic utility pole work areas. The transmission structure access path may be bladed, compacted, and surfaced with gravel where necessary to facilitate transmission structure deliveries and construction equipment access. The surface of the access path will be at-grade to allow water to sheet flow across the gen-tie corridor, as it currently does.

Access to the fiber optic utility pole locations will be via overland travel from the transmission structure pads or access path. Overland travel and temporary construction activities associated with the gen-tie and telecommunications facilities may occur anywhere within the 200-foot-wide transmission corridor and 50 feet on either side of the transmission corridor boundary. Vegetation at the transmission and fiber optic utility pole work areas will be trimmed, mowed, or removed. At locations where gen-tie line structures and fiber optic utility poles will be installed, minor cuts may be required where the foundation will be installed.

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

Gen-Tie Stringing and Pulling

Conductors will be strung between transmission structures with heavy duty trucks and a telescoping boom lift. Cables will be pulled through one segment of the transmission line at a time. To pull cables, truck-mounted cable-pulling equipment is placed alongside the first and last towers or poles in a segment. Power pulling equipment is used at the front end of the segment, while power braking or tensioning equipment is used at the back end. The conductors are then pulled through the segment and attached to the insulators. Equipment is then moved to the next segment; the front end pull site previously used becomes the back end pull site for the next segment. After conductors have been pulled into place in a section, the conductor tension is increased to achieve a ground clearance of at least 30 feet prior to moving to the next section.

Three tension and pulling sites are anticipated to facilitate construction of the gen-tie: one within the BESS facility footprint near the first angled dead-end structure, one at the POCO structure, and another at the PG&E-constructed angled dead-end structure near the Tesla Substation fence line.

PG&E-Owned Gen-Tie Segment and Interconnection Facilities within Tesla Substation Footprint

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

PG&E will also construct the interconnection upgrades within the Tesla Substation footprint at the POI. These upgrades will include erection of a new substation bay dead-end transmission structure and expanding the POI's existing 500kV substation breaker and-a-half bay with a new circuit breaker. Other activities within the Tesla Substation footprint and/or property boundary may include relocation or modification of existing PG&E infrastructure. Additional potential disturbance acreage associated with PG&E's work to facilitate interconnection of the proposed project to the grid are not anticipated to exceed five additional acres of disturbance beyond the estimates.

Construction Water Use

During construction, an estimated 16,000,000 million gallons (~49.1 acre-feet) of untreated water will be required for common construction-related purposes, including but not limited to dust suppression, soil compaction, and grading. Dust-control water may be used during ingress and egress of on-site construction vehicle equipment traffic and during the construction of the proposed project. A sanitary water supply line will not be required during construction because restroom facilities will be portable units, serviced by licensed providers, and water and sewage from the restroom facilities will be stored in onsite tanks and serviced by trucks. Drinking water will be provided via portable water coolers. Construction water is anticipated to be purchased from a local water purveyor and trucked to the site.

Solid and Non-hazardous Waste

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

Hazardous Materials

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

Hazardous Waste

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

with law. All hazardous waste shipped off site will be transported by a licensed hazardous waste hauler.

Commissioning

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

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

Operations and Maintenance

Once constructed, the proposed project will operate seven days per week, 365 days per year. The facility will be remotely monitored by the original equipment manufacturer or an affiliated company. Proposed project operations will be monitored remotely through the SCADA system and by the proposed project's anticipated three full-time operations staff members located onsite.

Onsite maintenance will be required, which will include replacement of inverter power modules, filters, and miscellaneous electrical repairs on an as-needed basis. During operation of the proposed project substation, O&M staff will visit the substation periodically for switching and other operation activities. Maintenance trucks will be utilized to perform routine maintenance, including but not limited to equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventative maintenance. Typically, one major maintenance inspection will take place annually.

Batteries within utility-scale BESS facilities degrade with use over time, leading to a loss of capacity. To maintain the proposed project's capacity in compliance with interconnection requirements and commercial contracts, periodic augmentation by installing new batteries and related equipment within the proposed project site will occur to maintain the capacity over an approximate 35-year life. Augmentation will include constructing new foundations, installing BESS equipment on the foundations, and completing electrical work within the existing proposed project footprint.

Solid and Nonhazardous Waste

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

Hazardous Materials

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

Hazardous Waste

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

Decommissioning

In general, the BESS will be recycled at the end of the proposed project's life (estimated to be 35 years). Most parts of the proposed system are recyclable. Batteries include lithium-ion, which degrades but can be recycled or repurposed. Steel, wood, and concrete from the decommissioned facilities will be recycled. Metal and scrap equipment and parts that do not have free-flowing oil may be sent for salvage. Materials three feet or more below the ground surface will be left in place.

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

Compensatory Mitigation

With the implementation of the above avoidance and minimization measures and in accordance with the programmatic, compensatory mitigation is proposed that will preserve upland and dispersal habitat for the listed species impacted by the proposed project. To compensate for direct impacts to upland habitat for the salamander and frog, the Applicant will purchase and ensure long-term conservation of a turn-key mitigation property within the same Conservation Zone as the proposed project site (Conservation Zone 10). The Applicant will ensure a long-term conservation plan is implemented with the turn-key mitigation property which will consist of a conservation easement, an endowment and a long-term management plan along with a mitigation agreement that will be submitted for approval during coordination with the California Department of Fish and Wildlife (CDFW) and the Service. Prior to the purchase of this mitigation property, the Applicant will obtain approval from California Energy Commission (CEC) staff, in coordination with CDFW, to ensure the mitigation lands are appropriate to compensate for the impacts of the proposed project. All necessary requirements to acquire the proposed mitigation property will be completed prior to ground disturbance and this process has already been initiated. The East Alameda County Conservation Strategy (EACCS) standardized mitigation ratios for the salamander and frog are 3:1, as depicted in Table 1.

Table 1. Impacts and Mitigation for Salamander and Frog

Resource	Habitat Impact	Mitigation Ratio	Direct Impacts		Mitigation (acres)
			Permanent	Temporary	
Wildlife Impacts					
California tiger salamander	Grassland	3:1	60.7	6.7 (restored)	182.1
California red-legged frog	Grassland	3:1	60.7	6.7 (restored)	182.1

Conservation Measures

Implementation of applicable general avoidance and minimization measures will reduce potential adverse effects to EACCS special-status wildlife during construction of the proposed project. These measures are listed below.

General Measures

GEN - 01 Employees and contractors performing construction activities will receive environmental sensitivity training. Training will include review of environmental laws and Avoidance and Minimization Measures (AMMs) that must be followed by all personnel to reduce or avoid effects on covered species during construction activities.

GEN - 02 Environmental tailboard trainings will take place on an as needed basis in the field. The environmental tailboard trainings will include a brief review of the biology of the covered species and guidelines that must be followed by all personnel to reduce or avoid negative effects to these species during construction activities. Directors, managers, superintendents, and the crew foremen and forewomen will be responsible for ensuring that crewmembers comply with the guidelines.

GEN - 03 Contracts with contractors, construction management firms, and subcontractors will obligate all contractors to comply with these AMMs.

GEN - 04 The following will not be allowed at or near work sites for covered activities: trash piles, firearms, open fires (such as barbecues), hunting, and pets (except for safety in remote locations).

GEN - 05 Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable.

GEN - 06 Off-road vehicle travel will be minimized.

GEN - 07 Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during off road travel.

GEN - 08 Vehicles or equipment will not be refueled within 100 feet of a wetland, stream, or other waterway unless a bermed and lined refueling area is constructed.

GEN - 09 Vehicles shall be washed only at designated areas. No washing of vehicles shall occur at job sites.

GEN - 10 To discourage the introduction and establishment of invasive plant species, seed mixtures/straw used within natural vegetation will be either rice straw or weed free straw.

GEN - 11 Pipes, culverts, and similar materials greater than four inches in diameter will be stored so as to prevent covered wildlife species from using these as temporary refuges, and these materials will be inspected each morning for the presence of animals prior to being moved.

GEN - 12 Erosion control measures will be implemented to reduce sedimentation in wetland habitat occupied by covered animal and plant species when activities are the source of potential erosion problems. Plastic monofilament netting (erosion control matting) or similar material containing netting shall not be used at the project site. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

GEN - 13 Stockpiling of material will occur such that direct effects to covered species are avoided. Stockpiling of material in riparian areas will occur outside of the top of bank, and preferably outside of the outer riparian dripline and will not exceed 30 days.

GEN - 14 Grading will be restricted to the minimum area necessary.

GEN - 15 Prior to ground disturbing activities in sensitive habitats, project construction boundaries and access areas will be flagged and temporarily fenced during construction to reduce the potential for vehicles and equipment to stray into adjacent habitats.

GEN - 16 Significant earth moving-activities will not be conducted in riparian areas within 24 hours of predicted major storms or within 24 hours after major storms (defined as 1-inch of rain or more).

GEN - 17 Trenches will be backfilled as soon as possible. Open trenches will be searched each day prior to construction to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist (if necessary).

Conservation Measures for the California Tiger Salamander and the California Red-legged Frog

Implementation of applicable amphibian avoidance and minimization measures will reduce potential adverse effects to EACCS-covered amphibians that utilize the site as upland refuge and overland migration habitat during construction of the proposed project. In addition to the general measures listed above, the following species-specific AMMs will be implemented during construction:

AMPH-1. Habitat: Aquatic

- If aquatic habitat is present, a qualified biologist will stake and flag an exclusion zone prior to activities. The exclusion zone will be fenced with orange construction zone and erosion control fencing (to be installed by construction crew). The exclusion zone will encompass the maximum practicable distance from the work site and at least 500 feet from the aquatic feature wet or dry.

AMPH-2. Habitat: Riparian habitat and grasslands within 2-miles of aquatic habitat

- A qualified biologist will conduct preconstruction surveys prior to activities such as groundbreaking. If individuals are found, work will not begin until they are moved out of the construction zone to a Service/CDFW approved relocation site.
- An approved biologist will be present for initial ground disturbing activities.
- A Service approved fencing plan will be approved prior to ground disturbance initiating.
- No monofilament plastic will be used for erosion control.
- Construction personnel will inspect open trenches in the morning and evening for trapped amphibians.
- A Relocation Plan will be submitted to the Service for review and approval at least 30-days prior to ground disturbance and no less than 14-days prior to ground disturbance.
- Work will be avoided within suitable habitat from October 15 (or the first measurable fall rain of one inch or greater) to May 1.

Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action." For the proposed project, the Service considers the action area to be the approximately 85-acre proposed project site, as well as a 50-foot buffer area.

Analytical Framework for the Jeopardy Determination

Section 7(a)(2) of the Act requires that federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR § 402.02).

The jeopardy analysis in this biological opinion considers the effects of the proposed federal action, and any cumulative effects, on the rangewide survival and recovery of the listed species. It relies on four components: (1) the *Status of the Species*, which describes the current rangewide condition of the species, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which analyzes the current condition of the species in the action area without the consequences to the listed species caused by the proposed action, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species; (3) the *Effects of the Action*, which determines all consequences to listed species that are caused by the proposed federal action; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-federal activities in the action area on the species. The *Effects of the Action* and *Cumulative Effects* are added to the *Environmental Baseline* and in light of the status of the species, the Service formulates its opinion as to whether the proposed action is likely to jeopardize the continued existence of the listed species.

Analytical Framework for the Adverse Modification Determination

Section 7(a)(2) of the Act requires that federal agencies insure that any action they authorize, fund, or carry out is not likely to destroy or to adversely modify designated critical habitat. A final rule revising the regulatory definition of "destruction or adverse modification" (DAM) was published on August 27, 2019 (84 FR 44976). The final rule became effective on October 28, 2019. The revised definition states:

> "*Destruction or adverse modification* means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species."

The DAM analysis in this biological opinion relies on four components: (1) the *Status of Critical Habitat*, which describes the current rangewide condition of the critical habitat in terms of the key components (i.e., essential habitat features, primary constituent elements, or physical and biological features) that provide for the conservation of the listed species, the factors responsible for that condition, and the intended value of the critical habitat overall for the conservation/recovery of the listed species; (2) the *Environmental Baseline*, which analyzes the current condition of the critical habitat in the action area without the consequences to designated critical habitat caused by the proposed action, the factors responsible for that condition, and the value of the critical habitat in the action area for the conservation/recovery of the listed species; (3) the *Effects of the Action*, which determines all consequences to designated critical habitat that are caused by the proposed federal action on the key components of critical habitat that provide for the conservation of the listed species, and how those impacts are likely to influence the conservation value of the affected critical habitat; and (4) *Cumulative Effects*, which evaluate the effects of future non-federal activities that are reasonably certain to occur in the action area on the key components of critical habitat that provide for the conservation of the listed species and how those impacts are likely to influence the conservation value of the affected critical habitat. The *Effects of the Action* and *Cumulative Effects* are added to the *Environmental Baseline* and in light of the status of critical habitat, the Service formulates its opinion as to whether the action is likely to destroy or adversely modify designated critical habitat. The Service's opinion evaluates whether the action is likely to impair or preclude the capacity of critical habitat in the action area to serve its intended conservation function to an extent that appreciably diminishes the rangewide value of critical habitat for the conservation of the listed species. The key to making that finding is understanding the value (i.e., the role) of the critical habitat in the action area for the conservation/recovery of the listed species based on the *Environmental Baseline* analysis.

Status of the Species

Central California Tiger Salamander

Refer to page 33 of the programmatic for the status of the salamander (Service 2012).

California Red-Legged Frog

Refer to page 28 of the programmatic for the status of the frog (Service 2012).

Status of Critical Habitat

California Red-Legged Frog Critical Habitat

Refer to page 32 of the programmatic for the status of the frog's designated critical habitat (Service 2012).

Environmental Baseline

Environmental baseline refers to the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all federal, state, or private actions and other human activities in the action area, the anticipated impacts of all proposed federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of state or private actions which are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline.

General

The action area is relatively flat, with an approximate elevation of 383 to 523 feet at mean sea level. The action area occurs within the North Diablo Range of the Alameda Creek Watershed (USGS 2023). Annual grassland covers the entire action area outside of the aquatic features identified within the action area (88.24 acres). A formal aquatic delineation was conducted on January 18, 2024. There is one seasonal channel (EPH-01; 0.37 acre, 846.07 linear feet), Patterson Run, within the action area where the BESS facility site connects to the gen-tie alignment, paralleling Patterson Pass Road.

Central California Tiger Salamander

According to CNDDB, there are 209 occurrences for the salamander within a 9-quadrangle search of the action area. The nearest documented occurrence is approximately 1.6 miles southwest from 2012 (Occ. No. 1003), but there are numerous other records within 5 miles of the proposed project (CNDDB 2025). The action area also occurs within the EACCS Conservation Zone 10 or designated as "CTS North" and is a high priority for the EACCS for protecting a substantial portion of potential breeding ponds within this area. The habitat within the proposed project is suitable upland refuge and dispersal habitat for this species, consisting of grassland with small mammal burrows. Two nearby stock ponds provide suitable aquatic breeding habitat which are located approximately 0.3 mile from the proposed project. No salamanders were observed during the field surveys, but this species is extremely difficult to detect without focused

surveys. A protocol-level habitat assessment for California tiger salamander was conducted on August 2, 2023, for suitable aquatic habitats identified within, and in the vicinity of, the proposed project site to identify potential aquatic breeding sites within dispersal distance of the proposed project site. Not all aquatic habitats within 1.24 miles were able to be surveyed due to access restrictions. However, due to available dispersal, and underground refugia habitat within the action area, known occurrences within 0.25 mile from the action area, and the action area being within the salamander's 1.3-mile dispersal distance from known populations, the Service has determined it is likely that California tiger salamanders occur within the action area.

California Red-Legged Frog

According to the California Natural Diversity Database (CNDDB) there are 212 occurrences of the frog within a 9-quadrangle search of the action area. The nearest documented occurrences are approximately 1.5 miles east, south, and west of the proposed project area (Occ. Nos. 822 from 2001, 1079 from 2008, 1759 from 2012, and 44 from 1993); there are numerous other records within 5 miles of the action area (CNDDB 2025). The proposed project also occurs within the EACCS Conservation Zone 10 or designated as "CRLF South" and is a high priority for the EACCS for protecting a substantial portion of potential breeding ponds within this area. A protocol-level habitat assessment for the frog was conducted on August 2, 2023, for suitable aquatic habitats identified within, and in the vicinity of, the action area to identify potential aquatic breeding sites within dispersal distance of the action area. Three aquatic features were assessed for habitat suitability for the frog: Patterson Run, a seasonal stream paralleling Patterson Pass Road, and two stock ponds approximately 0.3 mile northwest (Pond 1) and west (Pond 2) of the action area. Of these aquatic features, only Pond 2 was determined to provide high-quality breeding habitat for frog, consisting of a large, deep stock pond with perennial water and a large quantity of emergent vegetation surrounded by grazed grassland. Patterson Run lacked large pools suitable for breeding, and Pond 1 lacked suitable emergent or marginal vegetation. No frogs were observed during the field surveys or habitat assessment. The entire action area is potential upland dispersal and foraging habitat for the frog. Therefore, due to availability of suitable upland and non-breeding aquatic habitat at the proposed project site, and known occurrences within the action area, the Service has determined it is likely that California red-legged frogs occur within the action area.

California Red-legged Frog Critical Habitat Unit ALA-2

The entire action area occurs within the 153,624-acre critical habitat unit ALA-2 for California red-legged frog. Within designated critical habitat, the action area contains upland habitat (primary constituent elements (PCE) 3) and dispersal habitat (PCE 4). The action area does not contain aquatic breeding habitat (PCE 1) and aquatic non-breeding habitat (PCE 2) but are present within dispersal distance, one mile, of the action area.

Effects of the Action

Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action.

Central California Tiger Salamander and California Red-legged Frog

Both California tiger salamanders and California red-legged frog have a potential to occur within the action area. The habitat on the action area is suitable upland habitat for these species, consisting of abundant grassland with small mammal burrows to provide refuge. The project will result in 60.7 acres of permanent loss of habitat for California tiger salamanders and California red-legged frogs. Two nearby stock ponds provide suitable aquatic breeding habitat for the salamander approximately 0.3 mile from the action area. One of these ponds is also high-quality breeding habitat for the frog. The proposed project may reduce the ability of frogs and salamanders in the action area to return to these breeding sites.

BESS Installation

Proposed project activities associated with the construction of the BESS facility could result in impacts to the salamander and frog. Effects include mortality or injury from ground-disturbing activities, construction equipment, grading, or other construction activities, and permanent loss of potential upland and dispersal habitat within the construction footprint. These species are known to use burrows for refuge, which may be crushed by the weight of construction equipment, building supplies, or grading on the surface, even if the burrow is of sufficient depth to avoid direct excavation. Effects also include disturbance due to increased human activity and impacts to water quality from construction activities. Implementation of the conservation measures will minimize these adverse effects.

Operations and Maintenance

With implementation of avoidance and minimization measures, effects due to the proposed project activities associated with operations and maintenance are anticipated to be minimal (disturbance due to increased human activity) as the site will be developed and will lack suitable habitat within the facility. Any maintenance or augmentation of the facility (i.e., constructing new foundations, installing BESS equipment on the foundations) will comply with avoidance and minimization measures to avoid take of these species.

Decommissioning

With implementation of avoidance and minimization measures, effects due to the proposed project activities associated with the decommissioning phase are anticipated to be minimal as the site will be developed during the removal process and will lack suitable habitat within the facility. Effects may include disturbance due to increased human activity and impacts to water quality from construction activities. During the decommissioning phase all work will comply with avoidance and minimization measures to avoid take of these species. Once decommissioning activities have been completed, the proposed project site will be restored to provide suitable upland and dispersal habitat once again.

Compensation

As noted previously in the Description of the Proposed Action section, the project proponent has also proposed a set of conservation measures, including the commitment to provide compensatory habitat as a condition of the action. This compensatory habitat is intended to minimize the effect on the species, resulting from the disturbance of salamander and frog habitat. The compensatory habitat proposed will be in the form of the preservation and management in

perpetuity of 182.1 acres of habitat for the Central California tiger salamander and the California red-legged frog in the action area, which will be preserved under a conservation easement.

California Red-Legged Frog Critical Habitat Unit ALA-2

The action area's approximate 85 acres are entirely within the California red-legged frog critical habitat unit ALA-2, which encompasses 153,624 acres. The portion of the unit that overlaps with the proposed project's action area contains two of the four PCEs for California red-legged frogs: upland foraging habitat (3), and upland dispersal habitat (4).

The proposed project will result in the permanent loss of 60.7 acres of upland habitat and upland dispersal habitat (PCEs 3 and 4) within designated critical habitat due to construction activities.

Permanent effects on upland habitat will adversely affect PCEs 3 and 4 of California red-legged frog critical habitat as result of the disturbance described above. Conservation measures will avoid or minimize loss of these PCEs by ensuring that disturbed areas are restored to functioning habitat and ensuring avoidance of non-disturbed habitats. This loss of critical habitat within unit ALA-2 will not be significant when compared to the entire unit, and the critical habitat unit overall will remain functional with all of the PCEs.

Cumulative Effects

Cumulative effects include the effects of future state, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. During this consultation, the Service did not identify any future non-federal actions that are reasonably certain to occur in the action area of the proposed project.

Conclusion

After reviewing the current status of the Central California tiger salamander and the California red-legged frog, the environmental baseline for the action area, the effects of the proposed Potentia Viridi Battery Storage System Project, and the cumulative effects, it is the Service's biological opinion that the Potentia Viridi Battery Storage System Project, as proposed, is not likely to jeopardize the continued existence of the Central California tiger salamander and the California red-legged frog. The Service reached this conclusion because the project-related effects to the species, when added to the environmental baseline and analyzed in consideration of all potential cumulative effects, will not rise to the level of precluding recovery or reducing the likelihood of survival of the species based on the following: 1) Successful implementation of the conservation measures described in this biological opinion will minimize adverse effects on individuals of the listed species; and 2) Compensatory mitigation will be implemented as outlined in the EACCS for the Central California tiger salamander and the California red-legged frog.

After reviewing the current status of designated critical habitat for the California red-legged frog and the environmental baseline for the action area, the effects of the proposed Potentia Viridi Battery Storage System Project, and the cumulative effects, it is the Service's biological opinion that Potentia Viridi Battery Storage System Project, as proposed, is not likely to destroy or adversely modify designated critical habitat for the species. The Service reached this conclusion

because the project-related effects to the designated critical habitat, when added to the environmental baseline and analyzed in consideration of all potential cumulative effects, will not rise to the level of precluding the function of the California red-legged frog critical habitat to serve its intended conservation role for the species based on the following: 1) Successful implementation of the conservation measures described in this biological opinion will minimize the adverse effects on the PCEs of critical habitat; and 2) The effects to California red-legged frog critical habitat are small and discrete, relative to the entire area designated, and are not expected to appreciably diminish the value of the critical habitat or prevent it from sustaining its role in the conservation of the California red-legged frog.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by Service regulations at 50 CFR 17.3 as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the same regulations as an act which actually kills or injures wildlife. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the Corps so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Corps or the applicant must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

Amount or Extent of Take

Central California Tiger Salamander

The Service anticipates that incidental take of the Central California tiger salamander will be difficult to detect because when this amphibian is not in their breeding ponds, or foraging, migrating, or conducting other surface activity, it inhabits the burrows of ground squirrels or other rodents; the burrows may be located a distance from the breeding ponds; the migrations occur on a limited period during rainy nights in the fall, winter, or spring; and the finding of an injured or dead individual is unlikely because of their relatively small body size. Losses of this species also may be difficult to quantify due to seasonal fluctuations in their numbers, random

environmental events, changes in water regime at their breeding ponds, or additional environmental disturbances.

Therefore, the Service anticipates take incidental to the proposed action as the harm of all juvenile and adult Central California tiger salamanders inhabiting the approximately 85 acre action area. In addition, the Service anticipates that no more than two (2) Central California tiger salamanders will be subject to incidental take in the form of death or injury as a result of construction-related activities and operations associated with the proposed project, and the non-lethal harm of any number of California tiger salamanders that are moved as part of relocation as part of the proposed project. Upon implementation of the following reasonable and prudent measures, incidental take of Central California tiger salamanders associated with the Potentia Viridi Battery Storage System Project will become exempt from the prohibitions described in section 9 of the Act. No other forms of take are exempted under this opinion.

California Red-legged Frog

The Service anticipates that incidental take of California red-legged frogs will be difficult to detect due to its life history and ecology. Specifically, California red-legged frogs can be difficult to locate due to their cryptic appearance, and finding a dead or injured individual is unlikely due to their relatively small size. Losses of California red-legged frogs may also be difficult to quantify due to seasonal fluctuations in their numbers, random environmental events, changes in water regime at their breeding ponds, or additional environmental disturbances.

Therefore, the Service anticipates take incidental to the proposed action as the harm of all juvenile and adult California red-legged frogs inhabiting the approximately 85 acre action area. In addition, the Service anticipates that no more than two (2) California red-legged frogs will be subject to incidental take in the form of death or injury as a result of construction-related activities and operations associated with the proposed project, and the non-lethal harm of any number of California red-legged frogs that are moved as part of relocation as part of the proposed project. Upon implementation of the following reasonable and prudent measures, incidental take of California red-legged frogs associated with the Potentia Viridi Battery Storage System Project will become exempt from the prohibitions described in section 9 of the Act. No other forms of take are exempted under this opinion.

Effect of the Take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species.

Reasonable and Prudent Measures

All necessary and appropriate measures to avoid or minimize effects on the Central California tiger salamander and the California red-legged frog resulting from implementation of this project have been incorporated into the project's proposed conservation measures. Therefore, the Service believes the following reasonable and prudent measure is necessary and appropriate to minimize incidental take of the Central California tiger salamander and the California red-legged frog.

1) All conservation measures, as described in the biological assessment and restated here in the Project Description section of this biological opinion, shall be fully implemented and

adhered to. Further, this reasonable and prudent measure shall be supplemented by the terms and conditions below.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Corps or the applicant must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

1. The Corps or applicant shall include full implementation and adherence to the conservation measures as a condition of any permit or contract issued for the project.

2. The Corps or applicant shall require that all personnel associated with this project are made aware of the conservation measures and the responsibility to implement them fully.

3. If requested, the applicant shall ensure the Service or their authorized agents can examine the action area for compliance with the Project Description, Conservation Measures, and Terms and Conditions of this biological opinion before, during, or after project completion.

4. The applicant must complete the required acquisition, protection, and transfer of all compensatory mitigation lands described in the Description of the Action and record all required conservation easements no later than 18 months from the effective date of this biological opinion.

Monitoring:

a. For those components of the action that will result in habitat degradation or modification whereby incidental take in the form of harm is anticipated, the Corps or applicant shall provide a precise accounting of the total acreage of habitat impacted to the Service after completion of construction.

b. The Corps or applicant shall immediately contact the Service's Sacramento Fish and Wildlife Office (SFWO) at (916) 414-6623 to report direct encounters between listed species and project workers and their equipment whereby incidental take in the form of, harm, injury, or death occurs. If the encounter occurs after normal working hours, the Corps shall contact the SFWO at the earliest possible opportunity the next working day. When injured or killed individuals of the listed species are found, the Corps or applicant shall follow the steps outlined in the Salvage and Disposition of Individuals section below.

c. For those components of the action that will require the capture and relocation of any listed species, the Corps or applicant shall immediately contact the SFWO at (916) 414-6623 to report the action. If capture and relocation need to occur after normal working hours, the Corps or applicant shall contact the SFWO at the earliest possible opportunity the next working day.

Salvage and Disposition of Individuals:

Injured listed species must be cared for by a licensed veterinarian or other qualified person(s), such as the Service-approved biologist. Dead individuals must be sealed in a resealable plastic bag containing a paper with the date and time when the animal was found, the location where it was found, and the name of the person who found it, and the bag containing the specimen frozen in a freezer located in a secure site, until instructions are received from the Service regarding the disposition of the dead specimen. The Service contact person is the Coast Bay Division Supervisor at the SFWO at (916) 414-6623.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service recommends the following actions:

1) Observations of listed species should be submitted to CDFW within sixty days of observation.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the Potentia Viridi Battery Storage System Project. As provided in 50 CFR §402.16(a), reinitiation of consultation is required and shall be requested by the federal agency or by the Service where discretionary federal involvement or control over the action has been retained or is authorized by law, and:

1) If the amount or extent of taking specified in the incidental take statement is exceeded;

2) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;

3) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or written concurrence, or

4) If a new species is listed or critical habitat designated that may be affected by the identified action.

If you have any questions regarding this biological opinion, please contact Fish and Wildlife Biologist, Bridget Giblin (bridget_giblin@fws.gov) or at (916) 414-6624 or the Coast-Bay Division Supervisor, Ryan Olah (ryan_olah@fws.gov) or (916) 414-6623, at the letterhead address.

Sincerely,

AMBER AGUILERA

Digitally signed by AMBER AGUILERA
Date: 2025.06.25 08:40:53 -07'00'

Amber Aguilera
Acting Field Supervisor

cc:

U.S. Army Corps of Engineers, Regulatory Division, Sacramento, California
Lauren McLeod, Levy Alameda, LLC, Toronto, California
Cameron Johnson, Integral Consulting Inc., Brisbane, California
Ann Crisp, Energy Veterans, Inc., Folsom, California

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