County of Lassen
Department of Planning and Building Services
• Planning • Building Permits • Code Enforcement • Surveyor • Surface Mining

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June 25, 2021

NOTICE OF INTENT
TO ADOPT A MITIGATED NEGATIVE DECLARATION

Applicant/ Property Owner:	Dr. Charles Hooper
File No.:	Initial Study #2020-001 for Use Permit #2020-004
Project:	Proposal to construct a 50-megawatt photovoltaic solar array and a battery energy storage system (BESS) that would store 25 megawatts or 100 megawatt hours of electricity, along with related infrastructure. Such infrastructure would include a substation, a dead-end tower up to 90 feet tall, 24 130-foot-tall steel gen-tie transmission line poles to interconnect with the Plumas-Sierra Rural Electric 120-kV transmission line approximately 3 miles south of the project site, access roads, and perimeter fencing. The project has an approximate footprint of 278 acres, not including the proposed gen-tie lines.
Location:	The subject parcels are located approximately nine miles northeast of Herlong off of Calneva Road, adjacent to the Nevada Border, and do not have addresses.
Zoning:	The subject parcels are zoned A-1 (General Agricultural District) and have an "Extensive Agriculture" land use designation in the *Lassen County General Plan, 2000*.
A.P.N.s:	137-170-12 and 137-170-13
Staff Contact:	Stefano Richichi, Senior Planner

Pursuant to the California Environmental Quality Act, Lassen County is the Lead Agency for the project identified above and is preparing a Mitigated Negative Declaration stating that there is no substantial evidence in the record, as currently filed, which indicates that the proposed project may have a significant effect on the environment, given mitigation measures incorporated into the project.

The public review period for this project has been established from June 28, 2021, to July 28, 2021. Any comments you may have regarding this proposed Mitigated Negative Declaration must be submitted to the Lassen County Department of Planning and Building Services prior to the end of the review period. The proposed Mitigated Negative Declaration and Initial Study for this project are available for inspection at the Department of Planning and Building Services at the address given above, as well as online at http://www.lassencounty.org/dept/planning-and-building-services/environmental-documents-noticing-and-attachments.

For the County of Lassen,

Maurice L. Anderson,
Environmental Review Officer

MLA:smr

Distribution: Supervisor Hammond (5); Charles Hooper (Property Owner); Brent Moore, Sierra Geotetch, Inc. (Agent); Adam Henriques (adam.henriques@waterboards.ca.gov), Douglas Cushman (Douglas.Cushman@waterboards.ca.gov), lahontan@waterboards.ca.gov, Co. Assessor's Office; Co. Building Official; Co. Counsel, Co. Fire Warden/CAL FIRE; Co. Environmental Health Dept.; Co. Regional Solid Waste Management Authority (mail only); Co. Public Works; Co. Public Works/Road Div.; Co. Public Works/Transportation; Sheriff; Lahontan RWQCB; Dept. of Water Resources (DWR); Dept. of Fish & Wildlife: (Redding/Wendel); CA Energy Commission; CA Dept. of Toxic Substances Control; CA Public Utilities Commission; Bureau of Land Management-Susanville; Caltrans, District 2; State Clearinghouse; Doyle Fire Protection District, Pit River Tribe of California; Greenville Rancheria of Maidu Indians; Susanville Indian Rancheria; Honey Lake Maidu; Washoe Tribe of Nevada and California; Co. Air Pollution Control Officer; Fort Sage Unified School District; Plumas-Sierra REC; Lassen Municipal Utility District; P G & E, Union Pacific Railroad, Adams Broadwell (Attorneys) via Email; property owners within 300 feet.

PROPOSED MITIGATED NEGATIVE DECLARATION #2020-001

LEAD AGENCY: Lassen County

PROJECT NAME: Use Permit #2020-004, Initial Study #2020-001, Hooper

APPLICANT: Dr. Charles Hooper

PROJECT DESCRIPTION:

Proposal to construct a 50-megawatt photovoltaic solar array and a battery energy storage system (BESS) that would store 25 megawatts or 100 megawatt hours of electricity, along with related infrastructure. Such infrastructure would include a substation, a dead-end tower up to 90 feet tall, 24 130-foot-tall steel gen-tie transmission line poles to interconnect with the Plumas-Sierra Rural Electric 120-kV transmission line approximately 3 miles south of the project site, access roads, and perimeter fencing. The project has an approximate footprint of 278 acres, not including the proposed gen-tie lines. The subject parcels are zoned A-1 (General Agricultural District) and have an "Extensive Agriculture" land use designation in the *Lassen County General Plan, 2000*.

PUBLIC REVIEW PERIOD:

June 28, 2021 through July 28, 2021

PROJECT LOCATION:

The subject parcels are located approximately nine miles northeast of Herlong off of Calneva Road, adjacent to the Nevada Border, and do not have addresses.

APNs:

137-170-012 and 137-170-013

PROPOSED FINDINGS:

1. On the basis of the attached initial study and mitigation measures below, the project will not have a significant effect on the environment.

PROPOSED MITIGATION MEASURES:

- BR-1: Burrowing American Badger Surveys: Calneva BESS/PSES will retain a qualified biologist to conduct burrowing American badger surveys and to identify any occupied burrows in all project action areas and buffer zones with suitable habitat. These surveys will be conducted not more than 30 days prior to initial ground-disturbing activities. If the

survey results are negative (no badger dens observed), no additional work would be necessary. If the results are positive (badger dens observed), the qualified biologist shall install a game camera at the den(s) for three (3) days and three (3) nights to determine if the den is in use. If the game camera does not capture an individual entering/exiting the den, the den can be excavated by hand. If the camera captures badger use of the den, the qualified biologist shall install a one-way door in the den opening and continue use of the game camera. Once the camera captures the individual exiting the one-way door, the den can be excavated by hand.

- BR-2: Burrow Avoidance: If occupied burrows are identified during surveys, Calneva BESS/PSES will maintain a buffer of approximately 160 feet from occupied burrows during the nonbreeding season of October through July, and approximately 250 feet during the breeding season of August through September. Occupied burrows will not be disturbed within these buffers during the breeding season, from August through September, unless a qualified biologist has verified that the badgers have not begun mating, or the offspring from those burrows are foraging independently and capable of independent survival at a given date.

- BR-3: Bird Nest Surveys and Monitoring: Because construction will take place during the breeding and nesting season of avian species in the project area (typically February 1 through August 31), Calneva BESS/PSES will conduct nesting bird surveys prior to construction for avian species with potential to occur on-site, or where accessible, in areas adjacent to construction. Where nesting migratory birds are found in or near the project area, the birds and their nests will be evaluated by a qualified biologist. If nest disturbance is anticipated, the biologist will ensure adequate mitigation measures are implemented in accordance with mitigation measure BR-4 below.

- BR-4: Nesting Birds: In accordance with the MBTA, if an active nest is observed in the project area during construction, Calneva BESS/PSES will stop work within the appropriate buffer for the species and contact the biological monitor immediately. Nest disturbance is dependent on a number of site-specific and activity-specific factors, including the sensitivity of the species, proximity to work activity, amount of noise or frequency of the work activity, and intervening topography, vegetation, structures, etc. Additional mitigation may be required to minimize disturbance of detected nesting activity, such as allowing nesting activity to conclude before continuing construction in an area, restricting certain types of construction practices/activities, creating screening devices to shield nest sites from construction activity, and establishing buffer areas around active nest sites. For inactive nests, measures could include removal and/or handling of nest materials, which will be conducted under the supervision of a qualified biologist.

- HM-1: The applicant shall prepare a plan that effectively addresses hazardous materials. Such plan shall include specific measures to be taken in the case of release of any hazardous materials. Such plan shall be reviewed by the Lassen County Environmental Health Department in its Certified Unified Program Agency (CUPA) function; The

Environmental Review Officer may consult with the California Department of Toxic Substances Control or any other relevant agency for review of the plan. The Environmental Review Officer shall have the authority to require any modifications to said plan to ensure satisfaction of this mitigation measure.

- HM-2: At the time operations approved by this Use Permit are discontinued, all structures, associated equipment, and all debris shall be removed from the site within 6 months after securing a demolition permit. If not removed within 6 months, the County may cause the structures, associated equipment, and all debris to be removed at the expense of the operator and/or property owner.

- HM-3: At the time of decommissioning described in Mitigation Measure HM-2 above or if any structures, equipment, or debris is removed from the site for any reason, all structures, associated equipment, and all debris shall be removed from the site in accordance with all applicable regulations concerning hazardous materials. The applicant shall submit a letter from the California Department of Toxic Substances Control to provide evidence that the above has occurred.

- HM-4: The applicant/property owner shall submit a detailed and thorough cost estimate itemizing the complete cost to decommission the project. The Planning and Building Services Department must find said cost estimate acceptable prior to issuance of an Authorization to Operate (ATO). Funds equal to the amount of said cost estimate shall be made available to the County in a form accepted by the County prior to issuance of an ATO. County will use said funds to decommission the site if the applicant does not comply with the condition to remove all structures, associated equipment including solar panels, and all debris within six (6) months of the end of operations.

- HM-5: The applicant/property owner shall adjust the amount of the mechanism for inflation or changes in the law as directed by the Planning and Building Services Department. The Department may utilize an acceptable index such as the Consumer Price Index to determine inflation.

Signature: _____ Date: 6-24-21

Maurice L. Anderson,
Environmental Review Officer

INITIAL STUDY #2020-001 FOR USE PERMIT #2020-004, HOOPER

DETERMINATION:

On the basis of this Initial Study:

☐ I find that the proposed project COULD NOT have a significant effect on the environment and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project and mitigation measures have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT will be required.

Maylon T Roberts — 6-24-21

Maurice L. Anderson, Date
Environmental Review Officer

Project Title:	Use Permit #2020-004, Initial Study #2020-001, Hooper
Lead Agency Name and Address:	Lassen County Department of Planning and Building Services 707 Nevada Street, Suite 5 Susanville, CA 96130
Project Location:	The subject parcels are located approximately nine miles northeast of Herlong off of Calneva Road, adjacent to the Nevada Border, and do not have addresses
Proponent's Name:	Charles Hooper
General Plan:	"Extensive Agriculture," *Lassen County General Plan, 2000*
Zoning:	A-1 (General Agricultural District)
Authority:	Use Permit, Lassen County Code Section 18.112 et seq.

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Attachment 1, Project Applications and Supporting Information
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Attachment 4, Letters from the California Department of Fish and Wildlife
Attachment 5, Letters from the Lassen County Department of Planning and Building Services
Attachment 6, March 2021 and May 2021 Biological Assessments
Attachment 7, April 2020 Geotechnical Report
Attachment 8, May 2021 Special Status Plant Survey Report
Attachment 9, Fire Management Plan
Attachment 10, Draft Initial Study Submitted by Applicant
Attachment 11, Draft Biological Section Submitted by Applicant

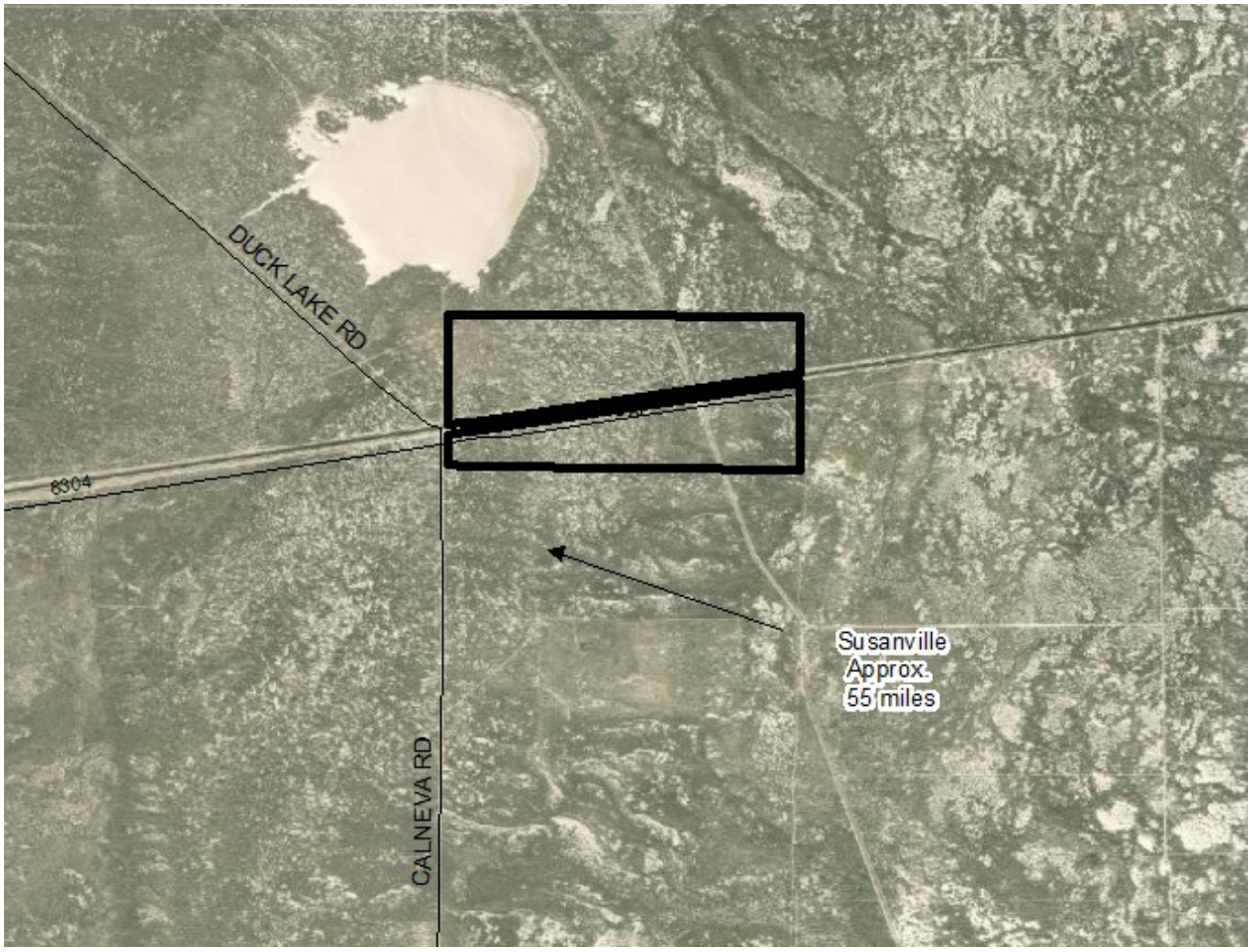


Figure 1. Vicinity Map

Project Description: Proposal to construct a 50-megawatt photovoltaic solar array and a battery energy storage system (BESS) that would store 25 megawatts or 100 megawatt hours of electricity, along with related infrastructure. Such infrastructure would include a substation, a dead-end tower up to 90 feet tall, 24 130-foot tall steel gen-tie transmission line poles to interconnect with the Plumas-Sierra Rural Electric 120-kV transmission line approximately 3 miles south of the project site, access roads, and perimeter fencing. The project has an approximate footprint of 278 acres, not including the proposed gen-tie lines. The subject parcels are zoned A-1 (General Agricultural District) and have an "Extensive Agriculture" land use designation in the *Lassen County General Plan, 2000*.

Project Location: The subject parcels are located approximately nine miles northeast of Herlong off of Calneva Road, adjacent to the Nevada Border, and do not have addresses. The subject parcels are located primarily in the Calneva Lake 7.5-minute Quadrangle as identified by the United States Geological Survey, although the easternmost portion of the project site is in the Flanigan 7.5-minute Quadrangle.

Background: The applicant submitted a proposed draft initial study, prepared by the applicant's agent (Sierra Geotech), at the time the relevant use permit and initial study applications were

submitted for this project. While said proposed draft initial study submitted by the applicant is attached (Attachment 10) as part of the application submittals, the initial study prepared by Lassen County and signed by the Lassen County Environmental Review Officer (the initial study before the reader) is the official initial study supporting circulation of a Proposed Mitigated Negative Declaration. That said, the applicant's submittal does provide supplementary information for the reader and is incorporated as appropriate, but, again, the proposed draft initial study prepared by the applicant's agent does not function as *the* initial study for this project. Indeed, CEQA Guidelines Section 15063(a)(4) requires that the initial study sent out for public review "[reflect] the independent judgment of the Lead Agency" (i.e., Lassen County). Under CEQA, it is the responsibility of the Lead Agency itself to ensure that the initial study adequately and accurately addresses potential environmental concerns and questions brought up by Appendix G of the CEQA Guidelines. Therefore, the Lassen County Environmental Review Officer could not accept said proposed draft initial study prepared by the applicant's agent as the initial study for this project without independent analysis and instead has prepared the initial study before the reader. Also included as an attachment is the biological section (Attachment 11) prepared by the applicant's agent, again, for illustrative purposes. Where information in the above documents conflict with this initial study, the initial study before the reader shall supersede said other documents.

Environmental Setting: The subject parcels are currently unimproved.

ACCESS: Calneva and Fort Sage Roads are dirt roads that provide access to the project site from the south. Said roads are accessible from Hackstaff Road, near Doyle and U.S. Highway 395. From the north, Wendel Road provides access to Moore and Calneva Roads to access the project site (the latter two roads are also dirt roads). In its email dated November 13, 2020, the Lassen County Department of Public Works indicated that the proposed project will require an encroachment permit. See Section 6, titled "Transportation/Traffic," for more information.

VEGETATION: As stated in the biological assessment for this project, plants present at the project site are primarily of the desert sink scrub plant community, including:

- Big sagebrush (Artemisia tridentate)
- Bud sagebrush (Artemisia spinescens)
- Shadscale saltbush (Altriplex confertifolia)
- Downy brome (Bromus tectorum)
- Great basin wild rye (Elymus cinereus)
- Spiny hopsage (Grayia spinosa)
- Prickly Russian thistle (Kali tragus)
- Clasping pepperweed (Lepidium perfoliatum)
- Black greasewood (Sarcobatus vermiculatus)
- Littleleaf horsebrush (Tetradymia glabrata)

According to the California Department of Fish and Wildlife's California Natural Diversity Database's QuickView Tool[1], special plant species in the Calneva Lake Quadrant include Macdougal's lomatium, many-flowered thelypodium, sagebrush loeflingia, Hillman's silverscale, Hillman's cleomella[2], Geyer's milk-vetch, Kellog's sand verbena, and ochre-flowered buckwheat, all classified as 2B.2 (plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California).

WILDLIFE: No rare, threatened, or endangered species pursuant to the Endangered Species Act are known to populate the subject parcel; however, according to the California Department of Fish and Wildlife's California Natural Diversity Database, animals in the Calneva Lake Quadrant that are under special federal or state status include the long-eared owl and American badger[3] (both species of special concern) and the gray wolf (endangered)[4]. See Section 7, titled "Biological Resources," for more information.

HYDROLOGY: No water features are present at the project site. The Federal Emergency Management Agency identifies the subject parcels as in a Zone "X" floodplain zone, defined as an "area of minimal flood hazard" (Zone "X," Panel #06035C2550D, 9/3/2010).

SOILS: According to the Natural Resources Conservation Service's (NRCS) Web Soil Survey, 99.7 percent of the soils at the subject parcels comprise Epot-Ragtown-Playas complex, 0 to 2 percent slopes (land capability not classified [irrigated] and 7s [nonirrigated]).

GEOLOGY: According to the California Department of Conservation California Geological Survey's (CGS) *Earthquake Fault Zone, Special Studies Zone Maps* and Earthquake Zones of Required Investigation (EQZ) App, the former effective as of November 1991, the latter as of April 2019, both the Calneva Lake and Flanigan Quadrangles several "active faults" (considered to have been active during Holocene time and to have a relatively high potential for surface rupture). According to CGS's EQZ app, "all or a portion of [APN 137-170-13] lies within an earthquake fault zone."[5] However, said parcel has not been evaluated by CGS for liquefaction or seismic landslide hazards.

Surrounding Land Use: The subject parcels are located approximately nine miles northeast of Herlong off of Calneva Road, adjacent to the Nevada Border, and do not have addresses. Immediately surrounding parcels are primarily unimproved (except for dirt roads) and consist of native plant species common to the area, although a Western Pacific Railroad line runs through the subject parcels. The Bureau of Land Management also manages lands to the north. Said surrounding parcels are zoned as illustrated in Table 1 below:

[1] https://apps.wildlife.ca.gov/bios/?tool=cnddbQuick. Site accessed November 23, 2020.
[2] Hillman's cleomella and Macdougal's lomatium are also special-status plant species found in the Flanigan Quadrant.
[3] The American badger is also a species of special concern in the Flanigan Quadrant.
[4] According to the CNDDB QuickView Tool, the prairie falcon, while not a "species of special concern" is on the CDFW "watch list."
[5] https://maps.conservation.ca.gov/cgs/EQZApp/app/. Site accessed November 23, 2020.

	Zoning (see notes at bottom)	**Parcel Size** (acres)	**Land Use Designation** (*Lassen County General Plan, 2000)*
North	U-C*/O-S**	40, 136, 160	"Extensive Agriculture"
South	A-1^	170, 275	"Extensive Agriculture"
West	A-1	1.37	"Extensive Agriculture"

* The U-C zoning district is the "Upland Conservation District" as defined in Chapter 18.68 of the Lassen County Code
**The O-S zoning district is the "Open Space District" as defined in Chapter 18.64 of the Lassen County Code
^The A-1 zoning district is the "General Agricultural District" as defined in Chapter 18.16 of the Lassen County Code

1. LAND USE AND PLANNING

Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

DISCUSSION:

(a) The proposed project would not block any existing access or otherwise divide any established community. The proposed charter school is approximately nine miles east of the Herlong.

(b) The project site is zoned A-1 (General Agricultural District) and is designated "Extensive Agriculture" in the *Lassen County General Plan, 2000*. According to Lassen County Code Section 18.16.050(10), the A-1 district allows for "[u]ses allowed by use permit in the…U-C-2 [zoning district]…" by use permit. According to Lassen County Code Section 18.69.040(7), the U-C-2 district allows for "Electrical generating facilities if the

produced power is intended for sale or distribution off premises…" by use permit. Therefore, the above-described solar array is allowed by use permit in the A-1 district.

The following goals, objectives, implementation measures and descriptions from the *Lassen County General Plan, 2000*, pertain to the proposal:

Designation of Land Uses

- *GOAL L-1: To maintain a system of land use designations which sets forth the County's policies pertaining to the general distribution and intensity of land uses, and which strives to ensure compatibility between land use types by providing for efficient and complimentary* [sic] *patterns and mixtures of land uses.*

- *Implementation Measure LU-A: The County shall utilize the zoning provisions of the Lassen County Code to adopt and enforce corresponding zoning districts, and to consider the approval of related use permits and land divisions, which implement and are compatible with the policies, general land uses and programs specified in this Land Use Element and in area plans adopted as part of the General Plan.*

- *Implementation Measure LU-B: The County recognizes the need and legal requirements for making land use decisions which are consistent with the General Plan.*

1. ISSUE: Land Use Compatibility

- *GOAL L-4: Compatibility between land use types by providing for complementary mixtures and patterns of land uses.*

- *LU-6 POLICY: The County recognizes general plan land use designations and consistent zoning as the appropriate and primary tools for attempting to achieve and maintain compatibility of land uses within the context of the County's land use authority and local control.*

- *Implementation Measure LU-F: The County shall continue to utilize the California Environmental Quality Act (CEQA) process, when applicable, to evaluate the potential impacts of proposed changes in land uses on surrounding lands and to implement appropriate mitigation measures when needed.*

2. ISSUE: Growth and Development

- *GOAL L-5: Orderly, contiguous growth and appropriate land-conserving densities as an alternative to sprawl and "leap-frog" development.*

- *Implementation Measure LU-G: The County shall phase out the use of the A-1, General Agriculture District, and shall, following appropriate public hearings, rezone all areas currently zoned A-1 to more specific zoning districts which are consistent with General Plan land use designations.*

5. ISSUE: Transportation

- *GOAL L-11: Transportation systems which compliment* [sic] *and support the County's land use patterns.*

- *LU25 POLICY: The County shall continue to review and, when warranted, formulate improved standards for the necessary improvement and maintenance of roads serving new development, including standards for the incremental improvement or development of public roads.*

- *Implementation Measure LU-R: Pursuant to impacts evaluated in an environmental impact report or other form of project review, the County may require mitigation measures which will insure that project developers adequately and fairly compensate or participate with the County in the necessary upgrading and/or repair of roads which will be significantly damaged by a project.*

6. ISSUE: Commercial Land Uses

- *GOAL L-12: Increase community wealth and the provision of needed commercial services through economic growth and diversification by sustaining and facilitating the expansion of existing commercial operations and by encouraging new commercial ventures.*

- *LU29 POLICY: The County supports the economic viability of existing communities and will minimize the development of scattered commercial uses by directing commercial uses to existing town centers and commercial areas or the orderly expansion of such areas, with limited exceptions including home occupations, agricultural-related sales, and specially-considered local convenience and highway commercial sites.*

- *LU30 POLICY: The County shall consider, on a case-by-case basis, the need and appropriateness of specially-zoned "local convenience" and "highway commercial" sites at carefully selected points where such commercial development may be warranted, subject to the consideration and approval of an appropriate commercial land use designation and corresponding zoning district requirements. Such proposals shall demonstrate why the related local convenience or highway commercial need can not be adequately satisfied in or adjacent to existing town centers or locations which are already zoned for commercial land uses.*

9. ISSUE: Agricultural Land Uses

- *Implementation Measure LU-Y: Land designated Extensive Agriculture" in the Land Use Element shall be zoned "U-C", Upland Conservation District, "U-C-2", Upland Conservation/Resource Management District" or "A-3", Agricultural District.*

  NATURAL RESOURCE LAND USES

  Extensive Agriculture

  The Extensive Agriculture designation primarily represents typical rangeland areas with grazing and general rangeland values, natural wildlife habitat, open space and scenic values, and/or low intensity outdoor-oriented recreational values… Subject to County permit requirements and the provision of related elements of the General Plan, areas designated Extensive Agriculture may also accommodate natural resource-related production facilities…

  Corresponding Zoning: "E-A", Exclusive Agriculture District; "A-3", Agricultural District; "U-C", Upland Conservation District; "U-C-2"; Upland Conservation/Resource Management District.

The proposed project is consistent with the above land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect and therefore will result in less than significant impacts to such land use plans, policies, and regulations.

(c) The proposed project does not conflict with any known applicable habitat conservation plan or natural community conservation plan.

2. POPULATION AND HOUSING

Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

DISCUSSION:

(a) The project may induce minimal population growth at most. The project does not include housing nor the extension of roads or other infrastructure. The project will have a less than significant impact to population growth in the area, either directly or indirectly.

(b) The project will not displace any existing housing and will not necessitate the construction of replacement housing elsewhere.

(c) The project will not displace any people and will not necessitate the construction of replacement housing elsewhere.

3. GEOLOGIC PROBLEMS

Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

DISCUSSION:

According to the Natural Resources Conservation Service's (NRCS) Web Soil Survey, 99.7 percent of the soils at the subject parcels comprise Epot-Ragtown-Playas complex, 0 to 2 percent slopes (land capability not classified [irrigated] and 7s [nonirrigated]).

According to the California Department of Conservation California Geological Survey's (CGS) *Earthquake Fault Zone*, *Special Studies Zone Maps* and Earthquake Zones of Required Investigation (EQZ) App, the former effective as of November 1991, the latter as of April 2019, both the Calneva Lake and Flanigan Quadrangles several "active faults" (considered to have been active during Holocene time and to have a relatively high potential for surface rupture). According to CGS's EQZ app, "all or a portion of [APN 137-170-13] lies within an earthquake fault zone."[6] However, said parcel has not been evaluated by CGS for liquefaction or seismic landslide hazards.

(a, c) According to the California Department of Conservation California Geological Survey's (CGS) *Earthquake Fault Zone*, *Special Studies Zone Maps* and Earthquake Zones of Required Investigation (EQZ) App, the former effective as of November 1991, the latter as of April 2019, both the Calneva Lake and Flanigan Quadrangles several "active faults" (considered to have been active during Holocene time and to have a relatively high potential for surface rupture). According to CGS's EQZ app, "all or a portion of [APN 137-170-13] lies within an earthquake fault zone."[7]

Mitigating factors include the fact that the slope of the subject parcel is negligible (between 0 and 2 percent). A site visit conducted June 9, 2020, and USGS topographical maps demonstrate that the site is very flat.

Furthermore, according to the applicant, "people would not generally be present except during construction or during scheduled or required maintenance or repairs of the [facility]…" project description submitted by the applicant,[8] "an average construction workforce of 165 workers per day is anticipated, and the peak number of workers is estimated at 250 workers." Construction is anticipated to take 8 to 10 months. However, once the project is built, it will be unmanned. Therefore, the risk of injury or death to persons related to geological problems arising from the project is low.

Lastly, Title 24 of the California Code of Regulations (the California Building Standards Code) sets building construction standards for safety and protection in the

[6] https://maps.conservation.ca.gov/cgs/EQZApp/app/. Site accessed November 23, 2020.
[7] https://maps.conservation.ca.gov/cgs/EQZApp/app/. Site accessed November 23, 2020.
[8] See Page 3-38 of the initial study submitted by the applicant. Lassen County is preparing its own initial study for this project, but the initial study prepared by the applicant serves as supporting documentation.

event of ground shaking. The proposed solar array must comply with the California Building Standards Code.

Furthermore, the project is not located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and the project would not potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. Again, the project site is very flat in nature. There is a less than significant effect to the environment on account of the above

In light of the above, the proposed project would not expose people or structures to potential substantial adverse effect, including the risk of loss, injury, or death involving the rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault, strong seismic ground shaking, seismic-related ground failure (including liquefaction), or landslides, in a way that would cause anything more than a less than significant effect.

Although the above analysis shows project impacts to the above to be less than significant, the applicant has offered to conduct a site-specific geotechnical investigation during the final design phase of the project.

(b) The lack of steep slopes at the project site alleviates the potential for substantial erosion, and therefore the project will result in a less than significant effect related to erosion.

According to the U.S. Department of Agriculture, topsoil is "the upper part of the soil[9], which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining."[10] NRCS's Web Soil Survey rates Epot-Ragtown-Playas complex, 0 to 2

[9] In its Web Soil Survey's rating titled, "Suitability for Aerobic Soil Organisms," NRCS describes "soil" as follows:

> Soil is the habitat for a wide variety of organisms, ranging from microscopic viruses, bacteria, archaea, fungi, and protozoa to micro- and meso-fauna including nematodes, mites, and springtails to macrofauna such as earthworms, centipedes and beetles to name just a few. A healthy soil is a living system that supports an abundant and diverse biological community that aids crop production by providing key services and functions. These include: 1) the decomposition of organic materials and conversion into soil organic matter; 2) enhanced nutrient cycling; 3) improved soil structure and stability that positively influences water flow, storage and availability; 4) plant protection against disease, pests, and environmental stress; and, 5) detoxification of pollutants. Soil microbes are generally most abundant in the surface layer around plant roots (termed the rhizosphere). Soils vary in their inherent ability to foster plant growth and thus also in their ability to support microbial populations. Although bacteria and archaea possess alternative metabolic strategies to survive under low or no oxygen content (i.e., anaerobic conditions), all other soil organisms require oxygen and the majority of soil bacteria in agricultural soils function more efficiently in aerobic conditions. Therefore, only aerobic organisms are considered.

[10] United States Department of Agriculture. *Glossary of Soil Survey Terms*, October 2015. Online at: https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/ref/. Site visited December 1, 2020.

percent slopes, as a "somewhat favorable"[11] source of aerobic organisms, which directly relate to topsoil quality (as opposed to a "very favorable" or "very limited" source). It appears that this soil type is rated "somewhat favorable" as a source of aerobic organisms because the soil water is somewhat favorable to this end, however, the "somewhat favorable" designation may be misleading because in fact, the organic matter content for this soil type is low. In light of these considerations, the project will result in a less than significant loss of topsoil.

(d) Expansive soils are predominantly composed of clays, which expand in volume when water is absorbed and shrink when the soil dries. Expansion is measured by shrink-swell potential, which is the volume change in soil with a gain in moisture. Soils with a moderate to high shrink-swell potential can cause damage to buildings and infrastructure. According to the NRCS's Web Soil Survey, Epot-Ragtown-Playas complex, 0 to 2 percent slopes, is a "silt" or "low-plasticity clay" as defined by the Unified Soil Classification System. Silt and low-plasticity clay are classified as fine-grained soils, meaning that 50 percent or more of material is smaller than a No. 200 sieve size. Epot-Ragtown-Playas complex, 0 to 2 percent slopes, comprises only 15 percent clay (contrast with 54.7 percent sand, 37.6 percent silt) and has a low linear extensibility (shrink-swell potential) of 2.7 percent.[12]

Furthermore, the California Supreme Court has determined that ordinary "CEQA analysis is concerned with a project's impact on the environment, rather than with the environment's impacts on a project and its users or residents."[13] Therefore, any impacts to life or property at the proposed solar array site on account of expansive soils would not be analyzed in this document.

In light of the above, the proposed project will not create substantial risks to life or property. Therefore, there is a less than significant impact to the environment on account of expansive soil.

(e) According to NRCS's Web Soil Survey, "Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. The ratings are based on the soil properties that affect absorption

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[11] "Somewhat favorable" indicates that the soil has features that are moderately favorable for aerobic soil organisms. The soil can be made more favorable by careful management. Fair performance and moderate maintenance can be expected. *Suitabilities and Limitations for Use-Suitability for Aerobic Soil Organisms.* https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Site visited December 1, 2020.

[12] Natural Resources Conservation Service. *National Soil Survey Handbook*, amended November 2017, (Figure 618-A12 on Page 618-A.40) classifies shrink-swell as "low" for soils with a linear extensibility percent of less than three percent. Online at: https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=41981.wba. Site visited December 1, 2020.

[13] *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369, Case No. S213478.

of the effluent, construction and maintenance of the system, and public health." Galeppi sandy loam is rated "very limited."[14] Potential problems have primarily to do with slow water movement.

However, no septic tanks are proposed on account of this project, as there will be no occupants. Therefore, there is no impact.

[14] This rating indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected. *Suitabilities and Limitations for Use: Sanitary Facilities-Septic Tank Absorption Fields.* https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Site visited December 1, 2020.

4. HYDROLOGY AND WATER QUALITY

Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒

i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

DISCUSSION:

(a) Waste water discharge to surface and groundwater is regulated by the Lahontan Regional Water Quality Control Board (Lahontan). Lahontan did not respond to the Notice of Early Consultation circulated by the Lassen County Department of Planning and Building Services dated October 20, 2020 (Attachment 3).

In addition, the placement of septic tanks and routing of leach lines is regulated by the Lassen County Department of Environmental Health, who also did not respond to the above Notice of Early Consultation. However, as stated previously, there will be no waste discharge associated with the project during operations. During construction, portable toilets will be used. In any case, both of the above agencies will receive a copy of this initial study during the public comment period in order to have an opportunity to provide additional comment.

Although Lahontan has not responded to the Notice of Early Consultation, it is likely a National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Associated With Construction Activity (Construction General Permit) will be required, since the project disturbs greater than one acre. It is reasonable to believe that the applicant will be able to secure said permit from Lahontan, and therefore, the proposed project will not violate any water quality standards.

Even though no potentially significant effects have been shown to occur on account of the project, the applicant has volunteered the following:

- Calneva BESS/PSES owner and/or contractor will develop and implement a Stormwater Pollution Prevention Plan and adopt best management practices prior to beginning construction activities.

- Spill prevention kits shall always be in close proximity when using hazardous materials (e.g. crew trucks and other appropriate locations).

- For equipment that must be fueled on-site, containment shall be provided in such a manner that any accidental spill of fuel shall not be able to enter the water or contaminate sediments that may come in contact with water.

- Calneva BESS/PSES owner, or construction contractor will prepare a pollutant control plan that specifies logistics and schedule for construction activities that will minimize the potential for erosion and standard practices that include monitoring and maintenance of control measures.

Although the applicant has volunteered the above as mitigation measures, without evidence that there are any potentially significant effects to hydrology and water quality, there are no potentially significant effects to mitigate. Therefore, the above may be included as recommended conditions of approval, and not mitigation measures, for this project.

(b) The project will not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. The project site is in the Honey Lake Valley Groundwater Basin, which is a "low priority basin" per the Sustainable Groundwater Management Act, indicating a low level of concern in regard to groundwater availability. In addition, according to the California Department of Water Resources Groundwater Bulletin 118 (last updated February 27, 2004), the total volume of water stored in the upper 100 feet of saturated basin-fill deposits and volcanic-rock aquifers in the Honey Lake Groundwater Basin is estimated to be 10 million acre-feet. Since there are approximately 326,000 gallons in one acre-foot, and an estimated 10 million acre-feet in the upper 100 feet of the Honey Lake Valley Groundwater Basin, the proposed project is extremely unlikely to substantially deplete groundwater supplies.

Moreover, per Page 3-29 of the initial study prepared by the applicant, "[w]ater usage for the proposed project lease area for construction related activities would be approximately 200 acre-feet total during the 10-14 month construction period," but "[t]o the extent practicable, the proposed project would use reclaimed water for dust control and earthwork purposes…" In addition, potable water would be trucked in onsite.

(c) The project will not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site. There are no rivers or streams at the project site.

(d) The project will not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

The project site is completely underlain with Epot-Ragtown-Playas complex, 0 to 2 percent slopes. According to the NRCS Web Soil Survey, Galeppi sandy loam has a "none" rating for flooding, meaning that flooding is not probable. The chance of flooding is nearly zero percent in any year; flooding occurs less than once in 500 years.

Furthermore, according to the applicant, the solar panels will be underlain with pervious concrete slab. Epot-Ragtown-Playas complex, 0 to 2 percent slopes, is "moderately well-drained."

Lastly, as indicated in the "Hydrology" portion of the "Environmental Setting" Section of this initial study, the Federal Emergency Management Agency identifies the subject parcels as mostly in a Zone "X" floodplain zone, defined as an "area of minimal flood hazard" (Zone "X," Panel #06035C2640D, 9/3/2010).

For the above reasons, any project impacts related to flooding would at most be less than significant.

(e) The project will not create contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. See subsection (d) above.

(f) The project will not otherwise substantially degrade water quality. According to the applicant, lithium-ion batteries used at the project site will be fully enclosed in battery storage containers; in the event of a rupture of a battery, no battery fluids would discharge from within the enclosures.

(g) There are no homes proposed as part of the project; neither is the project site in the 100-year floodplain.

(h) The project site is not in the 100-year floodplain.

(i) The project will not expose people or structures to a significant risk of loss, injury, or death involving flooding.

(j) The project will not expose people or structures to a significant risk of loss, injury, or death by inundation on account of a seiche, tsunami, or mudflow.

Given the above considerations, the project will result in less than a significant effect to water quality and hydrology.

5. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

DISCUSSION:

The following goals, policies and implementation measures that pertain to air quality found in the *Lassen County General Plan, 2000* inform the analysis of this section:

> *GOAL N-22: Air quality of high standards to safeguard public health, visual quality, and the reputation of Lassen County as an area of exceptional air quality.*
>
> *NR74 POLICY: The Board of Supervisors will continue to consider, adopt and enforce feasible air quality standards which protect the quality of the County's air resources.*
>
> *Implementation Measure NR-Q: The County will continue to regulate the emission of pollutants within its jurisdiction through the regulations and procedures adopted for the Lassen County Air Pollution Control District (APCB).*

The United States Environmental Protection Agency (EPA) makes national designations for six airborne pollutants: ozone (O_3), particulate matter (suspended particulate matter [PM_{10}][15] and fine suspended particulate matter [$PM_{2.5}$][16]), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). These pollutants are regulated by the EPA's National Ambient Air Quality Standards (NAAQS), which measure the maximum amount of a pollutant that can be present in outdoor air over a specific period of time without harming public health. Lassen County is either "in attainment" or "unclassified" pursuant to the national area designations prepared by the EPA. Federal law requires that all states attain the NAAQS[17].

California also has ambient air quality standards (California Ambient Air Quality Standards or CAAQS) that predate the original NAAQS. In addition to the six criteria pollutants above, the CAAQS monitor four more: sulfates, hydrogen sulfide, visibility reducing particles, and vinyl chloride[18], although attainment[19] of the NAAQS has precedence over attainment of the CAAQS. With the exception of vinyl chloride, the CAAQS pollutants are monitored by the California Air Resources Board (CARB).

CARB has designated Lassen County as "in attainment" or "unclassified"[20] in relation to the CAAQS for every pollutant[21] (Lassen County's $PM_{10,}$ carbon monoxide and hydrogen sulfide levels are unclassified like the most of the Northeast Plateau Air Basin; its visibility-reducing particle levels are also unclassified like the rest of California, except for Lake County).

[15] Particulate matter 10 microns (micrometer) in diameter or less.

[16] Particulate matter 2.5 microns in (micrometer) diameter or less.

[17] The "unclassified" designation does not violate the NAAQS.

[18] California Air Resources Board (CARB, or alternately, ARB). Vinyl chloride is a colorless gas with a mild, sweet odor. Most vinyl chloride is used in the process of making polyvinyl chloride (PVC) plastic and vinyl products, and thus may be emitted from industrial processes. Vinyl chloride has been detected near landfills, sewage treatment plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents, although levels above the standard have not been measured in California since the 1970's. Today, vinyl chloride exposure is primarily an occupational concern. Vinyl chloride is the only pollutant that has a California Ambient Air Quality Standard and is also listed as a toxic air contaminant because of its carcinogenicity. Current regulatory efforts are under CARB's Air Toxics Program. Given the above, project-induced impacts related to the emission of vinyl chloride has been determined to have no known impact. Online at: https://www.arb.ca.gov/research/aaqs/common-pollutants/vc/vc.htm. Site visited December 15, 2020.

[19] "Attainment" is the category given to an area with no violations in the last three years.

[20] "Unclassified" is the category given to an area with insufficient data.

[21] Most recent information available is from August 2019, accessible at the following link: https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations. Site visited December 15, 2020.

Under state law, local and regional air pollution control districts have the primary responsibility for controlling air pollutant emissions from all sources other than vehicular sources.[22] CARB divides California into air basins and adopts standards of quality for each air basin. Lassen County is part of the Northeast Plateau Air Basin (along with Modoc and Siskiyou counties) and its air quality is managed locally by the Lassen County Air Pollution Control District. According to the Lassen County Air Pollution Control District (APCD), the Air Quality Index in Lassen County is classified as "GOOD"[23] for the majority of the year, although events such as wildfires and inversion layers in winter months can periodically degrade air quality.[24]

According to the *Lassen County 2012 Regional Transportation Plan* (RTP), PM_{10} can be caused by sources including fugitive dust, combustion from automobiles and heating, road salt, and conifers, among others. “Constituents that comprise suspended particulates include organic, sulfate, and nitrate aerosols that are formed in the air from emitted hydrocarbons, chloride, sulfur oxides, and oxides of nitrogen. Particulates reduce visibility and pose a health hazard by causing respiratory and related problems.” CARB further identifies motor vehicles, wood-burning stoves and fireplaces, dust from construction, landfills, and agriculture, wildfires and brush/waste burning, industrial sources, and windblown dust from open lands as major sources of PM_{10}. Among other measures, CARB generally recommends dust control for roads and construction, landscaping and fencing to reduce windblown dust, and driving slowly on unpaved roads and other dirt surfaces to reduce PM_{10} pollution.

In addition, APCD Rule 4:18, titled “Fugitive Dust Emissions,” states that “reasonable precautions shall be taken to prevent particulate matter from becoming airborne” and allows for the application of “asphalt, oil, water, or suitable chemicals to dirt roads, material stockpiles, land clearing, excavation, grading or other surfaces which can give rise to airborne dusts.”

This Initial Study will be referred to the Lassen County Air Pollution Control Officer for comment, as said officer is charged with enforcing the rules and regulations pertaining to air quality known as the Rules and Regulations of the Lassen County Air Pollution Control District (APCD Rule 1:1-Title).

(a) The project will not conflict with or obstruct implementation of any applicable air quality plan, including the Rules and Regulations of the Lassen County Air Pollution Control District.[25]

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[22] *Lassen County 2012 Regional Transportation Plan.* Control of vehicular air pollutant emissions is the responsibility of the California Air Resources Board (CARB).

[23] *Lassen County 2012 Regional Transportation Plan.* The low population density (7.7 people per square mile), limited number of industrial installations, the fact that over half of Lassen County is forest land all contribute to Lassen County’s good air quality.

[24] If natural events generate pollutants that exceed the CAAQS, CARB may designate such exceptional events “exceedances” and not necessarily violations of the CAAQS.

[25] https://ww2.arb.ca.gov/current-air-district-rules. Site visited June 17, 2021.

(b) The project will not violate any air quality standard nor contribute substantially to an existing or projected air quality violation.

(c, d, e) Lassen County is not in non-attainment for any of the NAAQS or CAAQS standards. Therefore, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

Neither will the project expose sensitive receptors to substantial pollutant concentrations, as any non-negligible amount of pollution is likely to come from construction of the proposed project, and the nearest sensitive receptors (such as areas where people are concentrated) are in excess of 4.5 miles from the project site. Using the same rationale given immediately above, the project will not create objectionable odors that would affect substantial numbers of people.

Given the above considerations, the project will result in a less than significant impact to air quality.

Although the above analysis shows that the project will not have a significant impact on air quality, the applicant has proposed the following conditions of approval:

- Suspend excavation and grading activity when sustained winds exceed 20 miles per hour or when gusts exceed 25 miles per hour.

- Although the NOx, CO, and CO2 emissions for the construction period are within the thresholds of significance, the following mitigation measures would further reduce emissions:

    - Use alternative fuel or catalyst-equipped diesel construction equipment.

    - Minimize idling time (e.g., 10-minute maximum).

The above may be included as recommended conditions of approval for this project, but they are not mitigation measures, in that they do not mitigate potentially significant impacts to a less than significant level, because no such potentially significant impacts to air quality exist on account of the project in the first place.

6. TRANSPORTATION/TRAFFIC

Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐
g) Adversely affect rail, waterborne or air traffic?	☐	☐	☐	☒

DISCUSSION:

According to the applicant, "[c]onstruction vehicles would access the site via the U.S. Route 395/Doyle Loop Road Intersection, Hackstaff Road, Fort Sage Road and Calneva Road. Vehicles would enter the proposed lease area via new driveways off Calneva Road." According to the *Lassen County General Plan, 2000* and the *Lassen County 2012 Regional Transportation Plan* (RTP), U.S. Highway 395 is classified as an interstate or "principal

arterial." Principal arterials provide the highest level of service at the greatest speed for the longest uninterrupted distance, with some degree of access control.

The RTP classifies all other roads that will be used to access the site (Doyle Loop, Hackstaff, Fort Sage, and Calneva Roads) as "local roads." The Federal Highway Administration describes local roads not defined as arterials or collectors whose primary function is to provide direct access to individual properties, with little or no through movement. The majority of maintained roads in Lassen County are classified as local roads.

Typically, U.S. Highway 395 closes to trucks several times a year due to high winds and icy conditions. There are few alternate routes available, with limited services nearby such as gas stations and lodging. According to Figure 3 of the RTP, titled Lassen County State Highway Segment Existing Daily Level of Service, U.S. Highway 395 has a Level of Service rating of "C" from SR 36 to the Nevada State Line, consistent with the goal for the RTP.[26]

In addition, the following goals, policies, and implementation measures from the Circulation Element of the *Lassen County General Plan, 2000*, inform the project:

- *GOAL C-1: A comprehensive, efficient and safe transportation system to serve the needs of County residents and to stimulate the economic progress of Lassen County.*

- *Implementation Measure CE-E: The County shall consider the acquisition of needed right-of-way dedications with the approval of subdivisions, use permits, and other discretionary actions.*

(a) The proposed project will not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. The proposed project will not conflict with CE12 Policy described above.

A more thorough analysis can be found in Section 6.17 in the attached initial study prepared by the applicant. Although said document is merely illustrative and is not the initial study for this project, the analysis in said section is useful for understanding less than significant project impacts to traffic and circulation. Although project impacts to traffic are less than significant, the project applicant has agreed to implement the following:

[26] Table CE-1 of the *Lassen County General Plan, 2000*, titled "Level of Service (LOS) Ratings," describes the Level of Service "C" rating as "stable flow driving but significantly affected by other traffic."

- A traffic control plan will be developed in coordination with the Lassen County Public Works Department for any work requiring a County Encroachment Permit.

- Start times and end time of the construction day will be offset from identified peak traffic hours to mitigate traffic congestion on local streets and highways. Construction personnel will typically arrive at the proposed project lease area around 6:00 a.m., before the morning peak hour (7:00 a.m. to 8 a.m.). Construction employees will typically leave between 3:00 p.m. and 4:00 p.m., before the evening peak hour (4:00 p.m. and 5:00 p.m.).

Although the above items do not mitigate against an impact that would otherwise be significant, they will be included as recommended conditions of approval for this project.

(b) The proposed project will not conflict with Section 15064.3(b) of the CEQA Guidelines. As described by Section 15064.3(a), "vehicle miles traveled" (VMT) refers to the amount and distance of automobile travel attributed to the project. VMT will be negligible during operation of the proposed project, as it will be unmanned. The applicant estimates a 10-month construction period, during which the applicant estimates a peak 125 worker vehicles per day. These vehicles trips would originate from Reno or Susanville, and represent a less than significant effect in terms of vehicle miles traveled on account of the project.[27]

(c) The proposed project will not result in any known change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risk. The Herlong Airport and Amedee Army Airfield are approximately 10 miles west and northwest of the project site, respectively. The project site is outside of the clear, approach, and overflight safety zones for the Herlong Airport, according to the *Herlong, Spaulding, Bieber, and Ravendale Airports Airport Land Use Plan, 1988.* Although the *Amedee Army Airfield Land Use Compatibility Plan, 2016*, uses different terminology, the project site is also outside of said airfield's runway clear zone, inner, outer, and transitional safety zones, and traffic pattern zone.

(d) The proposed project will not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses. The applicant proposes to create new driveways to access the project site. According to the applicant "[t]urning radius to the [project site]" would accommodate "maneuverability… of large trucks and vehicles, including fire trucks." Any concerns will be addressed by virtue of an

[27] According to 2010 figures from the *Lassen County 2012 Regional Transportation Plan* (RTP), average annual daily traffic (AADT) volumes at U.S. Highway 395 north of California State Route 70 were 5,300 trips. These are the most recent figures available, as the most recent RTP, adopted in 2017, does not contain AADT figures. Assuming said AADT figures have remained constant, if not grown, a 125 vehicle increase per day from Reno will not have a significant effect to VMT. If some workers come from Susanville, the 2010 AADT figures indicate 1,400 trips. A percentage of those 125 worker trips added to said 1,400 trips does not represent a significant increase to VMT.

encroachment permit that is required by the Lassen County Department of Public Works. Any impacts are less than significant at most for the purposes of CEQA.

(e) The proposed project will not result in inadequate emergency access. According to the applicant, the proposed project would not require closure of public roads, which could inhibit access by emergency vehicles. The Department of Public Works, and the California Department of Forestry and Fire Protection (Cal Fire) will receive notice of this initial study and/or copies of this initial study to be provided an opportunity to comment.

(f) The project will not conflict with policies, plans, or programs regarding transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. No such facilities are required for the project.

(g) The proposed project will not adversely affect rail, waterborne or air traffic. No such forms of traffic exist within the vicinity of the proposed project. Also see subsection (c) above.

7. BIOLOGICAL RESOURCES

Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

DISCUSSION:

(a) The following policy and implementation measures from the *Lassen County General Plan, 2000*, pertain to biological resources at the project site:

- *GOAL W-1: To protect and enhance the overall health of wildlife habitats and special resource areas to maintain healthy, abundant, and diverse wildlife populations.*

- *WE-2 POLICY: The County supports the cooperative identification of "areas of significant wildlife value" or similar designations for areas where it is demonstrated by sound biological science that the habitat values are of significant importance to the health and/or survival of one or more species of wildlife. The County may apply a special designation to these areas, and/or agree to support specific resource management objectives, policies and voluntary programs to protect wildlife resources within these areas.*

- *Implementation Measure WE-C: Information from the California Department of Fish and Game will be used by the County to evaluate potential impacts to fish and wildlife as a result of proposed County policies and land use decisions. The County shall consider recommendations from the Department of Fish and Game and other agencies, special commissions and interested organizations regarding the identification of important wildlife habitat areas and the need for measures by the County, including special general plan amendments and zoning, to provide adequate protection of wildlife resources. Information and related recommendations should be provided in a manner which can be used to formulate protective measures which can be implemented on a programmatic (as opposed to a case-by-case) basis.*

- *Implementation Measure WE-E: In review of project proposals, the County will continue to utilize the California Environmental Quality Act process to evaluate the potential for significant adverse impacts upon wildlife resources and will require appropriate related project decisions and necessary mitigation measures.*

- *WE-4 POLICY: The County recognizes that some areas which are designated and zoned for development, including but not limited to rural residential lands and areas indicated for planned development, may also have wildlife resources and open space values which need to be addressed and considered for protection. The County will address the need for protection of wildlife resources and open space values in areas which are zoned for development during the review of development proposals.*

- *WE-5 POLICY: Prior to the imposition of substantial wildlife-related mitigation measures by the County, the County shall review evidence demonstrating that the proposed action or project could otherwise have potentially significant adverse impacts to wildlife and that the proposed measures will, in fact, help accomplish practical and necessary mitigation objectives.*

- *Implementation Measure WE-F: The County shall, in consultation with land owners, sports groups, and other concerned groups, agencies and organizations, consider the use of specific resource protection and management tools for wildlife habitat when warranted, including but not limited to the use of: clustered development and conservation subdivisions; conservation easements; building restrictions such as special setbacks; natural vegetation retention requirements; mechanisms to facilitate transfers of development rights; developer credits and density bonuses; 'wildlife mitigation funds' with funds to be used for acquisition and/or improvement of wildlife habitat; land dedication to public agencies or land trusts; and habitat banking. When used as mitigation measures, such actions shall be proportional to the magnitude of impacts caused by the project in question.*

- *WE-9 POLICY: The County supports cooperation between the California Department of Fish and Game and the Nevada Department of wildlife in the management of interstate deer herds.*

- *GOAL W-2: Protection of rare, threatened, and endangered wildlife species with an ecosystem approach to habitat management which also supports multiple land uses.*

- *GOAL W-3: Enhanced opportunities for consumptive and non-consumptive uses of wildlife resources recognizing the economic, educational, recreational and aesthetic benefits these uses bring to the County.*

- *GOAL W-4: Protect and enhance the wildlife habitat of riparian areas and wetlands.*

- *WE16 POLICY: The County supports interagency efforts to protect and restore the wildlife habitat values of lakes, riverine and riparian areas and wetlands.*

- *Implementation Measure WE-H: In consideration of proposed projects which may affect lakes, streams, riparian areas or wetlands, the County will review the potential for proposed impacts through the CEQA process and require appropriate mitigation measures to avoid and mitigate significant adverse impacts.*

  In its letter dated November 13, 2020 (Attachment 4), the California Department of Fish and Wildlife (CDFW), brought up several concerns related to special-status plant and wildlife species, including nesting birds (as well as potential kinds of mitigation), in response to early consultation. Said concerns are described and addressed below:

  Special-Status Species

  According to the query of the California Natural Diversity Database (CNDDB) conducted by CDFW, the following special-status species as well as sensitive vegetation are known to exist within a 3-mile radius of the project site:

Plants

- Lance-leaved scurf-pea (*Ladeania lanceolata*)(California Rare Plant Rank 2B.3)
- Many-flowered thelypodium (*Thelypodium milleflorum*)(California Rare Plant Rank 2B.2)
- Dugway wild buckwheat (*Eriogonum nutans* var. nutans)(California Rare Plant Rank 2B.3)
- Kellogg's sand-verbena (*Tripterocalyx crux-maltae*)(California Rare Plant Rank 2B.2)
- Hillman's cleomella (*Cleomella hillmanii* var. *hilmanii*)(California Rare Plant Rank 2B.2)
- Sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*)(California Rare Plant Rank 2B.2)
- Geyer's milk-vetch (*Astragalus geyeri* var. *geyeri*)(California Rare Plant Rank 2B.2)
- Western seablite (*Suaeda occidentalis*) (California Rare Plant Rank 2B.3)
- Intermontane lupine (*Lupinus pusillus* var. *intermontanus*)(California Rare Plant Rank 2B.3)
- Currant-leaved desert mallow (*Sphaeralcea grossulariifolia*)(California Rare Plant Rank 2B.3)
- Cruciform evening-primrose (*Chylismia claviformis* ssp. *cruciformis*)(California Rare Plant Rank 2B.3)
- Macdougal's lomatium (*Lomatium foeniculceum* ssp. macdougalii)(California Rare Plant Rank 2B.2)
- Nelson's evening-primrose (*Eremothera minor*)(California Rare Plant Rank 2B.3)
- Winged dock (*Rumex venosus*)(California Rare Plant Rank 2B.3)
- Ochre-flowered buckwheat (*Eriogonum ochrocephalum v*ar. *ochrocephalum*)(California Rare Plant Rank 2B.2)
- Paiute lomatium (*Lomatium ravenii* var. paiutense)(California Rare Plant Rank 2B.3)

Wildlife

- Long-eared owl (*Asio otus)*(California Special Species of Concern)
- American badger (*Taxidea taxus*)(California Species of Special Concern)[28]

[28] In addition to the special-status animal species identified by CDFW in its letter, the California Natural Diversity Database identifies the following special status species within the Calneva Lake Quadrant:

- Prairie falcon (*Falco mexicanus*)(CDFW watchlist)
- Gray wolf (*Canis lupus*)(Endangered federal and state status)

In the above letter, CDFW goes on to state, "The CNDDB is a positive sighting database. It does not predict where something may be found…That does not mean there are no special status species present." CDFW also states that the project "is proposed in wildlife habitat." CDFW therefore recommends a basic botanical, wildlife, and habitat assessment (conducted at the appropriate time of year) as well as surveys to document "what is actually present today."

According to CDFW, Sierra Geotech, the agent for the project, conducted a field survey of the project area in January 2020, during the winter. Most plants, however, bloom in the spring. CDFW states,

> *Initial surveys conducted outside the blooming period for plants or the time of year when most wildlife is active is fine to do in order to determine which, if any, focused surveys will need to be conducted at a later date. However, it appears that Sierra Geotech staff consider this one survey sufficient if pre-construction surveys are completed after Project approval but before construction commences. The [California Department of Fish and Wildlife] strongly encourages surveys be conducted at the appropriate time of year prior to project approval and recommends providing a stand-alone biological report that includes a list of plant and wildlife species observed as well as a description of habitats found onsite.*

The Environmental Review Officer concurred with CDFW's recommendation that any field survey and biological study be conducted at the appropriate time of year, not during the winter months. The Department of Planning and Building Services sent a letter stating this to the applicant on January 6, 2021 (attached).

On March 2, 2021, Sierra Geotech submitted a biological assessment for the project, having conducted field work on February 26, 2021. Said biological assessment states in part, "Because of the season of the surveys and the methods used (visual and auditory identifications only), some of the plants and many of the cryptic or migratory animals, which might have been observed at other times or by using other techniques, were not detected…" Indeed, in CDFW's letter, dated March 26, 2021, responding to said biological assessment, CDFW states:

> *In our previous two letters, the Department requested a basic botanical, wildlife, and habitat assessment conducted at the appropriate time of year… Most wildlife surveys are conducted in the spring months usually concurrently with the botanical surveys… These comments are still applicable as Sierra Geotech staff went out in February 2021 to conduct surveys…*

On April 1, 2021, the Department of Planning and Building Services again sent the applicant a letter requiring that Sierra Geotech conduct the biological assessment at the appropriate time of year, per CDFW's direction. On May 20, 2021, the applicant submitted a biological assessment to the Department of Planning and Building Services.

According to said May 2021, biological assessment, two qualified Sierra Geotech botanists performed surveys on April 22, April 30, May 4, and May 15, 2021. Said surveys were conducted "during the peak blooming periods for special status species" that could potentially occur within the project site. All plants observed were identified using the Jepson Manual (Hickman 1993), and said botanists walked the entire project site with transects no more than 20 feet apart.

According to the biological assessment, the special status plant-focused surveys "carried out in the blooming season of 2021 did not find any special status plant species on the proposed project area." Therefore, the existing environmental conditions, the baseline at the project site, is that there are no known special status plant species that exists at the project site. Therefore, the proposed project will not have a significant effect on the special status plant species identified by CDFW above.

Moreover, during the surveys conducted for this project, no special-status wildlife species identified by CDFW were observed at the project site. No burrows or dens of suitable size for American badger were observed during field surveys conducted by Sierra Geotech staff during the September 2019, December 2019, or February 2021 surveys. However, according to the May 2021 biological assessment, burrows were surveyed in April and May 2021 and all burrows found on site, but all burrows were abandoned at the time of the special-status plant surveys. It appears then that some burrow habitat may exist at the project site; however, at the time of survey, said burrows were unoccupied. Of course, just because burrows on-site were unoccupied at the time of survey, this does not mean that they may not be used in the relatively near future. For this reason, the applicant is proposing the following mitigation measures:

> ***MM 21:*** *Burrowing American Badger Surveys: Calneva BESS/PSES will retain a qualified biologist to conduct burrowing American badger surveys and to identify any occupied burrows in all project action areas and buffer zones with suitable habitat. These surveys will be conducted not more than 30 days prior to initial ground-disturbing activities. If the survey results are negative (no badger dens observed), no additional work would be necessary. If the results are positive (badger dens observed), the qualified biologist shall install a game camera at the den(s) for three (3) days and three (3) nights to determine if the den is in use. If the game camera does not capture an individual entering/exiting the den, the den can be excavated by hand. If the camera captures badger use of the den, the qualified biologist shall install a one-way door in the den opening and continue use of the game camera. Once the camera captures the individual exiting the one-way door, the den can be excavated by hand.*
>
> ***MM 22:*** *Burrow Avoidance: If occupied burrows are identified during surveys, Calneva BESS/PSES will maintain a buffer of approximately 160 feet from occupied burrows during the nonbreeding season of October through July, and approximately 250 feet during the breeding season of August through September.*

> *Occupied burrows will not be disturbed within these buffers during the breeding season, from August through September, unless a qualified biologist has verified that the badgers have not begun mating, or the offspring from those burrows are foraging independently and capable of independent survival at a given date.*

Because the current existing conditions show that all burrows on-site are unoccupied, for CEQA purposes, the baseline conditions are that there is no American badger on-site. Therefore, there are no known impacts to American badger that need to be mitigated against. However, given the transient nature of wildlife resources, it could be the case that American badger do exist on site, especially right before or during ground disturbance and/or construction related to the proposed project. Therefore, although the above are not mitigation measures per se, they will still be included as recommended conditions of approval for this project.

Furthermore, according to the May 2021 biological assessment, "[n]o long-eared owls were observed during the [2019] or 2021 surveys. The project lease area provides no suitable habitats for nesting and roosting. The project lease area only provides potential for foraging areas." In light of the above, then, the project will have at most a less than significant impact to long-eared owl.

Lastly, according to the May 2021 biological assessment, "[t]he project lease area does not provide adequate habitat for [prairie falcon] breeding. Project lease area could provide foraging habitat. Project area is yearlong range for the prairie falcon." During the field survey conducted February 26, 2021, a prairie falcon was observed in flight south the project site approximately four miles south of the project site, approximately 100 feet in the air, hunting. Given the lack of suitable nesting/breeding habitat, the project will have at most a less than significant effect on prairie falcon.

In light of the above, the project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

(b) No riparian habitat exists at the project site or other known sensitive natural community exists at the project site.

(c) The California Water Boards define wetlands as follows:

An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.[29]

[29] https://www.waterboards.ca.gov/press_room/press_releases/2021/procedures.pdf. Sie visited June 4, 2021.

The U.S. Fish and Wildlife Service's National Inventory Wetlands Map[30] indicates the presence of Palustrine, Unconsolidated Shore, Temporarily Flooded (PUSA) water features onsite.[31] According to the letter received from the California Department of Fish and Wildlife dated March 26, 2021, CDFW "will consider these areas wetlands until the Project applicant can demonstrate otherwise with updated wetland surveys," especially because "it appears that the areas show a presence of water and there is a lack of vegetation. The alkali playa… shows water was present by the cracking appearance of the soil… which is two out of three requirements under the State definition."

However, the applicant contends that the project site does not meet any of the three criteria above used for determining whether an area is by definition a "wetland" (all three criteria must be met in order for an area to be classified as a wetland). The applicant states that on-site reconnaissance surveys conducted during December 2019 and February 2021 "during the wet season demonstrate the alkali basins/flats/playas do not qualify as wetlands" per the above criteria.

The April 2020 geotechnical report submitted by Sierra Geotech indicates that the entire project site is made up of Epot-Ragtown Playas complex soils, which is "incapable of continuous or recurrent saturation of the upper substrate caused by groundwater," as it well-drained with very high runoff characteristics. In addition, borings conducted by Sierra Geotech and monitoring wells within the vicinity of the project site indicate that groundwater is not present until approximately 30 feet below the surface. Lastly, Google Earth aerial imagery from differing times of year from 2020, 2019, 2015, 2014, 2013, 2012, 2010, 2009, 2006, 2005, 2003, 1993, and 1985 does not show any shallow surface water ponding. For these reasons, the project site does not appear to meet criteria (1) identified above.

Moreover, given the above discussion, it does not appear that water lingers long enough in the substrate so as to cause anaerobic conditions. Criteria (2) depends in large part on criteria (1), namely, whether the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both. As discussed above the area does not have shallow surface water or recurrent saturation of the upper substrate. If only because of this, the project site does not meet criteria (2). In addition, Sierra Geotech states that "[t]here is no data available that establishes the proposed project site soils have anaerobic conditions in the upper substrate."

The third criteria for identification of an area as a wetland is if the area's vegetation is dominated by hydrophytes or if the area lacks vegetation. As stated in the biological assessment for this project, plants present at the project site are primarily of the desert sink scrub plant community, including:

[30] https://www.fws.gov/wetlands/Data/Mapper.html. Site accessed June 4, 2021.
[31] According to the U.S. Fish and Wildlife Service, the Palustrine, Unconsolidated Shore, Temporarily Flooded (PUSA) designation is based on photo interpretations using 1:40,000 scale, color infrared imagery from 1990.

- Big sagebrush (Artemisia tridentate)
- Bud sagebrush (Artemisia spinescens)
- Shadscale saltbush (Altriplex confertifolia)
- Downy brome (Bromus tectorum)
- Great basin wild rye (Elymus cinereus)
- Spiny hopsage (Grayia spinosa)
- Prickly Russian thistle (Kali tragus)
- Clasping pepperweed (Lepidium perfoliatum)
- Black greasewood (Sarcobatus vermiculatus)
- Littleleaf horsebrush (Tetradymia glabrata)

Approximately 90 percent of plants at the project site consisted of greasewood, sagebrush, saltbush, and horsebrush, none of which are hydrophytes. Although the project site does have areas that are not vegetated, particularly in the alkali flats/playas,[32] approximately two thirds of the site is vegetated with desert sink scrub plant communities, as described above (see Figure 3-2 of the attached *Special Status Plant Survey Report for the Calneva Battery Energy Storage System (BESS) and Photovoltaic Solar Energy System (PSES)* dated May 2021 for a visual representation of vegetated vs. non-vegetated areas). Therefore, it is dubious that the project site would meet criteria (3) for identification as a wetland.

Given the above analysis, there is sufficient evidence to demonstrate that, given the facts at hand, the project site would not qualify as a wetland under the three criteria used by both the California Water Board and the California Department of Fish and Wildlife for determining whether an area is a wetland.

Lastly, although the U.S. Fish and Wildlife Service's Wetland Mapper identifies the project site as containing Palustrine, Unconsolidated Shore, Temporarily Flooded (PUSA) water features on site, according to the Wetland Mapper, the "temporarily flooded" designation can mean that "surface water is present for brief periods (from a few days to a few weeks) during the growing season, but the water table usually lies well below the ground surface for the most of the season."[33] This also further serves to demonstrate that even in wet years, surface water may exist for only very short periods of time. Therefore, although the best available evidence shows that the project site indeed does not contain wetlands under the three criteria used by both the California Water Board and the California Department of Fish and Wildlife, even if the project site were a wetland, it

[32] Although, as identified by CDFW, cracked soils exist at the project site, Sierra Geotech attributes cracking in the soil to salinization, and not to saturation of the upper substrate caused by ground water. Salinization is commonly found in desert soils such as Epot-Ragtown Playas complex. Salts are easily dissolved by rain and so accumulate in regions (such as in the Honey Lake Valley, where the project is located) where there is a high rate of evaporation relative to (low) precipitation. Thus, according to Sierra Geotech, there are no anaerobic conditions present at the site, and lack of vegetation is typical of the entire Honey Lake Valley, and not indicative of wetlands.

[33] This corroborates the borings conducted by Sierra Geotech, which did not find any groundwater within 25 feet of the surface.

would be a wetland for very short duration, and therefore, any impacts to the area would be at the very most less than significant.

(d) In its November 13, 2020, letter CDFW states:

> *If vegetation removal will be associated with the Project, these activities should be conducted outside of the bird nesting season (generally no work during February 1-August 31) in order to avoid 'take' as defined and prohibited by Fish and Game Code sections 86, 3503, 3503.5, 3511, and 3513. If work must be conducted during the bird nesting season, a qualified ornithologist (someone who is able to identify Northern California/Great Basin birds, and who has experience in nest searching for passerines and raptors) should thoroughly survey the area no more than seven days prior to tree/vegetation removal to determine whether active nests (nests containing eggs or nestlings) are present. If active nests are found, appropriate buffers should be developed in consultation with the Department to avoid take. The qualified ornithologist should delineate buffer zone with construction tape or pin flags that should remain in place until the young have fledged, as determined through additional monitoring. These surveys should occur within and surrounding all areas of the Project site in which Project activities take place, including construction and ground disturbance areas, staging areas, areas of fuel modification, ingress and egress routes, and utility routes, and be large enough to encompass areas subject to both direct and indirect Project impacts. Nesting survey results should also be sent to the Department at R1CEQARedding@wildlife.ca.gov, or at California Department of Fish and Wildlife, Attn: CEQA, 601 Locust Street, Redding, California 96001.*

No nesting birds were found during the biological assessments conducted by Sierra Geotech. The current baseline conditions, then, are that there are no nesting birds on-site. However, just because there were no nesting birds at the time of said biological assessments, this does not mean that there will not necessarily be any nesting birds at the tie of ground disturbance or construction. For this reason, the applicant has proposed the following mitigation measures:

BIO 19: *Bird Nest Surveys and Monitoring: Because construction will take place during the breeding and nesting season of avian species in the project area (typically February 1 through August 31), Calneva BESS/PSES will conduct nesting bird surveys prior to construction for avian species with potential to occur on-site, or where accessible, in areas adjacent to construction. Where nesting migratory birds are found in or near the project area, the birds and their nests will be evaluated by a qualified biologist. If nest disturbance is anticipated, the biologist will ensure adequate mitigation measures are implemented (**BIO 20**).*

BIO 20: *Nesting Birds: In accordance with the MBTA, if an active nest is observed in the project area during construction, Calneva BESS/PSES will stop work within the appropriate buffer for the species and contact the biological monitor immediately. Nest*

disturbance is dependent on a number of site-specific and activity-specific factors, including the sensitivity of the species, proximity to work activity, amount of noise or frequency of the work activity, and intervening topography, vegetation, structures, etc. Additional mitigation may be required to minimize disturbance of detected nesting activity, such as allowing nesting activity to conclude before continuing construction in an area, restricting certain types of construction practices/activities, creating screening devices to shield nest sites from construction activity, and establishing buffer areas around active nest sites. For inactive nests, measures could include removal and/or handling of nest materials, which will be conducted under the supervision of a qualified biologist.

In light of the above, the proposed project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Nests and nesting habitat are considered "native wildlife nursery sites."

will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. Any impacts to the above will at most be less than significant.

(e) The proposed project will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

(f) The proposed project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

8. MINERAL RESOURCES

Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

DISCUSSION:

(a) The project will not result in the loss of availability of a known material resource that would be of value to the region and the residents of the state. There are no such known resources or evidence of such in the area.

(b) The project will not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

9. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to	☐	☐	☐	☒

urbanized areas or where residences are intermixed with wildlands?

DISCUSSION:

- Construction Policy 11 of the *Lassen County Energy Element, 1993* (which was adopted as part of the general plan): "Any storage of hazardous materials on-site shall be adequately contained by structure or containers designed to prevent accidental release during operation or under adverse conditions."

- General Policy 5 of the *Lassen County Energy Element, 1993*: "The County shall require applicants to address and minimize the risk of hazardous accidents or spills."

(a,b) Construction of the proposed project would require the limited use of heavy machinery and construction equipment, such as graders, backhoes, and front-end loaders. According to the applicant, the operation of this equipment and machinery "could result in a spill or accidental release of hazardous materials, including fuel, engine oil, engine coolant, and lubricants." According to the applicant, other hazardous wastes that would be used during construction would be typical of most construction projects, including "detergents, degreasers, paints, ethylene glycol, and welding materials."

Typical foreseeable accidents would include fire that might result from overcharging, overheating, or other electrical fault conditions with the project. Mechanical damage is likely the biggest risk factor in terms of initiating any of the above events. Furthermore, according to the applicant, improper handling could result in "crush or puncture damage, possibly leading to the release of electrolyte material or short-circuiting."

All use, storage, transport, and disposal of hazardous materials used in construction or operation of the project would be in accordance with federal, State, and local laws. However, risk of accidents resulting the release of hazardous materials as described above could cause a significant effect to the environment. Therefore, the applicant has proposed the following mitigation measure (which is modified in an acceptable manner by the Environmental Review Officer further below):

HM-1: Contingency Plans: *Calneva BESS/PSES facility contingency plans shall be prepared to address potential contingency situations associated with battery storage systems. These existing plans include: Fire Protection Plan, Emergency Response Plan, and Hazardous Materials Business Plan. In addition, the plans will include where fire suppression material is stored on the site, how the Doyle Fire Prevention District will access the material, what the material is, and where copies of the plan are stored. All updates will occur in coordination with applicable agencies, including but not limited to Doyle Fire Prevention District, and the Lassen County Environmental Health Department-CUPA. Contingency plans shall be stored onsite.*

> ***Plan Requirements and Timing:*** *Contingency plans shall be completed prior to the initiation of construction activities for the proposed battery storage system, in order to ensure that appropriate contingency plans are in place through all project phases. The Lassen County Planning and Building Services, or their designee, shall ensure completion of contingency plans and approval by Doyle Fire Prevention District and Lassen County Environmental Health-CUPA.*
>
> ***Monitoring:*** *The Doyle Fire Prevention District, or their designee, shall inspect the contingency plans on an annual basis, and following any emergency or unanticipated situation during which contingency plan procedures are required to be implemented, in order to ensure that contingency plans remain relevant and applicable to the Calneva BESS/PSES facilities and surroundings. Calneva BESS/PSES shall pay Doyle Fire Prevention District inspections fees as may be adopted by the District from time to time.*

In fact, the applicant has already submitted a fire suppression plan for this project (see the attached, as well as Section 10, for more information). Furthermore, the Doyle Fire Protection District (it is not called the Doyle Fire Prevention District as described above) does not have explicit authority over fire suppression . In light of these facts, the Environmental Review Officer, in an attempt to retain the essence of the mitigation measure proposed by the applicant above, has instead come up with the following mitigation measure:

> HM-1: The applicant shall prepare a plan that effectively addresses hazardous materials. Such plan shall include specific measures to be taken in the case of release of any hazardous materials. Such plan shall be reviewed by the Lassen County Environmental Health Department in its Certified Unified Program Agency (CUPA) function; The Environmental Review Officer may consult with the California Department of Toxic Substances Control or any other relevant agency for review of the plan. The Environmental Review Officer shall have the authority to require any modifications to said plan to ensure satisfaction of this mitigation measure.

According to Page 3-41 of the draft initial study submitted by the applicant, the project is expected to be in operation "for at least twenty-five to thirty-five years." According to the California Department of Toxic Substances Control's (DTSC) Solar Panel FAQs, after a generator decides to discard solar panels or when they are disconnected or removed from service, solar panels are considered hazardous waste.[34] Solar panel wastes include heavy metals such as silver, copper, lead, arsenic, cadmium, and selenium, which at certain levels may be classified as hazardous wastes. Furthermore, the electronic components associated with the solar panels (e.g. drivers, inverters, circuit boards) contain "all of the common electronic device hazardous constituents such as lead, arsenic, cadmium, selenium, and chromium." Non-hazardous waste components of a solar panel such as glass, copper wire and aluminum framing from non-hazardous solar panels can be taken to a non-hazardous landfill or to recycling centers to be disassembled.

[34] https://dtsc.ca.gov/solar-panel-faqs/#easy-faq-348312. Site visited March 1, 2021.

There are numerous types of solar panels in circulation. The main types are the monocrystalline silicon, polycrystalline silicon, the cadmium telluride types and the newer film types such as copper indium gallium selenide (CIGS). Hazardous waste solar panels (such as CIGS panels) are fully regulated hazardous wastes, and must be managed according to all applicable hazardous waste laws and regulations, including an authorization for conducting treatment.

Because of the above information from DTSC, in 25 to 35 years' time, when the solar panels are removed from service, they will constitute hazardous waste. Therefore, at the end of its life cycle, the project would create a significant hazard to the environment if not disposed of properly. It is difficult to predict what the applicant's financial situation may be at the end of the project's life cycle, so to ensure that Lassen County is protected from having a defunct solar array and battery storage system, which would constitute "hazardous materials" at the end of their life cycle, the Environmental Review Officer is requiring that the following mitigation measures be adopted as part of the initial study and environmental document for this project:

HM-2: At the time operations approved by this Use Permit are discontinued, all structures, associated equipment, and all debris shall be removed from the site within 6 months after securing a demolition permit. If not removed within 6 months, the County may cause the structures, associated equipment, and all debris to be removed at the expense of the operator and/or property owner.

HM-3: At the time of decommissioning described in Mitigation Measure HM-2 above or if any structures, equipment, or debris is removed from the site for any reason, all structures, associated equipment, and all debris shall be removed from the site in accordance with all applicable regulations concerning hazardous materials. The applicant shall submit a letter from the California Department of Toxic Substances Control to provide evidence that the above has occurred.

HM-4: The applicant/property owner shall submit a detailed and thorough cost estimate itemizing the complete cost to decommission the project. The Planning and Building Services Department must find said cost estimate acceptable prior to issuance of an Authorization to Operate (ATO). Funds equal to the amount of said cost estimate shall be made available to the County in a form accepted by the County prior to issuance of an ATO. County will use said funds to decommission the site if the applicant does not comply with the condition to remove all structures, associated equipment including solar panels, and all debris within six (6) months of the end of operations.

HM-5: The applicant/property owner shall adjust the amount of the mechanism for inflation or changes in the law as directed by the Planning and Building Services Department. The Department may utilize an acceptable index such as the Consumer Price Index to determine inflation.

See the attached initial study prepared by the applicant for more information regarding hazardous materials. In light of the above mitigation measures, the proposed project will have a less than significant impact in terms of hazard to the public or the environment through the routine transport, use or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. This initial study will be referred to the California Department of Toxic Substances Control and the Lassen County Environmental Health Department for comment.

(c) The proposed project is not within one-quarter mile of any existing or proposed school. No impact.

(d) The project is not located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code 65962.5 (the "Cortese list"), and will not create a significant hazard to the public or the environment. Staff consulted the "List of Hazardous Waste and Substances"[35] compiled by the California Department of Toxic Substances Control and the "List of Leaking Underground Storage Tank Sites"[36] compiled by the California Department of Water Resources to this effect. Other consulted Cortese List resources can be found at https://calepa.ca.gov/SiteCleanup/CorteseList/.

(e) The project site is not within an airport land use plan or within two miles of a public airport. The nearest airports, the Herlong Airport and Amedee Army Airfield, are approximately 10 miles west and northwest of the project site, respectively.

(f) The project site is not within the vicinity of a known private airstrip.

(g) The project will not impair implementation of or physically interfere with any known adopted emergency response plan or known emergency evacuation plan.

(h) The project will not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands, for the following reasons:

The project site is not surrounded by any neighboring buildings. In addition, the project site is in a "Moderate" Fire Hazard Severity Zone, as opposed to a "High" or "Very High" Fire Hazard Severity Zone. The fire hazard severity zone classification is "based on a combination of how a fire will behave and the probability of flames and embers

[35] California Department of Toxic Substances Control. EnviroStor online database. Online at: http://www.envirostor.dtsc.ca.gov/public/. Site visited December 30, 2020.

[36] State Water Resources Control Board. Geotracker online database. Online at: http://geotracker.waterboards.ca.gov/. Site visited December 30, 2020.

threatening buildings."[37] This in turn is based on factors such as "fuel, slope, and fire weather." Fire hazard severity zones do not take into account modifications such as fuel reduction efforts.

The portion of the project site south of the railroad[38] is also in a "State Responsibility Area" (SRA), meaning that the State of California has financial responsibility for fire and fire protection. Specifically, the California Department of Forestry and Fire Protection (Cal Fire) provides fire protection on behalf of the State of California in SRAs for wildland fire. The "Moderate" Fire Hazard Severity Zone is the least hazardous classification in an SRA.

Lastly, any accidental fires that might occur from overcharging or overheating of batteries will be accounted for per the submitted fire suppression plan (see attached). See said plan for more information.

Cal Fire received a Notice of Early Consultation for this project that was circulated on October 20, 2020, and has not indicated any concerns regarding fire issues. Cal Fire will receive a copy of this initial study once it is circulated for public comment in order to express any concerns said agency may have.

For these reasons, the proposed project will have a less than significant effect in terms of its exposure of people or buildings to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Given the above considerations, the project will result in a less than significant impact on account of hazards and hazardous materials.

[37] California Department of Forestry and Fire Protection (Cal Fire). *Frequently Asked Questions: Questions About Fire Hazard Severity Zones.* Online at: http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_faqs. Site visited January 3, 2019. Site now defunct.

[38] The portion of the project site north of the railroad is in a "Local Responsibility Area."

10. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire severity zones, would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

DISCUSSION:

As stated in subsection (h) of Section 9 above, titled “Hazards and Hazardous Materials,” a portion of the proposed project is located in a “Moderate” Fire Hazard Severity Zone in a “State Responsibility Area” (SRA), meaning that the State of California has financial responsibility for fire and fire protection. Specifically, the California Department of Forestry and Fire Protection (Cal Fire) provides fire protection on behalf of the State of California in SRAs. The “Moderate” Fire Hazard Severity Zone is the least hazardous classification in an SRA. See the above subsection for more details.

(a) The proposed project would not substantially impair an adopted emergency response plan or emergency evacuation plan.

(b) The proposed project would not exacerbate wildfire risks due to slope, prevailing winds, or other factors, thereby exposing project occupants to pollution concentrations from a wildfire or the uncontrolled spread of a wildfire. There is nothing site-specific at the proposed location that would increase this risk. Slopes are flat at the project site.

(c) The proposed project would not require the installation of power lines and associated infrastructure that could exacerbate fire risk or result in temporary or ongoing substantial impacts to the environment. For this reason, the applicant has prepared a fire suppression plan, which is included with this initial study. Cal Fire Battalion Chief Mark Rotlisberger reviewed said fire suppression plan, and finds that adherence to said plan would adequately reduce any potentially significant impacts to a less than significant level.

(d) The proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. As stated in previous sections, the project site is not in a flood zone as identified by the Federal Emergency Management Agency, and the site is fairly flat.

Again, Cal Fire will receive a copy of this initial study once it is circulated for public comment in order to express any other comments they may have.

11. NOISE

Would the project result in:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

DISCUSSION:

(a-f) According to Policy 8 of the Lassen County Noise Element, 1989, "Noise produced by industrial uses shall not exceed 70 dB L_{dn}/CNEL at nearest property line." According to the applicant, because of the distance of the nearest residential area, noise levels perceived at that area would be under 60 dBA. The nearest sensitive receptors are in Herlong, approximately five miles away at the closest point.

Furthermore, according to the applicant, "[e]xcessive ground borne vibration or noise levels are not anticipated during wither construction or operation of the… project." According to

the analysis presented in the initial study presented by the applicant, “project noise levels would attenuate to 43 dBA L_{eq} at the northern parcel boundary which is approximately 50 feet from the proposed placement of air conditioning units (noise source) and 1 dBA L_{eq} at the southern boundary…” Therefore, the project would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. The project site is not within an airport land use plan nor in the vicinity of a known private airstrip. Furthermore, there is no development within several miles of the project site.

Given the above considerations, the project would at most result in a less than significant impact to the environment on account of noise issues.

12. PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☒	☐
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☒	☐

DISCUSSION:

(a)(i-v) The project will not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. Any increased fire or police protection needed is expected to be minimum.

In addition, the California Department of Forestry and Fire Protection (CalFire), which provides fire protection for the area in which the project site is in, has not indicated any concern in response to the Notice of Early Consultation that the Lassen County Department of Planning and Building Services sent by mail on October 20, 2020. Said agency will have an opportunity to provide any additional comment on this initial study during the comment period. The Lassen County Sheriff's Office did not respond to the above Notice of Early Consultation.

For the above reasons, the project will result in a less than significant effect on the environment on account of any public services that may need to be provided.

13. UTILITIES AND SERVICE SYSTEMS

Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

DISCUSSION:

(a) Waste water discharge to surface and groundwater is regulated by the Lahontan Regional Water Quality Control Board (Lahontan). Lahontan did not respond to the Notice of Early Consultation circulated by the Lassen County Department of Planning and Building Services dated October 20, 2020. However, it is reasonable to believe that the applicant will be able to comply with any of Lahontan's wastewater treatment requirements. Therefore, there are no known impacts on account of an exceedance of wastewater

treatment requirement from that board known to the Department of Planning and Building Services, and any impacts that might in fact occur would be less than significant.

(b) The proposed project will not require the construction of new wastewater treatment facilities, as the project will be unmanned. The applicant will use portable toilets during construction of the project.

(c) The proposed parcel is not in a floodplain. In addition, the applicant has proposed to prepare a Stormwater Pollution Prevention Plan, and the site is mostly flat and pervious. Any storm water drainage facilities will have at most a less than significant environmental effect.

(d) It is not believed that any water facilities would be necessary for operation of the proposed solar array and battery storage system. If for some reason the applicant were to install a well to provide water for cleaning of the facility, this would not cause a significant impact on the environment. See Section 4, titled "Hydrology and Water Quality" for more information.

(e) No wastewater treatment provider serves or will serve the project site. The project site will be unmanned during operation, and portable toilets will be used during construction.

(f) The proposed project would be served by multiple landfills with sufficient permitted capacity to accommodate the project's solid waste disposal needs. According to the California Department of Resources Recycling and Recovery's Solid Waste Information System (SWIS)[39], the nearest landfills include the Herlong Transfer Station, Sierra Army Depot, Doyle Dump, and Wendel Dump. Given the above considerations, the landfill has the capacity to serve the proposed project, and there is at most a less than significant impact related to this subsection.

(g) The project must comply with all federal, state, and local statutes and regulations related to solid waste. There has been no indication that the project is not in compliance with any such regulations. The applicant has proposed the following as a mitigation measure to address this subsection:

> *UTL-1: Employ an approved Solid Waste Diversion and Recycling Plan. Calneva BESS/PSES owners, will develop a solid waste diversion and recycling plan in accordance with AB 341 (Solid Waste Diversion), which requires industrial and commercial construction efforts to recycle fifty percent of their industrial wastes. Such a plan would be implemented in conjunction with Cal Recycle (formerly [California Integrated Waste Management Board] and [Regional Waste Management*

[39] California Department of Resources Recycling and Recovery. Solid Waste Information System (SWIS). Online at: https://www2.calrecycle.ca.gov/SolidWaste/Site/Search. Site visited on January 27, 2021.

> *Authority]. In addition, to the requirement diverting commercial and construction debris, Calneva BESS/PSES owners, will submit a Diversion Report within 30 days of completing the project to the [Regional Waste Management Authority].*

However, no evidence has been submitted to indicate that the project would not be able to comply with all federal, state, and local statutes and regulations related to solid waste; the Lassen Regional Waste Management Authority has not provided comment in regard to this project. In light of the above, then, the above mitigation measure is not necessary because no potentially significant impact that would need mitigation has been identified. Therefore, the above mitigation measure may be included as a proposed condition of approval, but not as a mitigation measure.

In addition, the Lassen Regional Waste Management Authority will receive a copy of this initial study for comment during the public comment period.

Given the above considerations, the project will result in a less than significant impact to the environment on account of utilities and service systems.

14. ENERGY

Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

DISCUSSION:

(a) The project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, either during project construction or operation. The project itself is a solar array and battery storage system. The project will have a substantial net increase in terms of the generation of power versus the energy expended to construct and operate the project. According to the applicant, the solar array would produce 50 megawatts of electricity, while the battery storage system would be capable of storing 100 megawatt hours of electricity at any one time. At most then, the project would have a less than significant impact in this sense.

(b) The project is responding to California Public Utility Commission Resolution E-4909, which, according to the applicant, "authorizes electric utilities to conduct limited solicitation for resources to fill the local deficiencies and address issues identified by the [California Independent System Operator] (CAISO)." The applicant also states that the CAISO determined "the fossil fuel peaking units will need replacement with renewable clean peaker plants to meet local capacity need in the various [sub-areas] located within the Sierra local capacity area and includes Lassen County."

The *Lassen County Energy Element, 1993* (a local plan for renewable energy or energy efficiency and part of the general plan) contains the following policies that are relevant to the project:

- *Goal 2: Energy development that minimizes land use conflicts and maximizes effective mitigation of environmental impacts to protect public health, safety, and natural resources.*

- *Goal 3: Adequate and reliable supplies of energy to Lassen County consumers at the most economic rates possible.*

- *Goal 4: Efficient utilization and management of the County's natural energy resources.*

The project does not conflict with the above policies. Any impact will at most be less than significant. Also see Section 6.6 of the draft initial study submitted by the applicant for more information.

15. AESTHETICS

Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

DISCUSSION:

(a-d) The project site is not within a "Scenic Highway Corridor" according to Figure 1-4 of the *Lassen County Energy Element, 1993*, and is in a remote part of Lassen County that does not receive much exposure. Potentially, the occasional OHV rider could happen upon the project site. In any case, the proposed project will have a less than significant effect on aesthetics and visual resources.

16. CULTURAL RESOURCES

Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

DISCUSSION:

The applicant hired Natural Investigations Company to prepare a cultural resources assessment for the proposed project. Tim Spillane of Natural Investigations Company prepared the *Cultural Resources Assessment for the Calneva Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project, Calneva, Lassen County, California.* The survey took into account information from a records search conducted by the Northeast Information Center of the California Historical Resources Information System located in Chico, CA. The records search included a review of all known cultural resources on file within a quarter-mile search radius of the project area. Also included in the review were:

- National Register of Historic Places: listed properties
- California Register of Historical Resources: listed resources
- Historic Property Data File (HPDF) for Lassen County
- Archaeological Determinations of Eligibility (ADOE)
- California Inventory of Historical Resources
- California Historical Landmarks
- California Points of Historical Interest
- 1867 GLO land plat maps of the project vicinity
- 1886 USGS Honey Lake 15-minute topographic quadrangle

Archaeologists Phil Hanes and Dylan Stapleton of Natural Investigations Company (Natural Investigations) conducted an intensive pedestrian survey of the project area, including the 278-acre solar field, battery storage and substation portion, and four-mile 69-kV Gen-Tie line along Calneva Road, between January 6 and January 9, 2020. The survey was completed using transects spaced at intervals of no greater than 15 meters apart. Visibility was excellent (75%-100%) except for the final day of the pedestrian survey, which was poor (1-25%) due to snow cover following a storm.

(a) There are no known "historical resources" at the project site as defined by CEQA (under the criteria found at Section 15064.5(a) of the 2020 CEQA Guidelines). According to said subsection 3 of that code, "Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4852)…"

According to Mr. Spillane, "Based on the research and fieldwork conducted as part of this assessment, the portion of the Calneva Station site (P-18-01698) within the Project Area appears to lack the variety of artifacts and structural remains, as well as integrity of constituents, needed to comprise a [California Register of Historical Resources]-eligible resource…"

In light of the above, the project site does not present any historical resources as defined in Section 15064.5 of the CEQA Guidelines, and therefore, the project will not have a substantial, adverse effect on any historical resources.

(b) Section 15064.5(c) of the 2020 CEQA Guidelines states that "CEQA applies to effects on archaeological sites." CEQA further distinguishes between unique and nonunique archaeological resources. As defined in Public Resources Code Section 21083.2(g), a "unique archaeological resource" is:

> *[A]n archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:*
>
> > *(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.*
> >
> > *(2) Has a special and particular quality such as being the oldest of its type or the best available of its type.*
> >
> > *(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.*

Any archaeological resource that does not meet the definition of a "unique archaeological resource" as defined above is considered a nonunique archaeological resource. Impacts to nonunique archaeological resources that are not historical resources are not considered significant impacts pursuant to Public Resources Code Section 21083.2(a) and Section 15064.5(c)(4) of the 2020 CEQA Guidelines. There are no known unique archaeological resources at the project site or any known archaeological resource that is also a historical resource as described above.

(c) There are no known unique paleontological resources or sites or unique geologic features present at the site. However, according to Natural Investigations,

> *The project Area is underlain by Early to Holocene aeolian, fluvial, and lacustrine deposits (Qhe) derived primarily from Lake Lahontan sediments. These geologic units have yielded an extensive catalog of vertebrate remains which are considered important paleontological resources for CEQA purposes. The fossil record for Lake Lahontan sediments in Lassen County indicates that the Project Area has variable sensitivity for paleontological resources ranging from low to high and increasing in depth... However, current Project construction plans do not call for excavation or grading and so ground-disturbance to these depths is not anticipated.*

Natural Investigations goes on to state, "Research indicates previously undisturbed, high sensitivity Pleistocene lacustrine sediments may be reached at depths that exceed 10 feet." The applicant does not propose to disturb ground below 10 feet. Also see subsection (d) below.

(d) The project will result in no known impact to any human remains, including those interred outside of formal cemeteries. Sections 15064.5(e) and (f) of the 2020 CEQA Guidelines require in part that steps be taken in the event of the accidental discovery of any human remains located outside of a designated cemetery, and that provisions be taken to have any accidentally discovered historical or unique archaeological resources evaluated by a qualified archaeologist, respectively.

The applicant proposes mitigation measure CR-1 to address subsections (c) and (d):

In the event that unanticipated archaeological resources should be accidentally discovered during project construction, a qualified archaeologist will be retained for evaluation of the find. If the find is determined to be a historical or unique archaeological resource, appropriate mitigation or avoidance measures will be taken in accordance with CEQA Guidelines 15064.5(f). During mitigation of unanticipated archaeological resources, it would not be necessary for work to halt in construction areas not affected by such finds. Any historically significant cultural materials discovered during project construction will be the subject of professional scientific analysis and a report to be prepared by a qualified archaeologist. In the event that such a discovery

should contain human remains, the following steps shall be taken as outlined in CEQA Guidelines 15064.5(e)(1):

(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

(A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and

(B) If the coroner determines the remains to be Native American:

1. *The coroner shall contact the Native American Heritage Commission within 24 hours.*

2. *The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.*

3. *The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating of disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in Public Resources Code Section 5097.98 or*

(2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further surface disturbance.

(A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

(B) The descendent identified fails to make a recommendation; or

(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

It has not been established that any human remains, unique paleontological resources, sites, or geologic features exist at the project site, so the above mitigation measure is not necessary, because there have not been any significant impacts to the above that would warrant mitigation. However, the above will serve as the basis for relevant conditions of approval for the project, in case any of the above are found during construction. There are no known impacts to the above resources on account of the project.

17. TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resources, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape, that is geographically defined in terms of the size and scope of the landscape, sacred place or object with cultural value to a California Native American tribe, and that is:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

(a,b) The California Native American tribes that are traditionally and culturally affiliated with the project area received the Notice of Early Consultation for this project (and tribes that have requested consultation were also consulted with pursuant to California Assembly Bill 52 [codified at Public Resources Section 21080.3.1 et seq.]), but no tribes responded to any consultation. Adequate conditions will be in place to ensure that if any such resources are found during construction or operation of the proposed charter school, the appropriate tribes will be contacted and appropriate measures will be taken. Please see Section 14 above, titled “Cultural Resources,” for more information.

18. RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

DISCUSSION:

(a,b) The proposed project will not increase the use of existing parks or recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated nor include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Any population induced on account of the proposed project is expected to be minimal.[40] Therefore, there is a less than significant impact to recreational services.

[40] Please see Section 2 of this initial study, titled "Population Growth," for more information.

19. AGRICULTURE AND FORESTRY RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220[g]), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g])?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

DISCUSSION:

(a) The subject parcels are not identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on the California Important Farmland Finder[41] of the California Department of Conservation (part of the Farmland Mapping and Monitoring Program).

(b) The subject parcels are zoned A-1 (General Agricultural District); however, the A-1 zoning district also allows for "electrical generating facilities if the produced power is intended for sale or distribution off premises…" by use permit, and therefore the project is consistent with the A-1 district (see Section 1, titled "Land Use and Planning" for more information). Additionally, the subject parcels are not in a Williamson Act contract. Therefore, the proposed project will not conflict with the existing zoning for agricultural use.

(c, d) The subject parcel does not contain any timberland or forest land as defined by Public Resources Code Section 12220(g) or Public Resources Code Section 4526, nor any timberland zoned Timberland Production as defined by Government Code Section 51104(g).

(e) The proposed project will not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use (See subsections "a" "b" above).

[41] California Department of Conservation. California Important Farmland Finder. Online at: https://maps.conservation.ca.gov/DLRP/CIFF/. Site visited on February 8, 2021.

20. GREENHOUSE GAS EMISSIONS

Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

DISCUSSION:

(a) Construction of the proposed project would result in a temporary increase in greenhouse gas emissions from construction equipment and vehicle trips during operation. However, according to the applicant, the proposed project will serve as "a replacement power source for existing thermal power plants currently servicing the electrical grid, [and] will only serve to reduce [greenhouse gas] emissions." Therefore, greenhouse gas emissions due to vehicle emissions will be less than significant, and greenhouse gases overall statewide may in fact decrease on account of the project.

(b) The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The applicant states that "The [proposed]… project will help improve efficiency on the electric grid and provide an additional source of zero emissions, renewable energy, thus helping to achieve statewide [greenhouse gas] emission targets." Additionally, there are no thresholds of significance for the Northeast Plateau Air Basin.

Given the above considerations, the project will result in a less than significant impact to greenhouse gas emissions.

21. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

DISCUSSION:

(a) The project has the potential to degrade the quality of the environment; however, given the information and analysis provided in this initial study, including the relevant mitigation measures above, any such degradation will have a less than significant effect.

(b) Any cumulative effect resulting from the project will be less than significant based on the analysis above.

(c) The project will not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly, based on the analysis above.

ATTACHMENT 1

RECEIVED

JUN 10 2020

LASSEN COUNTY DEPARTMENT OF PLANNING AND BUILDING SERVICES

USE PERMIT APPLICATION

FILING FEE: CLASS 1 $397 CLASS 2 $571 CLASS 3 $2,381
DEPARTMENT OF PLANNING AND BUILDING SERVICES
707 Nevada Street, Suite 5 · Susanville, CA 96130-3912
(530) 251-8269 · (530) 251-8373 (fax)
www.co.lassen.ca.us

Form must be typed or printed clearly in black or blue ink. All sections must be completed in full.
This application consists of one page; only attach additional sheets if necessary.

FILE NO. UP #2020-004

Property Owner/s	**Property Owner/s**
Name: Dr. Charles Hooper	Name:
Mailing Address: 11242 Clinton Bar Road	Mailing Address:
City, ST, Zip: Pine Grove, CA 95665	City, ST, Zip:
Telephone: (530) 514-0135 Fax:	Telephone: Fax:
Email: chooper714@aol.com	Email:

Applicant/Authorized Representative*	**Agent (Land Surveyor/Engineer/Consultant)**
Same as above: [X]	Correspondence also sent to: [X]
Name:	Name: Brent Moore, Sierra Geotech, DBE, Inc.
Mailing Address:	Mailing Address: 2250 Sierra Meadows Drive, Suite A
City, ST, Zip:	City, ST, Zip: Rocklin, CA 95677
Telephone: Fax:	Telephone: (916)712-9707 Fax:
Email:	Email: Brent@sierrageotech.com License #:

Project Address or Specific Location: Approx. 4 miles north of Calneva Rd./Fort Sage Rd. intersection on the east side of Calneva Road			
Deed Reference: Book:	Page:	Year: 2019	Doc#: 04720
Zoning: General Agricultural (A-1)		**General Plan Designation:** Extensive Agriculture	
Parcel Size (acreage): +/- 278		Section: 36	Township: 27 North Range: 17 East

Assessor's Parcel Number(s):	137 - 170 - 12	137 - 170 - 13	- -
- -	- -	- -	- -

Project Description: The Calneva Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project would be a nominal 50-megawatt (MW) solar photovoltaic (PV) power facility, related substation, with an integrated battery energy storage system (BESS). The BESS would store 25 megawatts (MW) or 100 MW hours of electricity, to provide renewable energy and critically needed flexibility attributes needed to advance California's and Nevada's Renewable Portfolio Standard (RPS) goals, climate policies, and to enhance electrical grid reliability.

SIGNATURE OF PROPERTY OWNER(S): I HEREBY ACKNOWLEDGE THAT: I have read this application and state that the information given is both true and correct to the best of my knowledge. I agree to comply with all County ordinances and State laws concerning this application.	***SIGNATURE OF APPLICANT/AUTHORIZED REPRESENTATIVE** (Representative may sign application on behalf of the property owner only if Letter of Authorization from the owner/s is provided).
Dr. Charles Hooper Date: 4/13/2020	Date:
Date:	Date:

See associated process form for required attachments and instructions.

PL\Forms\Bones\Planning\Use Permit App02/06/2012

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JUN 10 2020
LASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES

USE PERMIT PROJECT DETAIL SUPPLEMENT

DEPARTMENT OF PLANNING AND BUILDING SERVICES
707 Nevada Street, Suite 5 · Susanville, CA 96130-3912
(530) 251-8269 · (530) 251-8373 {fax}
www.co.lassen.ca.us

FILE NO._____

Form must be typed or printed clearly in black or blue ink. This supplement consists of three pages.
Please complete the following application supplement and attach to the Use Permit Application. Answer all questions that are related to the proposed use.

1. Proposed timeframe for the project and completion of each major phase (i.e., when structures and improvements will be completed): Project Construction, Start Up and Operations is programmed over a six (6) month period. See Initial Study/Mitigated Negative Declaration, Chapter 3 "Project Description for more details regarding construction, start-up and operations schedules.

2. Existing use of property: Undeveloped open rangeland, See Chapter 6.11 Land Use Planning of the Initial Study/Mitigated Negative Declaration for more details.

3. Describe adjoining land uses (e.g., residential, commercial, agricultural, etc.). Please be as specific as possible.

   North: Undeveloped Open Rangeland

   South: Undeveloped Open Rangeland

   East: Undeveloped Open Rangeland

   West: Undeveloped Open Rangeland

4. Hours of proposed operation: 24 hours per day, seven days per week of operation: _____

5. Number of shifts: 0/Unmanned Facility Number of employees: 0 on site

6. Number of deliveries or pick-ups: 0 per day 0 per week

7. Number of visitors/customers: 0 per day 0 per week

8. Will the project increase noise levels in the immediate area? ☐ Yes X No
   If yes, anticipated noise levels in decibels at: See Noise Analysis in Initial Study/Mitigated Negative Declaration for Details.

   50 feet_____ 100 feet_____ Property Line_____

9. Describe existing structures and improvements to be used in conjunction with the proposed use, including their floor area: See Table 6.11-2: BESS/PSES Facility Component Dimensions for full details. Total floor area of all BESS/PSES components is 3,416,905. Which include Battery Storage System Enclosures, Power concrete slabs, Conversion Systems, Distribution Center, 2032 KVa Pad, Mounted Transfomer, Power Inverter pad – Mounted, Pad Mounted Switchgear, PV Modules, Inverter Skids, Steel

Support Dead-End Structures, and Cable Trench.

10. Maximum height (in feet) of existing structures: 0

11. Maximum height (in feet) of proposed structures: 60 feet Distribution Power Poles

12. Describe any existing structures to be removed: None

13. Describe proposed structures and improvements (e.g., buildings, parking, roads, and sewer services, etc.). Please include dimensions and floor area: Please see Initial Study Mitigated Negative Declaration for full details in Chapter 3 "Project Description. Calneva BESS/PSES project would comprise the following project components located within an approximate footprint of 278 acres: • Approximately 143,000 to 163,000 solar PV modules • A single axis track system • Electrical inverters and transformers • Battery energy storage system (BESS) - thirty (30) battery storage enclosures (i.e., 25 MW of power) store up to 25 megawatts (MW) or 100 megawatt hours (MWh) of electricity for dispatch - BESS power inverters, transformers switches, MV switchgear, SCADA enclosure, • On-site electrical substation • Meteorological stations • Remote monitoring system (SCADA) • Site access roads and maintenance access roads • Security fencing • Gen-Tie line structures to interconnect with the PSREC 120kV transmission line south of the site and • Gen-Tie Laydown Area. These components are described in more detail in Chapter 3 "Project Description" of the Initial Study/Mitigated Negative Declaration. The proposed BESS/PSES layout plan is shown on Figure 3.9-1: *Calneva BESS/PSES Layout Plan.* A typical BESS/PSES module elevation are shown in the following figures: Figure 3.9-2: *Elevation Views (Conceptual Artistic Renderings);* Figure 3.9-3: *Conceptual Artistic Renderings (Isometric Views*); Figure 3.9-4: *Conceptual Artistic Renderings (Isometric Views);* Figure 3.9-5: *Conceptual Artistic Renderings (Isometric Views);* Figure 3.9-6: *Conceptual Artistic Renderings (Isometric Views);* Figure 3.9-7: *Conceptual Artistic Renderings (Isometric Views).*

14. Describe the topography and physical environment at and surrounding the project site: Please see Initial Study/Mitigated Negative Declaration. The terrain is primarily flat (0-2 percent slopes) throughout the entire proposed project lease area with an approximate elevation above sea level (asl) on the northwest corner of the BESS/PSES project lease area at 4006 feet and then experiencing a very slight slope to the east/southeast toward the Nevada State border where the elevation is approximately 4,000 feet asl on the BESS/PSES project eastern boundary. The railroad tracks which bisect the proposed project lease area in half has an elevation of approximately 4012 feet asl. (See *Figure 3.8-1: Project Setting*, shows the surrounding land uses) Photographs of the view of the proposed project lease area are provided in *Figure 3.8-2: Views of Lease Area/Project Area Photo Log*, of the Initial Study/Mitigated Negative Declaration.

15. Describe proposed exterior lighting, including location (attach lighting diagram if applicable): All lighting for the proposed Calneva BESS/PSES project would be designed so that it does not adversely impact adjacent areas. Exterior lighting will be designed with shields and light directed only onto the BESS/PSES facilities. Only lighting that is necessary for safety and operation purposes will remain on at night. See Initial Study/Mitigated Negative Declaration for more details.

16. Will the project include or result in grading, including anticipated grading at project buildout?

Due to the level topography of the proposed project lease area, no formal grading will be required. Earthwork will be limited to excavation of soil for pervious concrete slab, piles, conduit banks, transmission utility poles, steel support dead-end structures, and this soil material will be kept on-site.

X Yes ☐ **No** If yes, approximate total surface area to be disturbed by site grading: _____sq.ft. or_____acres

Quantity of cut:_____cubic yards Quantity of fill:_____cubic yards

17. Percentage of site to be covered by impervious surfaces (e.g., roads, driveways, and structures), including estimated impervious surfaces at project buildout: The proposed Calneva BESS/PSES project would create minor additional impervious surfaces, such as the battery storage enclosures and the PCS and the medium voltage control system pads. Water from the impervious areas of the proposed BESS/PSES facility will move to pervious areas. Within pervious areas of the BESS/PSES facility stormwater would be expected to largely infiltrate or evaporate.

18. Number of existing parking spaces: **0** employee 0 customer

Number of proposed parking spaces: **0** employee 0 customer

Describe surfacing of parking area: gravel

Please attach a parking plan showing existing and proposed parking facilities.

19. Please attach a detailed plot plan, drawn to scale, showing all existing and proposed improvements. See attachment.

20. For commercial, industrial and institutional developments, please attach a landscaping plan. See Attachement

21. Please indicate how the following services will be provided to serve the project, including name of the service provider:

Electricity: **Plumas-Sierra Rural Electric Coop** Underground ☐ Overhead X

Telephone: **None** Underground ☐ Overhead ☐

Water Supply: Existing Well ☐ New Well(s) ☐ Community Water ☐

Other ☐ None

Sewage Disposal: Individual Septic System ☐ Community Sewer ☐ Shared Septic System ☐

None

If **individual septic systems are proposed, has soil testing been performed to determine soil suitability?** ☐ **Yes** ☐ **No** If yes, please attach

Solid Waste Disposal: C&S Waste Solutions

LP/Natural Gas: None

If **an extension of utility lines is necessary, indicate which services and the distance of the extension: Distribution Interconnect Line on Calneva Road approximately 4 miles**

22P.lease provide the names of the following districts, if applicable:

High School: Herlong High School

Elementary School: Sierra View Primary

Fire Protection: Doyle Fire Protection District

Community Services District: N/A

Water:N/A

Sewer:N/A

Other:

23List all county, state, regional or federal agencies from which a permit or approval is or may be required, including type of permit required: Lassen County Building Permit, Lassen County Grading Permit, State Water Resources Control Board: General Industrial Activity Stormwater Permit, Construction Activity Stormwater General Permit, Regional Water Quality Control Board, Lahontan Region NPDES permit, Lassen County Encroachment Permit, Lassen County Conditional Use Permit. See Initial Study/Mitigated Negative Declaration for complete details of all permits.

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JUN 10 2020

LASSEN COUNTY DEPARTMENT OF PLANNING AND BUILDING SERVICES

Initial Study Application

FILING FEE: $611.00

DEPARTMENT OF PLANNING AND BUILDING SERVICES
707 Nevada Street, Suite 5 · Susanville, CA 96130-3912
(530) 251-8269 · (530) 251-8373 (fax)
www.co.lassen.ca.us

IS #2020-001

Form must be typed or printed clearly in black or blue ink. All sections must be completed in full.
This application consists of one page; only attach additional sheets if necessary. FILE NO. UP #2020-004

Property Owner/s	Property Owner/s
Name: Dr. Charles Hooper	Name:
Mailing Address: 11242 Clinton Bar Road	Mailing Address:
City, ST, Zip: Pine Grove, CA 95665	City, ST, Zip:
Telephone: (530) 514-0135 Fax:	Telephone: Fax:
Email: chooper714@aol.com	Email:

Applicant/Authorized Representative*	Agent (Land Surveyor/Engineer/Consultant)
Same as above: [X]	Correspondence also sent to: [X]
Name:	Name: Brent Moore, Sierra Geotech, DBE, Inc.
Mailing Address:	Mailing Address: 2250 Sierra Meadows Drive, Suite A
City, ST, Zip:	City, ST, Zip: Rocklin, CA 95677
Telephone: Fax:	Telephone: (916)712-9707 Fax:
Email:	Email: Brent@sierrageotech.com License #:

Project Address or Specific Location: Approx. 4 miles north of Calneva Rd./Fort Sage Rd. intersection on the east side of Calneva Road			
Deed Reference: Book:	Page:	Year: 2019	Doc#: 04720
Zoning: General Agricultural (A-1)		**General Plan Designation:** Extensive Agriculture	
Parcel Size (acreage): +/- 278		Section: 36	Township: 27 North Range: 17 East

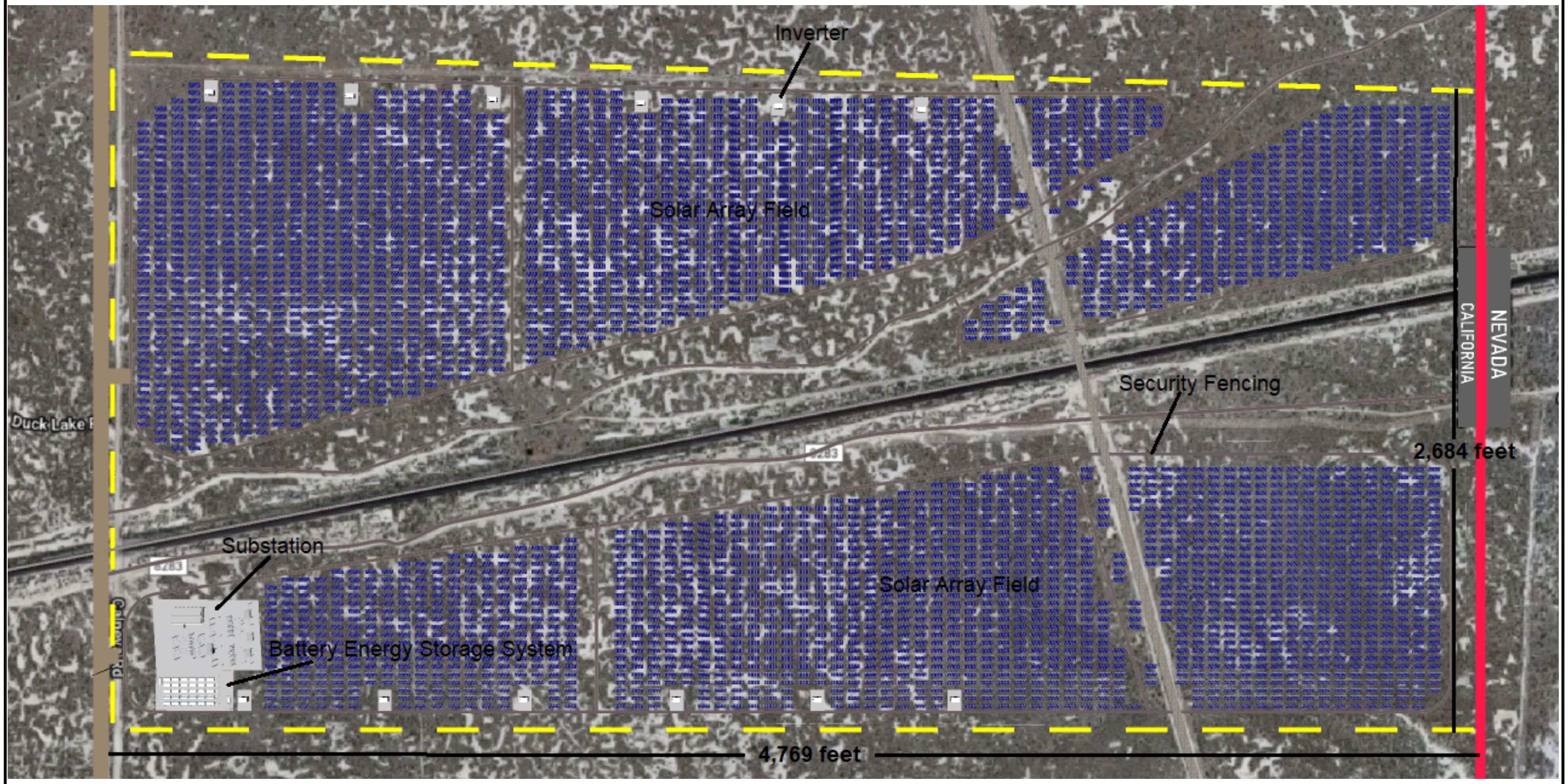
Assessor's Parcel Number(s):	137 - 170 - 12	137 - 170 - 13	- -
- -	- -	- -	- -

Project Description: The Calneva Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project would be a nominal 50-megawatt (MW) solar photovoltaic (PV) power facility, related substation, with an integrated battery energy storage system (BESS). The BESS would store 25 megawatts (MW) or 100 MW hours of electricity, to provide renewable energy and critically needed flexibility attributes needed to advance California's and Nevada's Renewable Portfolio Standard (RPS) goals, climate policies, and to enhance electrical grid reliability.

SIGNATURE OF PROPERTY OWNER(S): I HEREBY ACKNOWLEDGE THAT: I have read this application and state that the information given is both true and correct to the best of my knowledge. I agree to comply with all County ordinances and State laws concerning this application.	*SIGNATURE OF APPLICANT/AUTHORIZED REPRESENTATIVE (Representative may sign application on behalf of the property owner only if Letter of Authorization from the owner/s is provided).
Dr. Charles Hooper Date: 4/13/2020	Date:
Date:	Date:

PL\Forms\Bones\Planning\Initial Study App7/30/15

ATTACHMENT 2



Scale: 1" = 475'

PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

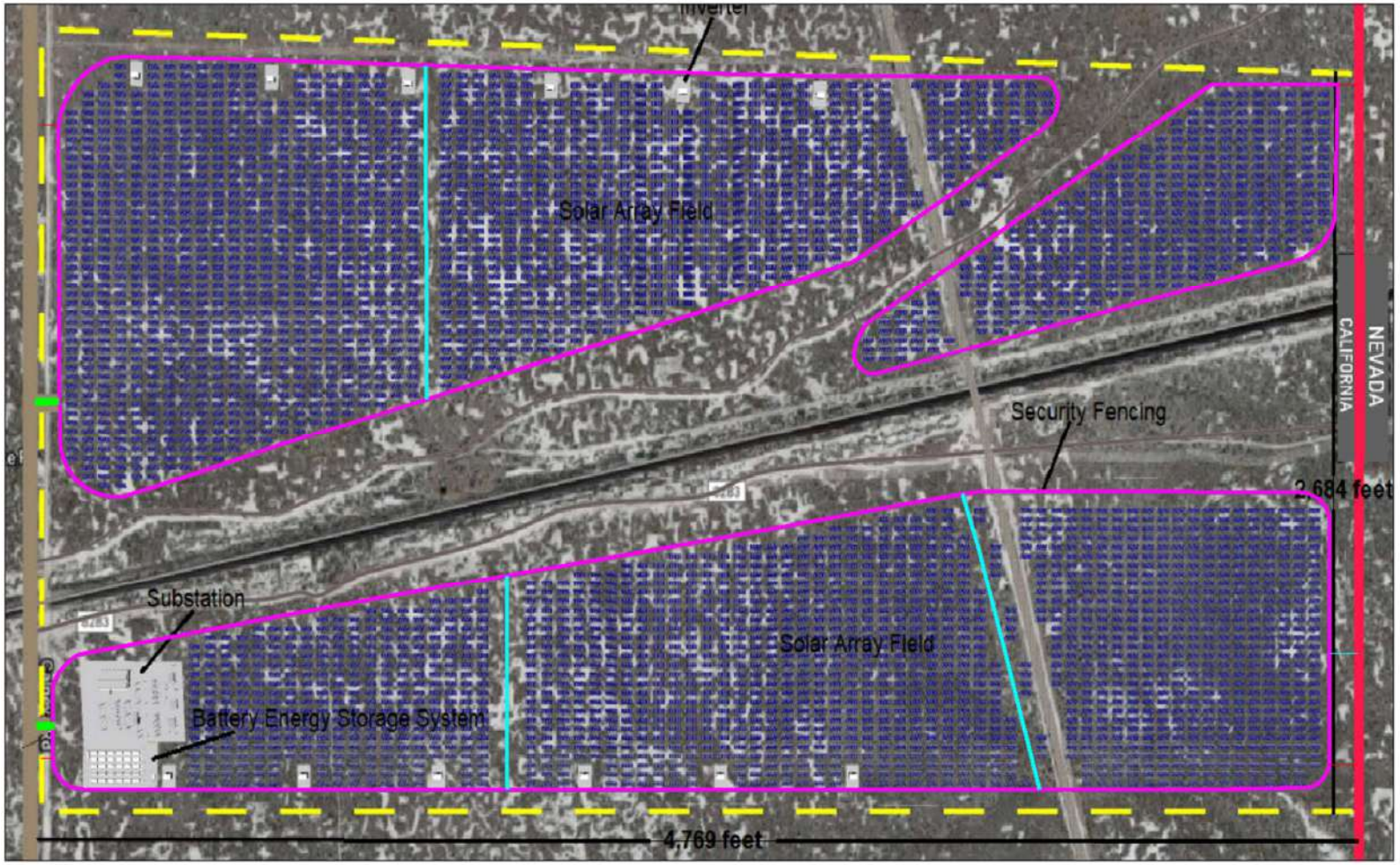
REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

FIGURE: Layout Plan

DATE: 04-09-2020	SCALE: As noted above (11"x17")
BY: AKM	FIGURE: 3.9-1

DocuSign Envelope ID: BC507466-8350-4EE2-95DE-6074A1C6C517

Response #4 - Attachment 1



Perimeter Roads

Internal Access Roads

Entrance/Exit Road



PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

N W E S

FIGURE: Gen-Tie Line Interconnection Route and PSREC Intertie Location

DATE: 04-09-2020	SCALE: As Shown
BY: AKM	FIGURE: 3.9-8

SIERRA GEOTECH

ATTACHMENT 3

County of Lassen
Department of Planning and Building Services
• Planning • Building Permits • Code Enforcement • Surveyor • Surface Mining

Maurice L. Anderson, *Director*
707 Nevada Street, Suite 5
Susanville, CA 96130-3912
Phone: 530 251-8269
Fax: 530 251-8373
email: landuse@co.lassen.ca.us
website: www.co.lassen.ca.us

Zoning & Building
Inspection Requests
Phone: 530 257-5263

October 20, 2020

NOTICE OF EARLY CONSULTATION

Applicant/Owner: Charles Hooper

File No.: Use Permit #2020-004, Initial Study #2020-001, Hooper

Project: Proposal to construct a 50-megawatt photovoltaic solar array and a battery energy storage system (BESS) that would store 25 megawatts or 100 megawatt hours of electricity, along with related infrastructure. Such infrastructure would include a substation, a dead-end tower up to 90 feet tall, 24 130-foot tall steel gen-tie line poles to interconnect with the Plumas-Sierra Rural Electric 120-kV transmission line approximately 3 miles south of the project site, access roads, and perimeter fencing. The project has an approximate footprint of 278 acres, not including the proposed gen-tie lines. The subject parcels are zoned A-1 (General Agricultural District) and have an "Extensive Agriculture" land use designation in the *Lassen County General Plan, 2000*.

Location: The subject parcels are located approximately nine miles northeast of Herlong off of Calneva Road, adjacent to the Nevada Border, and do not have addresses.

A.P.N.s: 137-170-12 and 137-170-13

Staff Contact: Stefano Richichi, Senior Planner

The project described above is being referred to your agency for early consultation to obtain comments concerning potentially significant impacts which could result from project approval and development. The information provided by your agency will assist Lassen County in determining whether a Negative Declaration or Environmental Impact Report should be prepared as the appropriate environmental document for the project.

Attached with this letter are the use permit application, the initial study application, a plot plan, and a vicinity map that depicts the location of the project. Graphics and other supporting material, including a fire suppression plan prepared for this project, are available through this Department upon request, as well as at the following link: http://www.lassencounty.org/dept/planning-and-building-services/meeting-agendas-packets-and-noticing.

Comments submitted by your agency should focus on the potentially significant project-related impacts that are within your agency's jurisdiction and area of expertise. In addition to commenting on the significance of potential impacts, you are encouraged to suggest any known mitigation measures

which would reduce such impacts to a less than significant level. You are also encouraged to make recommendations regarding any additional studies or other information that may be needed to accurately determine the significance of project impacts and/or appropriate mitigation measures.

In order to ensure that your comments are considered prior to determining whether a Negative Declaration or Environmental Impact Report is required for this project, your comments will need to be received by this office no later than Friday, November 13, 2020.

If you have any questions concerning the project, please contact Stefano Richichi, Senior Planner, at (530) 251-8269 or at srichichi@co.lassen.ca.us.

Sincerely,

Maurice L. Anderson,
Environmental Review Officer

MLA:smr
Enclosures:
Use Permit Application #2020-004
Initial Study Application #2020-001
Plot Plan
Vicinity Map

Distribution: Supervisor Hammond (5); Charles Hooper (Property Owner); Brent Moore, Sierra Geotetch, Inc. (Agent); Co. Assessor's Office; Co. Building Official; Co. Fire Warden/CAL FIRE; Co. Environmental Health Dept.; Co. Public Works; Co. Public Works/Road Div.; Co. Public Works/Transportation; Sheriff; Lahontan RWQCB; Dept. of Water Resources (DWR); Dept. of Fish & Wildlife: (Redding/Wendel); CA Energy Commission; CA Public Utilities Commission; Bureau of Land Management-Susanville; Caltrans, District 2; State Clearinghouse; Pit River Tribe of California; Greenville Rancheria of Maidu Indians; Susanville Indian Rancheria; Honey Lake Maidu; Washoe Tribe of Nevada and California; Co. Air Pollution Control Officer; Fort Sage Unified School District; Plumas-Sierra REC; Lassen Municipal Utility District; Union Pacific Railroad.

S:/PLA:/Planning/2019/UP #2020-004, Hooper/Initial Study/Notice of Early Consultation

USE PERMIT APPLICATION

FILING FEE: CLASS 1 $397 CLASS 2 $571 CLASS 3 $2,381
DEPARTMENT OF PLANNING AND BUILDING SERVICES
707 Nevada Street, Suite 5 · Susanville, CA 96130-3912
(530) 251-8269 · (530) 251-8373 (fax)
www.co.lassen.ca.us

RECEIVED
JUN 10 2020
LASSEN COUNTY DEPARTMENT OF PLANNING AND BUILDING SERVICES

Form must be typed or printed clearly in black or blue ink. All sections must be completed in full.
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Property Owner/s	**Property Owner/s**
Name: Dr. Charles Hooper	Name:
Mailing Address: 11242 Clinton Bar Road	Mailing Address:
City, ST, Zip: Pine Grove, CA 95665	City, ST, Zip:
Telephone: (530) 514-0135 Fax:	Telephone: Fax:
Email: chooper714@aol.com	Email:

Applicant/Authorized Representative*	**Agent (Land Surveyor/Engineer/Consultant)**
Same as above: [X]	Correspondence also sent to: [X]
Name:	Name: Brent Moore, Sierra Geotech, DBE, Inc.
Mailing Address:	Mailing Address: 2250 Sierra Meadows Drive, Suite A
City, ST, Zip:	City, ST, Zip: Rocklin, CA 95677
Telephone: Fax:	Telephone: (916)712-9707 Fax:
Email:	Email: Brent@sierrageotech.com License #:

Project Address or Specific Location: Approx. 4 miles north of Calneva Rd./Fort Sage Rd. intersection on the east side of Calneva Road			
Deed Reference: Book:	Page:	Year: 2019	Doc#: 04720
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Assessor's Parcel Number(s):	137 - 170 - 12	137 - 170 - 13	- -
- -	- -	- -	- -

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SIGNATURE OF PROPERTY OWNER(S): I HEREBY ACKNOWLEDGE THAT: I have read this application and state that the information given is both true and correct to the best of my knowledge. I agree to comply with all County ordinances and State laws concerning this application.	***SIGNATURE OF APPLICANT/AUTHORIZED REPRESENTATIVE** (Representative may sign application on behalf of the property owner only if Letter of Authorization from the owner/s is provided).
Dr Charles Hooper Date: 4/13/2020	Date:
Date:	Date:

See associated process form for required attachments and instructions.

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LASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES

USE PERMIT PROJECT DETAIL SUPPLEMENT

DEPARTMENT OF PLANNING AND BUILDING SERVICES
707 Nevada Street, Suite 5 · Susanville, CA 96130-3912
(530) 251-8269 · (530) 251-8373 {fax}
www.co.lassen.ca.us

FILE NO._____

Form must be typed or printed clearly in black or blue ink. This supplement consists of three pages.
Please complete the following application supplement and attach to the Use Permit Application. Answer all questions that are related to the proposed use.

1. Proposed timeframe for the project and completion of each major phase (i.e., when structures and improvements will be completed): Project Construction, Start Up and Operations is programmed over a six (6) month period. See Initial Study/Mitigated Negative Declaration, Chapter 3 "Project Description for more details regarding construction, start-up and operations schedules.

2. Existing use of property: Undeveloped open rangeland, See Chapter 6.11 Land Use Planning of the Initial Study/Mitigated Negative Declaration for more details.

3. Describe adjoining land uses (e.g., residential, commercial, agricultural, etc.). Please be as specific as possible.

   North: Undeveloped Open Rangeland

   South: Undeveloped Open Rangeland

   East: Undeveloped Open Rangeland

   West: Undeveloped Open Rangeland

4. Hours of proposed operation: 24 hours per day, seven days per week of operation: _____

5. Number of shifts: 0/Unmanned Facility Number of employees: 0 on site

6. Number of deliveries or pick-ups: 0 per day 0 per week

7. Number of visitors/customers: 0 per day 0 per week

8. Will the project increase noise levels in the immediate area? ☐ Yes X No
   If yes, anticipated noise levels in decibels at: See Noise Analysis in Initial Study/Mitigated Negative Declaration for Details.

   50 feet_____ 100 feet_____ Property Line_____

9. Describe existing structures and improvements to be used in conjunction with the proposed use, including their floor area: See Table 6.11-2: BESS/PSES Facility Component Dimensions for full details. Total floor area of all BESS/PSES components is 3,416,905. Which include Battery Storage System Enclosures, Power concrete slabs, Conversion Systems, Distribution Center, 2032 KVa Pad, Mounted Transfomer, Power Inverter pad – Mounted, Pad Mounted Switchgear, PV Modules, Inverter Skids, Steel

Support Dead-End Structures, and Cable Trench.

10. Maximum height (in feet) of existing structures: 0

11. Maximum height (in feet) of proposed structures: 60 feet Distribution Power Poles

12. Describe any existing structures to be removed: None

13. Describe proposed structures and improvements (e.g., buildings, parking, roads, and sewer services, etc.). Please include dimensions and floor area: Please see Initial Study Mitigated Negative Declaration for full details in Chapter 3 "Project Description. Calneva BESS/PSES project would comprise the following project components located within an approximate footprint of 278 acres: • Approximately 143,000 to 163,000 solar PV modules • A single axis track system • Electrical inverters and transformers • Battery energy storage system (BESS) - thirty (30) battery storage enclosures (i.e., 25 MW of power) store up to 25 megawatts (MW) or 100 megawatt hours (MWh) of electricity for dispatch - BESS power inverters, transformers switches, MV switchgear, SCADA enclosure, • On-site electrical substation • Meteorological stations • Remote monitoring system (SCADA) • Site access roads and maintenance access roads • Security fencing • Gen-Tie line structures to interconnect with the PSREC 120kV transmission line south of the site and • Gen-Tie Laydown Area. These components are described in more detail in Chapter 3 "Project Description" of the Initial Study/Mitigated Negative Declaration. The proposed BESS/PSES layout plan is shown on Figure 3.9-1: *Calneva BESS/PSES Layout Plan.* A typical BESS/PSES module elevation are shown in the following figures: Figure 3.9-2: *Elevation Views (Conceptual Artistic Renderings);* Figure 3.9-3: *Conceptual Artistic Renderings (Isometric Views*); Figure 3.9-4: *Conceptual Artistic Renderings (Isometric Views);* Figure 3.9-5: *Conceptual Artistic Renderings (Isometric Views);* Figure 3.9-6: *Conceptual Artistic Renderings (Isometric Views);* Figure 3.9-7: *Conceptual Artistic Renderings (Isometric Views).*

14. Describe the topography and physical environment at and surrounding the project site: Please see Initial Study/Mitigated Negative Declaration. The terrain is primarily flat (0-2 percent slopes) throughout the entire proposed project lease area with an approximate elevation above sea level (asl) on the northwest corner of the BESS/PSES project lease area at 4006 feet and then experiencing a very slight slope to the east/southeast toward the Nevada State border where the elevation is approximately 4,000 feet asl on the BESS/PSES project eastern boundary. The railroad tracks which bisect the proposed project lease area in half has an elevation of approximately 4012 feet asl. (See *Figure 3.8-1: Project Setting*, shows the surrounding land uses) Photographs of the view of the proposed project lease area are provided in *Figure 3.8-2: Views of Lease Area/Project Area Photo Log*, of the Initial Study/Mitigated Negative Declaration.

15. Describe proposed exterior lighting, including location (attach lighting diagram if applicable): All lighting for the proposed Calneva BESS/PSES project would be designed so that it does not adversely impact adjacent areas. Exterior lighting will be designed with shields and light directed only onto the BESS/PSES facilities. Only lighting that is necessary for safety and operation purposes will remain on at night. See Initial Study/Mitigated Negative Declaration for more details.

16. Will the project include or result in grading, including anticipated grading at project buildout?

Due to the level topography of the proposed project lease area, no formal grading will be required. Earthwork will be limited to excavation of soil for pervious concrete slab, piles, conduit banks, transmission utility poles, steel support dead-end structures, and this soil material will be kept on-site.

X Yes ☐ **No** If yes, approximate total surface area to be disturbed by site grading: _____sq.ft. or_____acres

Quantity of cut:_____cubic yards Quantity of fill:_____cubic yards

17. Percentage of site to be covered by impervious surfaces (e.g., roads, driveways, and structures), including estimated impervious surfaces at project buildout: The proposed Calneva BESS/PSES project would create minor additional impervious surfaces, such as the battery storage enclosures and the PCS and the medium voltage control system pads. Water from the impervious areas of the proposed BESS/PSES facility will move to pervious areas. Within pervious areas of the BESS/PSES facility stormwater would be expected to largely infiltrate or evaporate.

18. Number of existing parking spaces: **0** employee 0 customer

Number of proposed parking spaces: **0** employee 0 customer

Describe surfacing of parking area: gravel

Please attach a parking plan showing existing and proposed parking facilities.

19. Please attach a detailed plot plan, drawn to scale, showing all existing and proposed improvements. See attachment.

20. For commercial, industrial and institutional developments, please attach a landscaping plan. See Attachement

21. Please indicate how the following services will be provided to serve the project, including name of the service provider:

Electricity: **Plumas-Sierra Rural Electric Coop** Underground ☐ Overhead X

Telephone: **None** Underground ☐ Overhead ☐

Water Supply: Existing Well ☐ New Well(s) ☐ Community Water ☐

Other ☐ None

Sewage Disposal: Individual Septic System ☐ Community Sewer ☐ Shared Septic System ☐

None

If **individual septic systems are proposed, has soil testing been performed to determine soil suitability?** ☐ **Yes** ☐ **No** If yes, please attach

Solid Waste Disposal: C&S Waste Solutions

LP/Natural Gas: None

If **an extension of utility lines is necessary, indicate which services and the distance of the extension: Distribution Interconnect Line on Calneva Road approximately 4 miles**

22P.lease provide the names of the following districts, if applicable:

High School: Herlong High School

Elementary School: Sierra View Primary

Fire Protection: Doyle Fire Protection District

Community Services District: N/A

Water:N/A

Sewer:N/A

Other:

23List all county, state, regional or federal agencies from which a permit or approval is or may be required, including type of permit required: Lassen County Building Permit, Lassen County Grading Permit, State Water Resources Control Board: General Industrial Activity Stormwater Permit, Construction Activity Stormwater General Permit, Regional Water Quality Control Board, Lahontan Region NPDES permit, Lassen County Encroachment Permit, Lassen County Conditional Use Permit. See Initial Study/Mitigated Negative Declaration for complete details of all permits.

RECEIVED

JUN 10 2020

LASSEN COUNTY DEPARTMENT OF PLANNING AND BUILDING SERVICES

Initial Study Application

FILING FEE: $611.00

DEPARTMENT OF PLANNING AND BUILDING SERVICES
707 Nevada Street, Suite 5 · Susanville, CA 96130-3912
(530) 251-8269 · (530) 251-8373 (fax)
www.co.lassen.ca.us

IS #2020-001

Form must be typed or printed clearly in black or blue ink. All sections must be completed in full.
This application consists of one page; only attach additional sheets if necessary. FILE NO. UP #2020-004

Property Owner/s	Property Owner/s
Name: Dr. Charles Hooper	Name:
Mailing Address: 11242 Clinton Bar Road	Mailing Address:
City, ST, Zip: Pine Grove, CA 95665	City, ST, Zip:
Telephone: (530) 514-0135 Fax:	Telephone: Fax:
Email: chooper714@aol.com	Email:

Applicant/Authorized Representative*	Agent (Land Surveyor/Engineer/Consultant)
Same as above: [X]	Correspondence also sent to: [X]
Name:	Name: Brent Moore, Sierra Geotech, DBE, Inc.
Mailing Address:	Mailing Address: 2250 Sierra Meadows Drive, Suite A
City, ST, Zip:	City, ST, Zip: Rocklin, CA 95677
Telephone: Fax:	Telephone: (916)712-9707 Fax:
Email:	Email: Brent@sierrageotech.com License #:

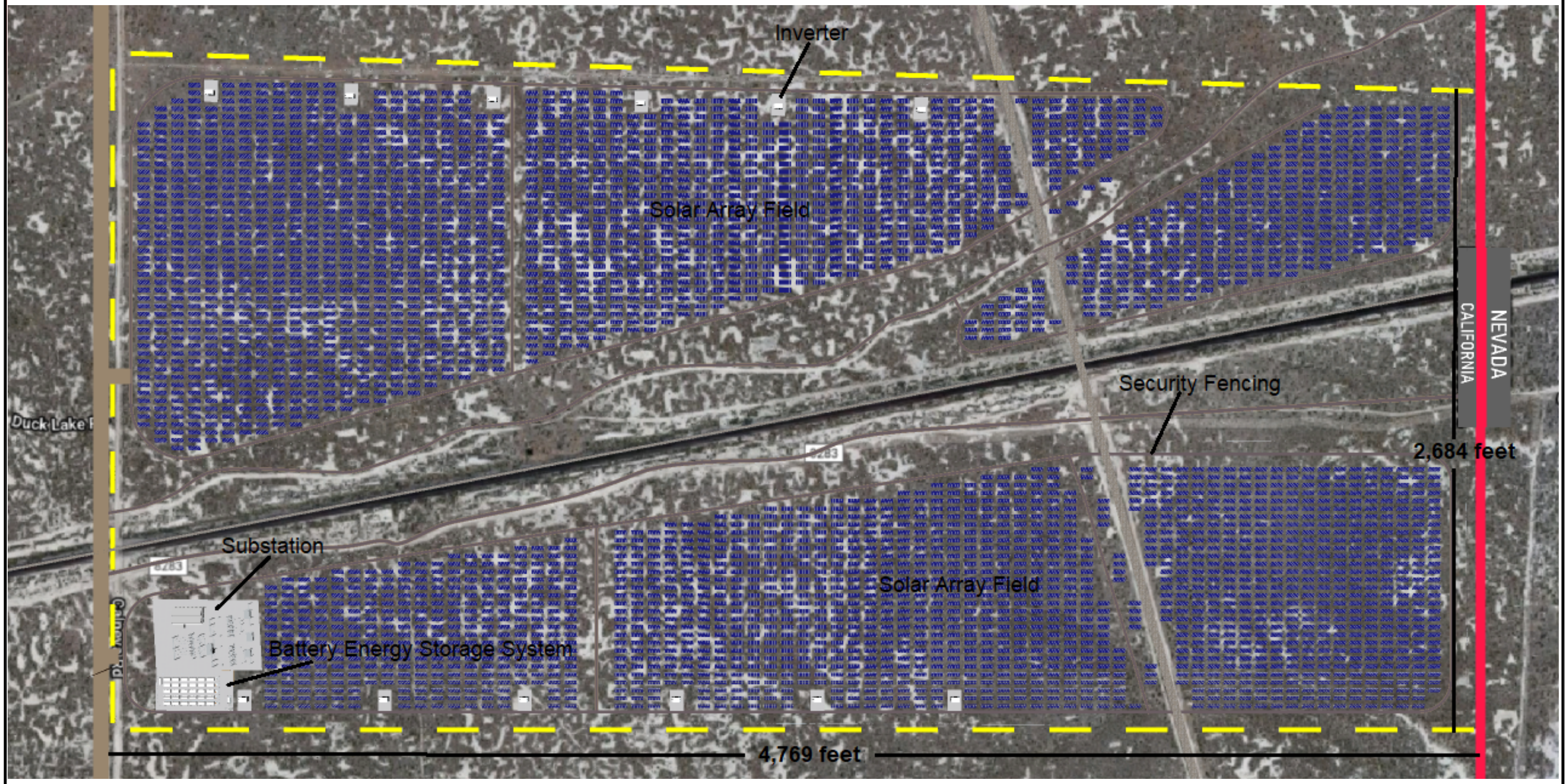
Project Address or Specific Location: Approx. 4 miles north of Calneva Rd./Fort Sage Rd. intersection on the east side of Calneva Road			
Deed Reference: Book:	Page:	Year: 2019	Doc#: 04720
Zoning: General Agricultural (A-1)		**General Plan Designation:** Extensive Agriculture	
Parcel Size (acreage): +/- 278		Section: 36	Township: 27 North Range: 17 East

Assessor's Parcel Number(s):	137 - 170 - 12	137 - 170 - 13	- -
- -	- -	- -	- -

Project Description: The Calneva Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project would be a nominal 50-megawatt (MW) solar photovoltaic (PV) power facility, related substation, with an integrated battery energy storage system (BESS). The BESS would store 25 megawatts (MW) or 100 MW hours of electricity, to provide renewable energy and critically needed flexibility attributes needed to advance California's and Nevada's Renewable Portfolio Standard (RPS) goals, climate policies, and to enhance electrical grid reliability.

SIGNATURE OF PROPERTY OWNER(S): I HEREBY ACKNOWLEDGE THAT: I have read this application and state that the information given is both true and correct to the best of my knowledge. I agree to comply with all County ordinances and State laws concerning this application.	*SIGNATURE OF APPLICANT/AUTHORIZED REPRESENTATIVE (Representative may sign application on behalf of the property owner only if Letter of Authorization from the owner/s is provided).
Dr. Charles Hooper Date: 4/13/2020	Date:
Date:	Date:

PL\Forms\Bones\Planning\Initial Study App7/30/15



Scale: 1" = 475'

PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

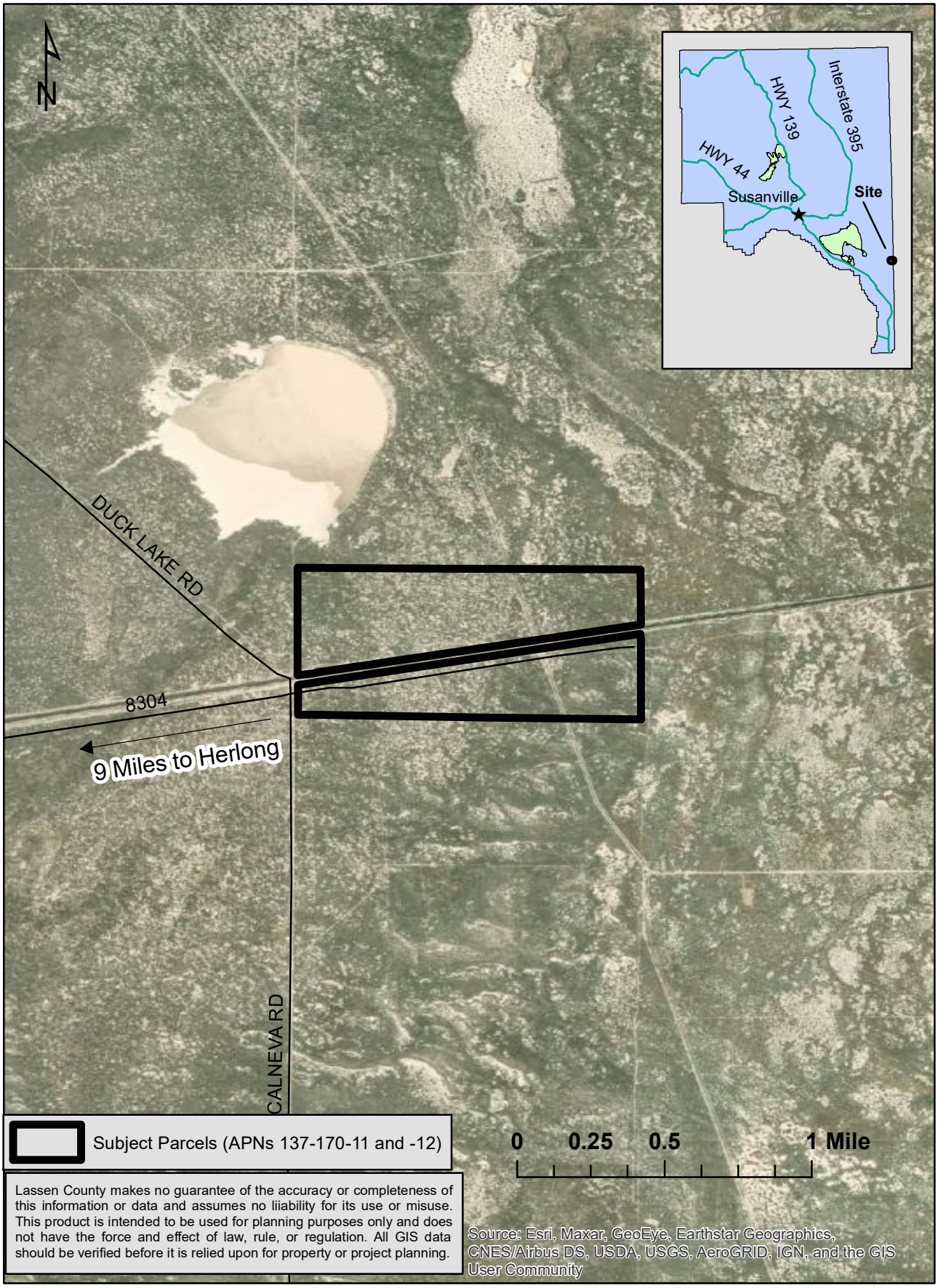
REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

N W E S

FIGURE: Layout Plan

DATE: 04-09-2020	SCALE: As noted above (11"x17")
BY: AKM	FIGURE: 3.9-1

Use Permit #2020-004, Hooper



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ATTACHMENT 4

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Northern Region
601 Locust Street
Redding, CA 96001
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

RECEIVED
NOV 13 2020
LASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES

November 13, 2020

Stefano Richichi, Senior Planner
County of Lassen
Department of Planning and Building Services
707 Nevada Street, Suite 5
Susanville, CA 96130

Subject: Review of the Early Consultation for Initial Study #2020-004 and Use Permit #2020-004 (Hooper), Assessor Parcel Numbers 137-170-12 and 137-170-13, State Clearinghouse Number 2020100366, Lassen County

Dear Mr. Richichi:

The California Department of Fish and Wildlife (Department) has reviewed the Early Consultation dated October 20, 2020, for the above-referenced project (Project). As a trustee for the State's fish and wildlife resources, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and their habitat. As a responsible agency, the Department administers the California Endangered Species Act and other provisions of the Fish and Game Code that conserve the State's fish and wildlife public trust resources. The Department offers the following comments and recommendations on this Project in our role as a trustee and responsible agency pursuant to the California Environmental Quality Act (CEQA), California Public Resources Code §21000 et seq. The following are informal comments intended to assist the Lead Agency in making informed decisions early in the Project development and review process.

Project Description

The Project as proposed is "*to construct a 5O-megawatt photovoltaic solar array and a battery energy storage system (BESS) that would store 25 megawatts or 100 megawatt hours of electricity, along with related infrastructure. Such infrastructure would include a substation, a dead-end tower up to 90 feet tall, 24 130-foot tall steel gen-tie line poles to interconnect with the Plumas-Sierra Rural Electric 120-kV transmission line approximately 3 miles south of the project site, access roads, and perimeter fencing. The project has an approximate footprint of 278 acres, not including the proposed gen-tie lines.*"

The subject parcels are located approximately nine miles northeast of Herlong off Calneva Road, adjacent to the Nevada Border, Assessor Parcel Numbers 137-170-12 and 137-170-13.

Comments and Recommendations

The Department has the following recommendations and comments as they pertain to biological resources:

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Biological Resources

Biological Surveys

Since the Project is proposed in wildlife habitat, the Department will require a basic botanical, wildlife, and habitat assessment (conducted at the appropriate time of the year) to determine whether focused or protocol-level surveys are warranted. The Department recommends all plant and wildlife species identified in the California Natural Diversity Database (CNDDB) and other biological resource databases (U.S. Fish and Wildlife Service, California Native Plant Society, or other pertinent references) be analyzed for the potential to occur within the Project area.

A preliminary query of the CNDDB identified 18 special-status species known to occur within a five-mile radius of the Project including, but not limited to, the following:

Plants

- Lance-leaved scurf-pea (*Ladeania lanceolata*)(California Rare Plant Rank 2B.3)
- Many-flowered thelypodium (*Thelypodium milleflorum*)(California Rare Plant Rank 2B.2)
- Dugway wild buckwheat (*Eriogonum nutans* var. *nutans*)(California Rare Plant Rank 2B.3)
- Kellogg's sand-verbena (*Tripterocalyx crux-maltae*)(California Rare Plant Rank 2B.2)
- Hillman's cleomella (*Cleomella hillmanii* var. *hillmanii*)(California Rare Plant Rank 2B.2)
- Sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*)(California Rare Plant Rank 2B.2)
- Geyer's milk-vetch (*Astragalus geyeri* var. *geyeri*)(California Rare Plant Rank 2B.2)
- Western seablite (*Suaeda occidentalis*)(California Rare Plant Rank 2B.3)
- Intermontane lupine (*Lupinus pusillus* var. *intermontanus*)(California Rare Plant Rank 2B.3)
- Currant-leaved desert mallow (*Sphaeralcea grossulariifolia*)(California Rare Plant Rank 2B.3)
- Cruciform evening-primrose (*Chylismia claviformis* ssp. *cruciformis*)(California Rare Plant Rank 2B.3)
- Macdougal's lomatium (*Lomatium foeniculaceum* ssp. *macdougalii*)(California Rare Plant Rank 2B.2)
- Nelson's evening-primrose (*Eremothera minor*)(California Rare Plant Rank 2B.3)
- Winged dock (*Rumex venosus*)(California Rare Plant Rank 2B.3)
- Ochre-flowered buckwheat (*Eriogonum ochrocephalum* var. *ochrocephalum*)(California Rare Plant Rank 2B.2)
- Paiute lomatium (*Lomatium ravenii* var. *paiutense*)(California Rare Plant Rank 2B.3)

Wildlife

- Long-eared owl (*Asio otus*)(California Species of Special Concern)
- American badger (*Taxidea taxus*)(California Species of Special Concern)

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This list should not be considered comprehensive as additional special-status plant and animal species may occur within the Project vicinity. The CNDDB is a positive sighting database. It does not predict where something may be found. The Department maps occurrences only where we have documentation that the species was found at the site. There are many areas of the state where no surveys have been conducted and therefore there is nothing on the map. That does not mean that there are no special status species present. The next step is to conduct surveys to document what is present and submit the information on special status species to the Department and CNDDB.

Botanical Surveys

A thorough assessment of rare plants and rare natural communities should be conducted following the Department's March 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (https://www.wildlife.ca.gov/conservation/survey-protocols#377281280-plants). As stated in the Protocols, these surveys must be conducted by a qualified botanist during the appropriate time of year to identify species of concern and should include areas with both direct and indirect impacts. Impacts to special status species and sensitive natural communities found during surveys should be analyzed and specific mitigation should be required to reduce any impacts to less than significant.

Nesting Birds

If vegetation removal will be associated with the Project, these activities should be conducted outside of the bird nesting season (generally no work during February 1 – August 31) in order to avoid 'take' as defined and prohibited by Fish and Game Code sections 86, 3503, 3503.5, 3511, and 3513. If work must be conducted during the bird nesting season, a qualified ornithologist (someone who is able to identify Northern California/Great Basin birds, and who has experience in nest searching for passerines and raptors) should thoroughly survey the area no more than seven days prior to tree/vegetation removal to determine whether active nests (nests containing eggs or nestlings) are present. If active nests are found, appropriate buffers should be developed in consultation with the Department to avoid take. The qualified ornithologist should delineate the buffer zone with construction tape or pin flags that should remain in place until the young have fledged, as determined through additional monitoring. These surveys should occur within and surrounding all areas of the Project site in which Project activities take place, including construction and ground disturbance areas, staging areas, areas of fuel modification, ingress and egress routes, and utility routes, and be large enough to encompass areas subject to both direct and indirect Project impacts. Nesting survey results should also be sent to the Department at R1CEQARedding@wildlife.ca.gov, or at California Department of Fish and Wildlife, Attn: CEQA, 601 Locust Street, Redding, California 96001.

Habitat Assessment

American badger has numerous observations in the CNDDB within and adjacent to this Project. The Department recommends as part of the basic biological survey a burrow survey also be conducted to determine if habitat is present for the badger and/or other fossorial specialists.

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Survey Results

All surveys should be conducted prior to approval of the Project and survey results should be sent to the Department at the following address: Department of Fish and Wildlife, Attn: CEQA, 601 Locust Street, Redding, CA 96001 or submitted via email to R1CEQARedding@wildlife.ca.gov. If any special-status species are found during surveys, the Department requests that CNDDB forms be filled out online or sent to Sacramento and a copy of the form be sent or emailed to the Regional office at the above address. Instructions for providing data to the CNDDB can be found at: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data.

Mitigation

Avoidance and mitigation measures for impacts to special-status species and sensitive habitats, if found, should be proposed in subsequent environmental review to avoid any significant effects the Project would have on the species or its habitat. Examples of mitigation measures for special-status species and habitat include, but are not limited to, project modification to avoid the species and its habitat, enhancement of existing onsite habitat, offsite restoration or enhancement of habitat, or onsite/offsite preservation of habitat. Since appropriate botanical surveys were not conducted, it is unknown if those species are present, if they are impacted, or if the impact is significant to warrant mitigation.

If you have any questions, please contact Amy Henderson, Senior Environmental Scientist (Specialist), at (530) 598-7194, or by email at Amy.Henderson@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Curt Babcock
974D273FEE784E2...

Curt Babcock
Habitat Conservation Program Manager

ec: Stefano Richichi, Associate Planner
County of Lassen
srichichi@co.lassen.ca.us

State Clearinghouse
State.clearinghouse@opr.ca.gov

Amy Henderson
California Department of Fish and Wildlife
Amy.Henderson@wildlife.ca.gov

Habitat Conservation Planning Branch
CEQACommentLetters@wildlife.ca.gov

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Northern Region
601 Locust Street
Redding, CA 96001
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

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DEC 22 2020
LASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES
received by email -SR

December 22, 2020

Stefano Richichi, Senior Planner
County of Lassen
Department of Planning and Building Services
707 Nevada Street, Suite 5
Susanville, CA 96130

SUBJECT: SCH#2020100366 RESPONSE TO DRAFT IS/MND BIOLOGICAL SECTION IS#2020-001 UP#2020004 – HOOPER

Dear Mr. Richichi:

The California Department of Fish and Wildlife (Department) has reviewed the information sent by Sierra Geotech, DBE, Inc. in response to the Department's November 13, 2020, early consultation letter. The Department has the following comments and recommendations:

General Surveys

In our previous letter, the Department requested a basic botanical, wildlife, and habitat assessment conducted at the appropriate time of year. According to the extracted Biological Resources portion of an Initial Study/Mitigated Negative Declaration (IS/MND), Sierra Geotech staff biologist conducted a field survey of the project area on January 7, 2020. The IS/MND stated, "*During the field survey, all biological communities were characterized, and the observed plant and wildlife species were recorded.*" No stand-alone biological report was provided containing these observations.

Initial surveys conducted outside the blooming period for plants or the time of year when most wildlife is active is fine to do in order to determine which, if any, focused surveys will need to be conducted at a later date. However, it appears that Sierra Geotech staff consider this one survey sufficient if pre-construction surveys are completed after Project approval but before construction commences. The Department strongly encourages surveys be conducted at the appropriate time of year prior to project approval and recommends providing a stand-alone biological report that includes a list of plant and wildlife species observed as well as a description of habitats found onsite.

Botanical Surveys

The IS/MND states, "*The Following 5 species were documented in the CNDDB within a 5-mile radius of the proposed project lease areas: (1) American badger (Taxidea taxus); (2) prairie falcon (Falco mexicanus); (3) Dugway wild buckwheat (Eriogonum nutans var. nutans); (4) Hillman's cleomella (Cleomella hillmanii var. hillmanii); and (5) Nelson's evening-primrose (Eremonthera minor). None of which are classified as threatened or endangered species at either the federal or state level.*" The Department submitted an early consultation comment letter with 16 special status plant species queried from the

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California Natural Diversity Database within a 5-mile radius of the Project area (see list below). The fact that these are not state or federally listed species does not preclude them from being analyzed under CEQA. The plants are listed as California Rare Plant Rank 2B.2 or 2B.3. California Rare Plant Ranks 1 or 2 meet the definition of rare or endangered under CEQA Guidelines section 15380, subdivisions (b) and (d). The list of plants and wildlife queried below should not be considered comprehensive as additional special status plant and animal species may occur within the Project vicinity. The CNDDB is a positive sighting database. It does not predict where something may be found. The Department maps occurrences only where we have documentation that the species was found at the site. There are many areas of the state where no surveys have been conducted and therefore there is nothing on the map. That does not mean that there are no special status species present. The next step is to conduct surveys to document what is present and submit the information on special status species to the Department and CNDDB.

Conducting surveys ahead of Project approval is critical in that it allows the Department, land use planning agencies, and project proponents to make educated land use decisions. It also allows for the project proponents ample time to redesign their project to avoid and/or minimize significant impacts, if neccesary. The special status plants provided in the list below have been shown to occur within a 5-mile radius of the Project area within a similar habitat as the Project area. Conducting botanical surveys two weeks prior to the start of construction does not allow the Department or the Lead Agency time to fully analyze potential significant impacts to special status species; therefore, the Department recommends a thorough assessment of rare plants and rare natural communities be conducted following the Department's March 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (https://www.wildlife.ca.gov/conservation/survey-protocols#377281280-plants). As stated in the Protocols, these surveys must be conducted by a qualified botanist during the appropriate time of year to identify species of concern and should include areas with both direct and indirect impacts. Impacts to special status species and sensitive natural communities found during surveys should be analyzed and specific mitigation would be required to reduce any impacts to less than significant.

The list of plants queried from the CNDDB known to occur within a five-mile radius of the Project including, but not limited to, the following:

Plants

- Lance-leaved scurf-pea (*Ladeania lanceolata*)(California Rare Plant Rank 2B.3)
- Many-flowered thelypodium (*Thelypodium milleflorum*)(California Rare Plant Rank 2B.2)
- Dugway wild buckwheat (*Eriogonum nutans* var. *nutans*)(California Rare Plant Rank 2B.3)
- Kellogg's sand-verbena (*Tripterocalyx crux-maltae*)(California Rare Plant Rank 2B.2)
- Hillman's cleomella (*Cleomella hillmanii* var. *hillmanii*)(California Rare Plant Rank 2B.2)
- Sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*)(California Rare Plant Rank 2B.2)

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- Geyer's milk-vetch (*Astragalus geyeri* var. *geyeri*)(California Rare Plant Rank 2B.2)
- Western seablite (*Suaeda occidentalis*)(California Rare Plant Rank 2B.3)
- Intermontane lupine (*Lupinus pusillus* var. *intermontanus*)(California Rare Plant Rank 2B.3)
- Currant-leaved desert mallow (*Sphaeralcea grossulariifolia*)(California Rare Plant Rank 2B.3)
- Cruciform evening-primrose (*Chylismia claviformis* ssp. *cruciformis*)(California Rare Plant Rank 2B.3)
- Macdougal's lomatium (*Lomatium foeniculaceum* ssp. *macdougalii*)(California Rare Plant Rank 2B.2)
- Nelson's evening-primrose (*Eremothera minor*)(California Rare Plant Rank 2B.3)
- Winged dock (*Rumex venosus*)(California Rare Plant Rank 2B.3)
- Ochre-flowered buckwheat (*Eriogonum ochrocephalum* var. *ochrocephalum*)(California Rare Plant Rank 2B.2)
- Paiute lomatium (*Lomatium ravenii* var. *paiutense*)(California Rare Plant Rank 2B.3)

Mitigation measure BIO-5 states that special status plant species surveys will be conducted approximately two weeks prior to the start of construction. It goes on to say that if special status plants are found, fencing will be used to delineate and exclude the plant species from disturbance. If avoidance of special status species cannot occur then additional measures would be implemented including preparation and implementation of a rare plant mitigation program, collecting seed of annual special status plant species and redistributing the seed in suitable habitat on the property in the fall following Project completion, and salvaging all perennial special status plant species and replanting in the fall with supplemental irrigation.

The BIO-5 measure is not a feasible mitigation measure for the following reasons. First, the fencing of the special status species needs a buffer to prevent indirect impacts to the plant population and none is proposed. Secondly, if avoidance of special status species cannot occur and the population is removed, a rare plant mitigation program would be prepared and implemented. This is an MND, not an Environmental Impact Report; therefore, the plan should be written and success criteria proposed for this plan prior to Project approval. Stating a plan will be prepared without success criteria is deferring the mitigation to a future date after the Project has been approved. Third, collecting seed of annual species and replanting them in suitable habitat on the property may not be appropriate depending on the species, site, and the level of disturbance. Solar arrays often change the drainage and sunlight patterns of areas making the area unusable for replanting. Therefore, it is important to know if special status species occur on the site, where they occur, how they can be avoided through redesign, and where there is appropriate habitat to mitigate onsite prior to approval of the Project. Finally, the Department generally considers salvage and relocation (translocation) to be an inappropriate way to compensate for permanent impacts to rare, threatened, endangered, and sensitive native plants (rare plants). Rare plant translocations for mitigation have a low success rate and the Department considers such efforts experimental, unless they have been demonstrated to be effective through long-term experimentation. Successful rare plant translocations require many years of habitat surveys, habitat modeling, site selection, seed collection, plant propagation, site preparation, monitoring, and remedial actions such as management of competing plants, supplemental watering, and

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supplemental planting. Success is not guaranteed, and even translocations that are initially successful may fail to persist over the long term.

Additionally, transplantation efforts do not replace intact ecosystems or maintain the entire range of genetic diversity at the impact site. The presence of rare plants often signifies the presence of biogeographically important sites with unusual soil, microclimate, or other conditions that are not easy to identify and difficult or impossible to duplicate. Loss of genetic material from rare plant translocation may also hinder introduced populations from withstanding changing environmental conditions over time. The most effective way to mitigate for permanent loss of rare plant habitat is therefore to protect and manage existing populations in their natural habitat.

Sensitive Natural Communities

The IS/MND states, "*During the field survey, all biological communities were characterized, and the observed plant and wildlife species were recorded.*" The IS/MND does not mention how the habitats were characterized or which vegetation classification was used. The Department strongly encourages the use of a *Manual of California Vegetation*. The IS/MND describes three types of vegetation: big sagebrush, greasewood scrub, and saltgrass flats. The descriptions, however, are generic and do not represent what is physically present on the ground within the Project area. For example, Acton encelia (*Encelia actoni*) occurs within big sagebrush scrub but does not occur in Lassen County. Greasewood (*Sarcobatus vermiculatus*) and salt grass (*Distichlis spicata*) are listed as occurring on site but if they occur together, that association is considered a Sensitive Natural Community. Further, the description of saltgrass flats in the IS/MND could be describing a wetland. The State Water Resources Control Board describes a wetland[1] as the following:

> *An area is a wetland if: (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation. The Procedures provide the same wetland delineation methods that are used by the Army Corps of Engineers.*

Waters of the State include more aquatic features than Waters of the U.S., which are defined by the federal government. The hydrology of some of the sagebrush areas has large swaths of these playas that "fill" with rainwater and are vital for groundwater recharge in an area that receives little water. A wetland delineation can typically determine if these "playa" areas do in fact hold water.

The Department recommends the descriptions of the vegetation communities be revised to reflect what is present onsite using a *Manual of California Vegetation*. Once the vegetation community is defined, Sensitive Natural Communities can be determined.

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1 https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/wrapp/dredge_and_fill_draft_procedures_fact_sheet_022519_update.pdf

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Sensitive Natural Communities can be found here: https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities. Impacts to Sensitive Natural Communities must be analyzed and addressed in the environmental review process (see CEQA Guidelines checklist, item IV-b). Because vegetation mapping was not conducted, neither the Department nor the Lead Agency can ascertain if there are Sensitive Natural Communities present onsite, precluding the Lead Agency from making an informed decision on the level of significance of this CEQA Guidelines checklist item. The IS/MND did not mention how much of each "vegetation type" existed on site and which communities, if any, would be impacted by Project activities. The Department recommends reevaluating the vegetation mapping performed on the site, identifying the natural communities on the project site, determining which, if any, are identified as sensitive, and determining the level of significance and mitigation based off that analysis. Specific mitigation would be required to reduce any impacts to less than significant.

Wildlife

Two special status species were identified in CNDDB within a 5-mile radius of the project and include, but are not limited to, the following:

- Long-eared owl (*Asio otus*)(California Species of Special Concern)
- American badger (*Taxidea taxus*)(California Species of Special Concern)

Long-eared owl (*Asio otus*)

Based on the breeding habitat of the long-eared owl, the Project does not appear to have adequate habitat. However, the Project does provide foraging habitat. Impacts to foraging habitat should be analyzed in the forthcoming environmental document.

American badger (*Taxidea taxus*)

According to the CNDDB, the American badger has been observed within and adjacent to this Project. The Department had recommended in its early consultation letter a burrow survey be conducted to determine if habitat is present for the badger and/or other fossorial specialists. The project applicant is proposing to conduct burrow surveys as preconstruction surveys approximately two weeks prior to the start of construction. The Department strongly encourages the burrow survey to be conducted prior to project approval in the event there are badgers and/or other fossorial specialists present, allowing for the redesign of the Project to avoid the dens. Impact significance cannot be determined when there is no data to analyze.

Badgers are sensitive to the effects of habitat fragmentation, they have a low reproductive rate, and a high rate of juvenile mortality. Badgers give birth to young underground in March or April. Litter sizes range from one to five with two being the average. The young are born blind and with little fur. Their eyes open at about four weeks, at which time the mother may move them from the natal den closer to hunting areas. Thereafter, the family can be moved almost nightly. The kits are weaned at about six to eight weeks and begin to emerge above ground on their own. Solid prey is brought back to the den by the

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mother, and eventually, young badgers begin to accompany her on hunts. At about three to four months old, young badgers disperse to live in their own burrows. Dispersal typically occurs between July and August. Therefore, mitigation measure BIO-4 needs additional seasonal restrictions so natal dens are not inadvertently filled in and young can disperse. The Department recommends adding in a sentence such as, "Installation of one-way doors shall only be implemented outside of the natal rearing period, typically March through May.

Nesting Bird Survey – BIO-3

This measure states that a qualified biologist shall conduct a nesting bird survey no more than two weeks prior to construction. The Department recommends two be changed to one (1) week prior to construction.

Survey Results

All surveys should be conducted prior to approval of the Project and survey results should be submitted via email to R1CEQARedding@wildlife.ca.gov. If any special-status species are found during surveys, the Department requests that CNDDB forms be filled out online or sent to Sacramento and a copy of the form be emailed to the Regional office at the above address. Instructions for providing data to the CNDDB can be found at: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data.

Mitigation

Avoidance and mitigation measures for impacts to special status species and sensitive habitats, if found, should be proposed in subsequent environmental review to avoid any significant effects the Project would have on the species or its habitat. Examples of mitigation measures for special status species and habitats include, but are not limited to, project modification to avoid the species and its habitat, enhancement of existing onsite habitat, offsite restoration or enhancement of habitat, or onsite/offsite preservation of habitat. Since appropriate botanical surveys were not conducted, it is unknown if those species are present, if they are impacted, or if the impact is significant to warrant mitigation.

If you have any questions, please contact Amy Henderson, Senior Environmental Scientist (Specialist), at (530) 598-7194, or by email at Amy.Henderson@wildlife.ca.gov.

Sincerely,

DocuSigned by:
donna cobb
1AFB1E1AEF314DD...

Curt Babcock
Habitat Conservation Program Manager

ec: Stefano Richichi, Associate Planner
County of Lassen
srichichi@co.lassen.ca.us

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State Clearinghouse
State.clearinghouse@opr.ca.gov

Amy Henderson
California Department of Fish and Wildlife
Amy.Henderson@wildlife.ca.gov

Habitat Conservation Planning Branch
CEQACommentLetters@wildlife.ca.gov

Chron

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State of California – Natural Resources Agency
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Northern Region
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www.wildlife.ca.gov

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CHARLTON H. BONHAM, Director

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LASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES
received by email-SR

March 26, 2021

Stefano Richichi, Senior Planner
County of Lassen
Department of Planning and Building Services
707 Nevada Street, Suite 5
Susanville, CA 96130

Subject: Response to Project Applicant to the Early Consultation for Initial Study #2020-004 and Use Permit #2020-004 (Hooper), Assessor Parcel Numbers 137-170-12 and 137-170-13, State Clearinghouse Number 2020100366, Lassen County

Dear Stefano Richichi:

The California Department of Fish and Wildlife (Department) has reviewed the information sent by Sierra Geotech, DBE, Inc. in response to the Department's November 13 and December 14, 2020 early consultation letters. The Department has the following comments and recommendations, which are repetitive of our previous comments in our early consultation letters:

General Comments

In our previous two letters, the Department requested a basic botanical, wildlife, and habitat assessment conducted at the appropriate time of year. In an email response from Senior Environmental Scientist, Amy Henderson, to Shaun Vemuri of Sierra Geotech, dated February 1, 2021, it was emphasized, "*The surveys need to be done at the appropriate time of year so looking for burrows can be done concurrently with botanical surveys. Most wildlife surveys are conducted in the spring months usually concurrently with the botanical surveys unless there is a specific protocol that says otherwise. I would recommend if you found a burrow and need to set up a trail cam to see if it is active, that you do so during the spring when the animals are more observable. The information I requested in my previous letter needs to be sent to the County and then they will forward me a referral to which I will comment on. As long as you hire qualified people and submit the reports to the County, CDFW is satisfied. I don't have the letter the County sent to you so if they have additional requirements you should make sure to follow those as well.*" These comments are still applicable as Sierra Geotech staff went out in February 2021 to conduct surveys disregarding the consultation to date as well as the previous comment letters, which are attached for your review.

In the revised Biological Assessment (BA) dated February 2021, it states, "*This BA has been prepared according to the legal requirements set forth under Section 7 of the federal Endangered Species Act (FESA)(16 U.S.C. 1536 [c], C.F.R. Sec. 402.12), and presents technical information upon which later determinations regarding project effects will be developed for compliance with the California Environmental Quality Act (CEQA).*" The BA goes on to say that no federally listed species occur in the Project area. If the official

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federal species list determined there were no federally listed species or critical habitat for said species within the Project, please clarify why a Section 7 consultation is being initiated.

Table 3 identifies plant species with California Native Plant Society rankings. The table incorrectly identifies these rankings as listings. For example, Geyer's milkvetch is not a CNPS listed fairly endangered in California species nor does it appear even as a sensitive species for the U.S. Fish and Wildlife Service. It is a California Rare Plant Rank 2.2 species which means it is considered fairly endangered in California. The Department recommends revising the table so that it is not reflecting non-federal species as federal. Further information on California Rare Plant Ranking can be found in the Department's March 2018 survey protocols.

Botanical Surveys

Conducting surveys ahead of Project approval is critical in that it allows the Department, land use planning agencies, and project proponents to make educated land use decisions. It also allows for the project proponents ample time to redesign their project to avoid and/or minimize significant impacts, if necessary. The special status plants provided in the previous comment letters and the BA have been shown to occur adjacent to or within a 5-mile radius of the Project area depicting similar habitat as the Project area. Conducting botanical surveys two weeks prior to the start of construction does not allow the Department or the Lead Agency time to fully analyze potential significant impacts to special status species; therefore, the Department recommends a thorough assessment of rare plants and rare natural communities be conducted following the Department's March 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (https://www.wildlife.ca.gov/conservation/survey-protocols#377281280-plants). As stated in the Protocols, these surveys must be conducted by a qualified botanist during the appropriate time of year to identify species of concern and should include areas with both direct and indirect impacts. Impacts to special status species and sensitive natural communities found during surveys should be analyzed and specific mitigation would be required to reduce any impacts to less than significant.

Mitigation Measure 12 states that special status plant species surveys will be conducted "*prior to any construction or ground disturbance activities*"; however, the construction schedule proposed states construction will begin in the winter meaning the pre-construction focused surveys will be done in the fall outside of the appropriate blooming period. The Department strongly recommends that the surveys take place beginning this spring, prior to project approval, in order of the Lead Agency and Department to consider the adequacy of mitigation measures.

Mitigation Measure 20 section (a) states if special status species are found, a "*rare plant mitigation program will be prepared and implemented*." This measure is not a feasible mitigation measure for the following reasons. First, the fencing of the special status species needs a buffer to prevent indirect impacts to the plant population and none is proposed and re-doing the grading and construction plans right before the start of construction to include the fencing seems highly unlikely. Secondly, the measures states if avoidance of special status species cannot occur and the population is removed, a rare plant mitigation program would be prepared and implemented. Because the CEQA

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document for this project is an MND, not an Environmental Impact Report, the plan should be prepared as part of the document and success criteria included in the plan prior to Project approval. Stating a plan will be prepared without success criteria is deferring the mitigation to a future date after the Project has been approved. Third, collecting seed of annual species and replanting them in suitable habitat on the property may not be appropriate depending on the species, site, and the level of disturbance. Solar arrays often change the drainage and sunlight patterns of areas making the area unusable for replanting. Therefore, it is important to know if special status species occur on the site, where they occur, how they can be avoided through redesign, and where there is appropriate habitat to mitigate onsite prior to approval of the Project. Finally, the Department generally considers salvage and relocation (translocation) to be an inappropriate way to compensate for permanent impacts to rare, threatened, endangered, and sensitive native plants (rare plants). Rare plant translocations for mitigation have a low success rate and the Department considers such efforts experimental, unless they have been demonstrated to be effective through long-term experimentation. Successful rare plant translocations require many years of habitat surveys, habitat modeling, site selection, seed collection, plant propagation, site preparation, monitoring, and remedial actions such as management of competing plants, supplemental watering, and supplemental planting. Success is not guaranteed, and even translocations that are initially successful may fail to persist over the long term.

Additionally, transplantation efforts do not replace intact ecosystems or maintain the entire range of genetic diversity at the impact site. The presence of rare plants often signifies the presence of biogeographically important sites with unusual soil, microclimate, or other conditions that are not easy to identify and difficult or impossible to duplicate. Loss of genetic material from rare plant translocation may also hinder introduced populations from withstanding changing environmental conditions over time. The most effective way to mitigate for permanent loss of rare plant habitat is therefore to protect and manage existing populations in their natural habitat.

Sensitive Natural Communities - Wetlands

The description of the Alkali Basins, Flats or Playas could be describing a wetland. The State Water Resources Control Board describes a wetland[1] as the following:

> *An area is a wetland if: (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation. The Procedures provide the same wetland delineation methods that are used by the Army Corps of Engineers.*

Waters of the State include more aquatic features than Waters of the U.S., which are defined by the federal government. The U.S. Fish and Wildlife Service's National Wetlands Inventory Map indicates the presence of Palustrine, Unconsolidated Shore,

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1 https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/wrapp/dredge_and_fill_draft_procedures_fact_sheet_022519_update.pdf

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Temporarily Flooded (PUSA) occurring on the Project. The Department will consider these areas wetlands until the Project applicant can demonstrate otherwise with updated wetland surveys. The BA suggests that the consultants used data from old projects that occurred nearby to determine the playas were not wetlands. The Department could not find any recent wetland data sheets and will not accept data from a report that is decades old. The BA also states that the Project area does not have any of the features listed in the State wetlands definition; however, it appears that the areas show a presence of water and there is lack of vegetation. The alkali playa photo shown on the cover of the BA shows water was present by the cracking appearance of the soil and those same areas lack vegetation, which is two out of the three requirements under the State definition. The Department considers all wetlands sensitive, and the State has a "No Net Loss" wetland Policy[2]. Further, the BA states the impacts of the solar array are temporary and not permanent. The placement of the solar arrays are permanent impacts and should be discussed as such in the BA and the forthcoming environmental document. According to the BA, approximately 148 acres of alkali basin/flats/playas will be "temporarily" impacted. This is likely a permanent significant impact.

CESA

Mitigation Measure 12 states if listed species are found (federal or state), all construction halts until corrective measures have been completed. The Department strongly encourages that surveys are conducted at the appropriate time of year when both plants and wildlife are more likely to be observed to prevent this finding from occurring during the construction period. An Incidental Take Permit would be necessary for state-listed species and Section 7 or 10 Consultation would need to be initiated with the U.S. Fish and Wildlife Service, both can be lengthy processes. Issuance of a CESA Permit is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required to obtain a CESA Permit.

Wildlife

Loggerhead shrikes, a California Species of Special Concern, were observed during the February 2021 survey. A major threat to this species is habitat loss both breeding and wintering grounds.

Pronghorn and mule deer, both game species utilize this area during the winter months which are critical for their survival. The BA states that pronghorn antelope were observed in February 2021. Impacts to wintering range should be discussed in the forthcoming environmental document.

Nesting Bird Survey

Mitigation Measure 21 does not give a specific time for when pre-construction nesting bird

[2] https://fgc.ca.gov/About/Policies/Miscellaneous#Wetlands

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surveys will take place. Our previous comments stated that surveys should be conducted no more than one (1) week prior to start of construction.

Mitigation Measure 22 states, "In accordance with the MBTA, if an active nest is observed in the project area during construction, Calneva BESS/PSES will stop work within the appropriate buffer for the species…" It should state, "In accordance with the MBTA **and Fish and Game Code section 3503 and 3503.5,** if an active nest is observed…"

Survey Results

All surveys should be conducted prior to approval of the Project and survey results should be submitted via email to R1CEQARedding@wildlife.ca.gov. If any special-status species are found during surveys, the Department requests that CNDDB forms be filled out online or sent to Sacramento and a copy of the form be emailed to the Regional office at the above address. Instructions for providing data to the CNDDB can be found at: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data.

Mitigation

Avoidance and mitigation measures for impacts to special status species and sensitive habitats, if found, should be proposed in subsequent environmental review to avoid any significant effects the Project would have on the species or its habitat. Examples of mitigation measures for special status species and habitats include, but are not limited to, project modification to avoid the species and its habitat, enhancement of existing onsite habitat, offsite restoration or enhancement of habitat, or onsite/offsite preservation of habitat. Since appropriate botanical surveys were not conducted, it is unknown if those species are present, if they are impacted, or if the impact is significant to warrant mitigation.

If you have any questions, please contact Amy Henderson, Senior Environmental Scientist (Specialist), at (530) 598-7194, or by email at Amy.Henderson@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Curt Babcock
974D273FEE784E2...

Curt Babcock
Habitat Conservation Program Manager

ec: Stefano Richichi, Associate Planner
County of Lassen
srichichi@co.lassen.ca.us

State Clearinghouse
State.clearinghouse@opr.ca.gov

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Douglas Cushman
Senior Water Resource Control Engineer
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Amy Henderson
California Department of Fish and Wildlife
Amy.Henderson@wildlife.ca.gov

Habitat Conservation Planning Branch
CEQACommentLetters@wildlife.ca.gov

ATTACHMENT 5

County of Lassen
Department of Planning and Building Services

• Planning • Building Permits • Code Enforcement • Surveyor • Surface Mining

Maurice L. Anderson, *Director*
707 Nevada Street, Suite 5
Susanville, CA 96130-3912
Phone: 530 251-8269
Fax: 530 251-8373
email: landuse@co.lassen.ca.us
website: www.co.lassen.ca.us

Zoning & Building
Inspection Requests
Phone: 530 257-5263

January 6, 2021

Dr. Charles Hooper
11242 Clinton Bar Road
Pine Grove, CA 95665

Brent Moore, Vice President
Sierra Geotech, DBE, Inc.
2250 Sierra Meadows Drive, Suite A
Rocklin, CA 95677

RE: Initial Study #2020-001 for Use Permit #2020-004, Hooper

This letter is to inform you that this Department has put the above-referenced initial study on hold until your biologist responds to the letter (attached) this Department received from the California Department of Fish and Wildlife (CDFW) on December 22, 2020, in regard to your project. CDFW's letter was prepared in response to this Department's letter to CDFW dated November 23, 2020, which forwarded the biological section of the proposed initial study prepared by Sierra Geotech and submitted for your project in order to allow CDFW to analyze and provide comment regarding said document.[1] This Department also forwarded a copy of CDFW's letter by email to Sierra Geotech staff on December 30, 2020.

In its letter, CDFW advises that biological surveys "be conducted at the appropriate time of year prior to project approval and recommends providing a stand-alone biological report that includes a list of plant and wildlife species observed as well as a description of habitats found onsite." CDFW goes on to make additional recommendations, including recommendations regarding the adequacy of proposed mitigation measures.

Please have your biologist prepare a formal response to the above recommendations. Again, this Department has put the above-referenced initial study on hold until the above has occurred. For reference, this Department has the authority to require you to submit data and information necessary to determine whether your project may have a significant effect on the environment, pursuant to Section 21160 of the Public Resources Code. Prior to doing so, this office wanted to provide you with an opportunity to respond to CDFW's most recent letter. For further information, you may also review the attached use permit process form, which describes the CEQA process in more detail. Please contact Senior Planner Stefano Richichi at (530) 251-8269 or at srichichi@co.lassen.ca.us if you have further questions.

Sincerely,

For Maurice L. Anderson,
Director

MLA:smr
Enclosures: Letter from California Department of Fish and Wildlife dated December 22, 2020
Use Permit Process Form

cc: Shaun Vemuri, Sierra Geotech, DBE, Inc.

[1] Previously, this Department had sent a Notice of Early Consultation to CDFW, along with other agencies, on October 20, 2020, in regard to your project for their comment.

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Northern Region
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GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

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DEC 22 2020

LASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES
received by email -SR

December 22, 2020

Stefano Richichi, Senior Planner
County of Lassen
Department of Planning and Building Services
707 Nevada Street, Suite 5
Susanville, CA 96130

SUBJECT: SCH#2020100366 RESPONSE TO DRAFT IS/MND BIOLOGICAL SECTION IS#2020-001 UP#2020004 – HOOPER

Dear Mr. Richichi:

The California Department of Fish and Wildlife (Department) has reviewed the information sent by Sierra Geotech, DBE, Inc. in response to the Department's November 13, 2020, early consultation letter. The Department has the following comments and recommendations:

General Surveys

In our previous letter, the Department requested a basic botanical, wildlife, and habitat assessment conducted at the appropriate time of year. According to the extracted Biological Resources portion of an Initial Study/Mitigated Negative Declaration (IS/MND), Sierra Geotech staff biologist conducted a field survey of the project area on January 7, 2020. The IS/MND stated, "*During the field survey, all biological communities were characterized, and the observed plant and wildlife species were recorded.*" No stand-alone biological report was provided containing these observations.

Initial surveys conducted outside the blooming period for plants or the time of year when most wildlife is active is fine to do in order to determine which, if any, focused surveys will need to be conducted at a later date. However, it appears that Sierra Geotech staff consider this one survey sufficient if pre-construction surveys are completed after Project approval but before construction commences. The Department strongly encourages surveys be conducted at the appropriate time of year prior to project approval and recommends providing a stand-alone biological report that includes a list of plant and wildlife species observed as well as a description of habitats found onsite.

Botanical Surveys

The IS/MND states, "*The Following 5 species were documented in the CNDDB within a 5-mile radius of the proposed project lease areas: (1) American badger (Taxidea taxus); (2) prairie falcon (Falco mexicanus); (3) Dugway wild buckwheat (Eriogonum nutans var. nutans); (4) Hillman's cleomella (Cleomella hillmanii var. hillmanii); and (5) Nelson's evening-primrose (Eremonthera minor). None of which are classified as threatened or endangered species at either the federal or state level.*" The Department submitted an early consultation comment letter with 16 special status plant species queried from the

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California Natural Diversity Database within a 5-mile radius of the Project area (see list below). The fact that these are not state or federally listed species does not preclude them from being analyzed under CEQA. The plants are listed as California Rare Plant Rank 2B.2 or 2B.3. California Rare Plant Ranks 1 or 2 meet the definition of rare or endangered under CEQA Guidelines section 15380, subdivisions (b) and (d). The list of plants and wildlife queried below should not be considered comprehensive as additional special status plant and animal species may occur within the Project vicinity. The CNDDB is a positive sighting database. It does not predict where something may be found. The Department maps occurrences only where we have documentation that the species was found at the site. There are many areas of the state where no surveys have been conducted and therefore there is nothing on the map. That does not mean that there are no special status species present. The next step is to conduct surveys to document what is present and submit the information on special status species to the Department and CNDDB.

Conducting surveys ahead of Project approval is critical in that it allows the Department, land use planning agencies, and project proponents to make educated land use decisions. It also allows for the project proponents ample time to redesign their project to avoid and/or minimize significant impacts, if neccesary. The special status plants provided in the list below have been shown to occur within a 5-mile radius of the Project area within a similar habitat as the Project area. Conducting botanical surveys two weeks prior to the start of construction does not allow the Department or the Lead Agency time to fully analyze potential significant impacts to special status species; therefore, the Department recommends a thorough assessment of rare plants and rare natural communities be conducted following the Department's March 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (https://www.wildlife.ca.gov/conservation/survey-protocols#377281280-plants). As stated in the Protocols, these surveys must be conducted by a qualified botanist during the appropriate time of year to identify species of concern and should include areas with both direct and indirect impacts. Impacts to special status species and sensitive natural communities found during surveys should be analyzed and specific mitigation would be required to reduce any impacts to less than significant.

The list of plants queried from the CNDDB known to occur within a five-mile radius of the Project including, but not limited to, the following:

Plants

- Lance-leaved scurf-pea (*Ladeania lanceolata*)(California Rare Plant Rank 2B.3)
- Many-flowered thelypodium (*Thelypodium milleflorum*)(California Rare Plant Rank 2B.2)
- Dugway wild buckwheat (*Eriogonum nutans* var. *nutans*)(California Rare Plant Rank 2B.3)
- Kellogg's sand-verbena (*Tripterocalyx crux-maltae*)(California Rare Plant Rank 2B.2)
- Hillman's cleomella (*Cleomella hillmanii* var. *hillmanii*)(California Rare Plant Rank 2B.2)
- Sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*)(California Rare Plant Rank 2B.2)

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- Geyer's milk-vetch (*Astragalus geyeri* var. *geyeri*)(California Rare Plant Rank 2B.2)
- Western seablite (*Suaeda occidentalis*)(California Rare Plant Rank 2B.3)
- Intermontane lupine (*Lupinus pusillus* var. *intermontanus*)(California Rare Plant Rank 2B.3)
- Currant-leaved desert mallow (*Sphaeralcea grossulariifolia*)(California Rare Plant Rank 2B.3)
- Cruciform evening-primrose (*Chylismia claviformis* ssp. *cruciformis*)(California Rare Plant Rank 2B.3)
- Macdougal's lomatium (*Lomatium foeniculaceum* ssp. *macdougalii*)(California Rare Plant Rank 2B.2)
- Nelson's evening-primrose (*Eremothera minor*)(California Rare Plant Rank 2B.3)
- Winged dock (*Rumex venosus*)(California Rare Plant Rank 2B.3)
- Ochre-flowered buckwheat (*Eriogonum ochrocephalum* var. *ochrocephalum*)(California Rare Plant Rank 2B.2)
- Paiute lomatium (*Lomatium ravenii* var. *paiutense*)(California Rare Plant Rank 2B.3)

Mitigation measure BIO-5 states that special status plant species surveys will be conducted approximately two weeks prior to the start of construction. It goes on to say that if special status plants are found, fencing will be used to delineate and exclude the plant species from disturbance. If avoidance of special status species cannot occur then additional measures would be implemented including preparation and implementation of a rare plant mitigation program, collecting seed of annual special status plant species and redistributing the seed in suitable habitat on the property in the fall following Project completion, and salvaging all perennial special status plant species and replanting in the fall with supplemental irrigation.

The BIO-5 measure is not a feasible mitigation measure for the following reasons. First, the fencing of the special status species needs a buffer to prevent indirect impacts to the plant population and none is proposed. Secondly, if avoidance of special status species cannot occur and the population is removed, a rare plant mitigation program would be prepared and implemented. This is an MND, not an Environmental Impact Report; therefore, the plan should be written and success criteria proposed for this plan prior to Project approval. Stating a plan will be prepared without success criteria is deferring the mitigation to a future date after the Project has been approved. Third, collecting seed of annual species and replanting them in suitable habitat on the property may not be appropriate depending on the species, site, and the level of disturbance. Solar arrays often change the drainage and sunlight patterns of areas making the area unusable for replanting. Therefore, it is important to know if special status species occur on the site, where they occur, how they can be avoided through redesign, and where there is appropriate habitat to mitigate onsite prior to approval of the Project. Finally, the Department generally considers salvage and relocation (translocation) to be an inappropriate way to compensate for permanent impacts to rare, threatened, endangered, and sensitive native plants (rare plants). Rare plant translocations for mitigation have a low success rate and the Department considers such efforts experimental, unless they have been demonstrated to be effective through long-term experimentation. Successful rare plant translocations require many years of habitat surveys, habitat modeling, site selection, seed collection, plant propagation, site preparation, monitoring, and remedial actions such as management of competing plants, supplemental watering, and

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supplemental planting. Success is not guaranteed, and even translocations that are initially successful may fail to persist over the long term.

Additionally, transplantation efforts do not replace intact ecosystems or maintain the entire range of genetic diversity at the impact site. The presence of rare plants often signifies the presence of biogeographically important sites with unusual soil, microclimate, or other conditions that are not easy to identify and difficult or impossible to duplicate. Loss of genetic material from rare plant translocation may also hinder introduced populations from withstanding changing environmental conditions over time. The most effective way to mitigate for permanent loss of rare plant habitat is therefore to protect and manage existing populations in their natural habitat.

Sensitive Natural Communities

The IS/MND states, "*During the field survey, all biological communities were characterized, and the observed plant and wildlife species were recorded*." The IS/MND does not mention how the habitats were characterized or which vegetation classification was used. The Department strongly encourages the use of a *Manual of California Vegetation*. The IS/MND describes three types of vegetation: big sagebrush, greasewood scrub, and saltgrass flats. The descriptions, however, are generic and do not represent what is physically present on the ground within the Project area. For example, Acton encelia (*Encelia actoni*) occurs within big sagebrush scrub but does not occur in Lassen County. Greasewood (*Sarcobatus vermiculatus*) and salt grass (*Distichlis spicata*) are listed as occurring on site but if they occur together, that association is considered a Sensitive Natural Community. Further, the description of saltgrass flats in the IS/MND could be describing a wetland. The State Water Resources Control Board describes a wetland[1] as the following:

> *An area is a wetland if: (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation. The Procedures provide the same wetland delineation methods that are used by the Army Corps of Engineers.*

Waters of the State include more aquatic features than Waters of the U.S., which are defined by the federal government. The hydrology of some of the sagebrush areas has large swaths of these playas that "fill" with rainwater and are vital for groundwater recharge in an area that receives little water. A wetland delineation can typically determine if these "playa" areas do in fact hold water.

The Department recommends the descriptions of the vegetation communities be revised to reflect what is present onsite using a *Manual of California Vegetation*. Once the vegetation community is defined, Sensitive Natural Communities can be determined.

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1 https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/wrapp/dredge_and_fill_draft_procedures_fact_sheet_022519_update.pdf

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Sensitive Natural Communities can be found here: https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities. Impacts to Sensitive Natural Communities must be analyzed and addressed in the environmental review process (see CEQA Guidelines checklist, item IV-b). Because vegetation mapping was not conducted, neither the Department nor the Lead Agency can ascertain if there are Sensitive Natural Communities present onsite, precluding the Lead Agency from making an informed decision on the level of significance of this CEQA Guidelines checklist item. The IS/MND did not mention how much of each "vegetation type" existed on site and which communities, if any, would be impacted by Project activities. The Department recommends reevaluating the vegetation mapping performed on the site, identifying the natural communities on the project site, determining which, if any, are identified as sensitive, and determining the level of significance and mitigation based off that analysis. Specific mitigation would be required to reduce any impacts to less than significant.

Wildlife

Two special status species were identified in CNDDB within a 5-mile radius of the project and include, but are not limited to, the following:

- Long-eared owl (*Asio otus*)(California Species of Special Concern)
- American badger (*Taxidea taxus*)(California Species of Special Concern)

Long-eared owl (*Asio otus*)

Based on the breeding habitat of the long-eared owl, the Project does not appear to have adequate habitat. However, the Project does provide foraging habitat. Impacts to foraging habitat should be analyzed in the forthcoming environmental document.

American badger (*Taxidea taxus*)

According to the CNDDB, the American badger has been observed within and adjacent to this Project. The Department had recommended in its early consultation letter a burrow survey be conducted to determine if habitat is present for the badger and/or other fossorial specialists. The project applicant is proposing to conduct burrow surveys as preconstruction surveys approximately two weeks prior to the start of construction. The Department strongly encourages the burrow survey to be conducted prior to project approval in the event there are badgers and/or other fossorial specialists present, allowing for the redesign of the Project to avoid the dens. Impact significance cannot be determined when there is no data to analyze.

Badgers are sensitive to the effects of habitat fragmentation, they have a low reproductive rate, and a high rate of juvenile mortality. Badgers give birth to young underground in March or April. Litter sizes range from one to five with two being the average. The young are born blind and with little fur. Their eyes open at about four weeks, at which time the mother may move them from the natal den closer to hunting areas. Thereafter, the family can be moved almost nightly. The kits are weaned at about six to eight weeks and begin to emerge above ground on their own. Solid prey is brought back to the den by the

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mother, and eventually, young badgers begin to accompany her on hunts. At about three to four months old, young badgers disperse to live in their own burrows. Dispersal typically occurs between July and August. Therefore, mitigation measure BIO-4 needs additional seasonal restrictions so natal dens are not inadvertently filled in and young can disperse. The Department recommends adding in a sentence such as, "Installation of one-way doors shall only be implemented outside of the natal rearing period, typically March through May.

Nesting Bird Survey – BIO-3

This measure states that a qualified biologist shall conduct a nesting bird survey no more than two weeks prior to construction. The Department recommends two be changed to one (1) week prior to construction.

Survey Results

All surveys should be conducted prior to approval of the Project and survey results should be submitted via email to R1CEQARedding@wildlife.ca.gov. If any special-status species are found during surveys, the Department requests that CNDDB forms be filled out online or sent to Sacramento and a copy of the form be emailed to the Regional office at the above address. Instructions for providing data to the CNDDB can be found at: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data.

Mitigation

Avoidance and mitigation measures for impacts to special status species and sensitive habitats, if found, should be proposed in subsequent environmental review to avoid any significant effects the Project would have on the species or its habitat. Examples of mitigation measures for special status species and habitats include, but are not limited to, project modification to avoid the species and its habitat, enhancement of existing onsite habitat, offsite restoration or enhancement of habitat, or onsite/offsite preservation of habitat. Since appropriate botanical surveys were not conducted, it is unknown if those species are present, if they are impacted, or if the impact is significant to warrant mitigation.

If you have any questions, please contact Amy Henderson, Senior Environmental Scientist (Specialist), at (530) 598-7194, or by email at Amy.Henderson@wildlife.ca.gov.

Sincerely,

DocuSigned by:
donna cobb
1AFB1E1AEF314DD...

Curt Babcock
Habitat Conservation Program Manager

ec: Stefano Richichi, Associate Planner
County of Lassen
srichichi@co.lassen.ca.us

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State Clearinghouse
State.clearinghouse@opr.ca.gov

Amy Henderson
California Department of Fish and Wildlife
Amy.Henderson@wildlife.ca.gov

Habitat Conservation Planning Branch
CEQACommentLetters@wildlife.ca.gov

Chron

USE PERMIT PROCESS

DEPARTMENT OF PLANNING AND BUILDING SERVICES
707 Nevada Street, Suite 5 · Susanville, CA 96130-3912
(530) 251-8269 · (530) 251-8373 (fax)
www.co.lassen.ca.us

The following information is intended to provide a generalized description of the Use Permit process in Lassen County.

APPLICATION

In accordance with the California Environmental Quality Act (CEQA), most Use Permit applications considered by Lassen County must first undergo an established environmental review procedure. The first step in the environmental review procedure is the Initial Study. An Initial Study Application is made by the completion and submittal to the Lassen County Planning and Building Services Department of an Initial Study (Appendix A) a Use Permit Application, a plot plan of the proposed project, and any additional information requested by the Department of Planning and Building Services for a complete and acceptable application. Filing fees are as follows: $2,000.00 for Initial Study Review and $85.00 for Environmental Health, plus a separate fee of $75.00, made payable to the CSU Chico Research Foundation, for an archaeological records search (NOTE: Additional project review fees may be required by the California Archaeological Inventory Center). Class I $742.00, applies to Use Permits for signs and single-family residences; Class II $1,350.00, applies to Use Permits not categorized as Class I or Class III; Class III $1,350.00, applies to Use Permits for proposed production projects to generate electrical power for private or public utility uses, as well as exploratory and production wells, or otherwise to supply an energy resource by any means for sale or use other than use strictly by the applicant; transmission facilities including power lines and pipelines; projects in which a major component of the operation is the handling or disposal of solid or hazardous wastes, or the handling of hazardous or toxic materials; cannabis dispensary and testing pursuant to section 18.108.045 and 18.108.046.

All fees are for the processing of applications and are non-refundable after processing has commenced. It should be noted that some Use Permit applications (for example, signs that are within the limitations of the existing zoning district and sign regulations of the Lassen County Code, Title 18) are exempt from the environmental review requirements of CEQA. If a preliminary review of a project proposal by the Department of Planning and Building Services reveals that an exemption to CEQA does apply, then the fee for the Initial Study Application can be waived and/or returned to the applicant. However, if it is determined that the project is exempt from environmental review, and your project is ultimately approved, a $200.00 fee for filing the Notice of Exemption with the County Clerk's Office will be required.

A complete and accurate set of application materials is of utmost importance for timely processing. A clear and detailed plot plan is essential. Applicants should consider supplementing their application with color photographs, or any other materials that would assist reviewers in gaining a better understanding of the project.

ENVIRONMENTAL REVIEW - PROCEDURE

In Lassen County, the Director of Planning and Building Services has been designated as the Environmental Review Officer (ERO) as per Lassen County Resolution No. 01-043. In general, the duties of the ERO are to coordinate the environmental review procedures, prepare Initial Studies, recommend environmental findings to the Lead Agency (the Planning Commission or, ultimately, the Board of Supervisors), prepare all applicable environmental documents, conduct public meetings, and keep the County's environmental review guidelines in continual compliance with CEQA.

The ERO conducts a preliminary review of all project applications to determine, within thirty (30) days, whether the application is complete and/or whether the proposed project is exempt from CEQA. Once the application has been accepted as complete, and not found to be exempt from CEQA, an Initial Study is

prepared. Based on a review of the Initial Study results, the ERO will make a determination as to the appropriate kind of environmental document that will be prepared for the particular project of concern, or decide to refer said determination to the Planning Commission. Basically, the ERO will make one of the four following findings:

A. That the project could not have a significant effect on the environment, and a Negative Declaration should be prepared; or

B. That, although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described in the Initial Study have been added to the project. Therefore, a Negative Declaration should be prepared; or

C. That the project may have a significant effect on the environment and an Environmental Impact Report (EIR) should be required; or

D. The ERO may choose not to make one of the above three decisions if further information from review and consultation with responsible agencies is deemed necessary, and proceed to refer the decision to the Planning Commission, or the Board of Supervisors, as applicable. Said Commission or Board will then make one of the above three decisions regarding the appropriate environmental document that should be prepared.

The determination as to the kind of environmental document that should be prepared for a given project proposal, an EIR or a Negative Declaration, will be made within thirty (30) days of accepting the application as complete. The thirty (30) day time period may be extended fifteen (15) days upon mutual consent of the project applicant and the applicable County office acting in behalf of the Lead Agency. A final Negative Declaration will be adopted within 180 days after the application has been accepted as complete. The Lead Agency will certify a final EIR within one year after the application has been accepted as complete. A more detailed explanation of the process involved in the preparation of these documents is available in another informational handout entitled Lassen County Environmental Review Guidelines - Resolution No. 01-043.

TAC

Use Permit Applications are reviewed by the Technical Advisory Committee (TAC), which is composed of representatives of the following offices: County Assessor, County Engineer, County Sanitarian, Planning Director, County Road Commissioner, and the County Fire Warden. The TAC makes a recommendation to the Planning Commission regarding possible modifications to the project and/or conditions to approval, should the Planning Commission consider approval of the subject project.

THE PLANNING COMMISSION

After the TAC meeting, and the completion of the appropriate environmental document, the Planning Commission will consider the Use Permit Application at a public hearing. The project applicant, surrounding property owners, and affected governmental agencies will be notified of the upcoming public hearing and invited to submit any comments regarding the project to the Planning Commission and/or to attend the meeting. The Planning Commission may approve, conditionally approve, or deny the Use Permit Application. Approved, or conditionally approved, applications may be revocable, non-transferable, and/or temporary.

If your project is approved by the County, a Notice of Determination (NOD) will be filed with the County Clerk by the Planning and Building Services Department. The NOD starts a 30-day statute of limitations on any legal challenge to the project's environmental document. Prior to filing the NOD, Section 711.4 of the California Fish and Game Code requires that the County collect an environmental filing fee on behalf of the Department of Fish and Wildlife. The fee varies according to the environmental document prepared for your project as indicated in the table below.

USE PERMIT PROCESS

DEPARTMENT OF FISH AND WILDLIFE ENVIRONMENTAL FILING FEES
(Fish and Game Code 711.4)

CEQA DOCUMENT	FEE (effective January 1, 2020)
Negative Declaration	$2,406.75
Mitigated Negative Declaration	$2,406.75
Environmental Impact Report	$3,343.25
County Clerk Processing Fee	$ 50.00

If you believe your project will have *no effect* on fish and wildlife, you may contact the California Department of Fish and Wildlife to discuss an exemption from the fees. For more information about the fees and possible exemption you should contact the Department of Fish and Wildlife directly at (530) 225-2300 or at the DFW Website at www.wildlife.ca.gov.

IMPORTANT NOTE: Even if your project is approved by the County, the project is not operative, vested, or final, and any local permits issued for the project are invalid if the fees are not paid.

APPEALS

Following the action taken by the Planning Commission at the public hearing, there is a ten (10) day appeal period during which any person may appeal decisions of the Planning Commission. Appeals may address approval or denial, and/or any conditions to approval. Any appeals must be made in writing to the Lassen County Board of Supervisors through the County Clerk's Office. Appeals of Planning Commission decisions are heard by the Board of Supervisors. Decisions of the Board of Supervisors are final. There is a $500.00 fee for all appeals.

FINALIZATION OF THE USE PERMIT PROCESS

If a Use Permit is approved and no appeals are filed within the ten (10) day appeal period following the approval, the project applicant will be issued an official Use Permit. The official Use Permit will identify the use that has been approved and any applicable conditions to said approval.

In the case that the Use Permit Application has been denied, the applicant will receive a letter informing them of the denial and the findings leading thereto. If a Use Permit is not used within one year after approval, that is, if the specific use for which the Use Permit was issued is not effectuated within one year from the issuance of the official Use Permit, then the Use Permit will be considered null and void. If necessary, the permittee may submit a letter to the Planning Commission prior to the expiration date requesting an extension of the one-year expiration time. Extensions may be granted for up to one year, and a maximum of two extensions of time may be allowed. Extension requests are considered at the next regularly scheduled Planning Commission meeting. There is a $238.00 fee for all extension requests. In the case that the conditions of a Use Permit are not met, or if the use becomes something other than the use as approved under the subject Use Permit, the Planning Commission will take action to revoke the permit and terminate the use.

AUTHORIZATION TO OPERATE

On the effective date of an approved use permit, the permittee may proceed with development of the use subject to the conditions of approval, but shall not be authorized to operate the use until a $200.00 fee has been paid and a written Authorization to Operate has been issued by the Department of Planning and Building Services. An Authorization to Operate will be issued when the permittee has demonstrated compliance with conditions of approval, and has submitted to the Department of Planning and Building Services a written request for Authorization to Operate (§18.112.080 Lassen County Zoning Ordinance).

The Department of Planning and Building Services staff would be happy to help you through the Use Permit process, and refer you to other public agencies that may be involved in your particular project. For further information regarding the Use Permit Process, contact the Lassen County Department of Planning and Building Services, 707 Nevada Street, Suite 5, Susanville, CA 96130. Phone (530) 251-8269.

County of Lassen
Department of Planning and Building Services
• Planning • Building Permits • Code Enforcement • Surveyor • Surface Mining

Maurice L. Anderson, *Director*
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website: www.co.lassen.ca.us

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Inspection Requests
Phone: 530 257-5263

April 1, 2021

Dr. Charles Hooper
11242 Clinton Bar Road
Pine Grove, CA 95665

Brent Moore, Vice President
Sierra Geotech, DBE, Inc.
2250 Sierra Meadows Drive, Suite A
Rocklin, CA 95677

RE: Initial Study #2020-001 for Use Permit #2020-004, Hooper

This letter is to inform you that this Department has determined that the above-referenced initial study remains on hold (see our letter dated January 6, 2021) until the items discussed below are satisfactorily addressed.

1. Biological Resources

In the California Department of Fish and Wildlife's (CDFW) most recent letter, dated March 26, 2021 (attached), CDFW reiterates its two previous letters, stating that CDFW still requests that a "basic botanical, wildlife, and habitat assessment [be] conducted ***at the appropriate time of year***" (emphasis mine). CDFW goes on to state that "[t]hese comments are still applicable as Sierra Geotech staff went out in February 2021 to conduct surveys disregarding the consultation to date as well as the previous comment letters…" CDFW has several additional comments, which CDFW states are repetitious of their previous comments, but have yet to be adequately addressed. Please see the attached letter from CDFW for more information. As discussed in our January 6, 2021, letter, please respond in writing to CDFW's letters. We will review said written response and determine if preparation of the initial study can resume.

2. Hazardous Materials

According to the California Department of Toxic Substances Control's (DTSC) Solar Panel FAQs, after a generator decides to discard solar panels or when they are disconnected or removed from service, solar panels are considered hazardous waste.[1] Solar panel wastes include heavy metals such as silver, copper, lead, arsenic, cadmium, and selenium, which at certain levels may be classified as hazardous wastes. Furthermore, the electronic components associated with the solar panels (e.g. drivers, inverters, circuit boards) contain "all of the common electronic device hazardous constituents such as lead, arsenic, cadmium, selenium, and chromium."

It is understood that, according to documentation submitted on your behalf, the project is expected to be in operation "for at least twenty-five to thirty-five years." Once the solar panels are removed from service, they will constitute hazardous waste. Therefore, at the end of its life cycle, the project would create a significant hazard to the environment if not disposed of properly. It is difficult to predict what an applicant's financial situation may be at the end of the project's life cycle, so, to ensure that Lassen County is protected from having a defunct solar array and battery storage system, which would constitute "hazardous materials" at the end of their life cycle, the Environmental Review Officer is proposing the following mitigation measures, to reduce the severity of potentially significant impacts to a less than significant level:

[1] https://dtsc.ca.gov/solar-panel-faqs/#easy-faq-348312.

- HM-1: The applicant shall prepare a plan that effectively addresses hazardous materials. Such plan shall include specific measures to be taken in the case of release of any hazardous materials. Such plan shall be reviewed by the Lassen County Environmental Health Department in its Certified Unified Program Agency (CUPA) function; The Environmental Review Officer may consult with the California Department of Toxic Substances Control or any other relevant agency for review of the plan. The Environmental Review Officer shall have the authority to require any modifications to said plan to ensure satisfaction of this mitigation measure.[2]

- HM-2: At the time operations approved by this Use Permit are discontinued, all structures, associated equipment, and all debris shall be removed from the site within 6 months after securing a demolition permit. If not removed within 6 months, the County may cause the structures, associated equipment, and all debris to be removed at the expense of the operator and/or property owner.

- HM-3: At the time of decommissioning described in Mitigation Measure HM-2 above or if any structures, equipment, or debris is removed from the site for any reason, all structures, associated equipment, and all debris shall be removed from the site in accordance with all applicable regulations concerning hazardous materials. The applicant shall submit a letter from the California Department of Toxic Substances Control to provide evidence that the above has occurred.

- HM-4: The applicant/property owner shall submit a detailed and thorough cost estimate itemizing the complete cost to decommission the project. The Planning and Building Services Department must find said cost estimate acceptable prior to issuance of an Authorization to Operate (ATO). Funds equal to the amount of said cost estimate shall be made available to the County in a form accepted by the County prior to issuance of an ATO. County will use said funds to decommission the site if the applicant does not comply with the condition to remove all structures, associated equipment including solar panels, and all debris within six (6) months of the end of operations.

- HM-5: The applicant/property owner shall adjust the amount of the mechanism for inflation or changes in the law as directed by the Planning and Building Services Department. The Department may utilize an acceptable index such as the Consumer Price Index to determine inflation.

Please confirm as to whether you are agreeable to the above mitigation measures for incorporation into the relevant environmental document. Any established mitigation will be included in a mitigation monitoring and reporting program pursuant to the California Environmental Quality Act. Typically, said program is signed by the applicant and/or property owner. If these measures are not agreeable, other appropriate mitigation must be developed to reduce impacts to a "less than significant" level pursuant to CEQA or an environmental impact report may be required. Please also be aware that additional may be required for the sections of the initial study that remain incomplete.

3. Wildfire

In his March 18, 2021, email to this Department (attached), CAL FIRE Lassen-Modoc Unit Battalion Chief Chris Christopherson recommends that "the project be required to submit an ongoing vegetation management

[2] This mitigation measure is based upon mitigation measure HM-1 proposed in the proposed draft initial study prepared by Sierra Geotech. However, it is unclear at this point whether the above language for HM-1 will be included as a mitigation measure or as only a condition of approval. This Department will coordinate with relevant agencies to determine this. In any case the above language for HM-1 is likely to be included in one form or another.

plan preventing the annual growth of flammable vegetation and [that] all access [be] covered with an all-weather covering." In addition to his role with Cal Fire, Mr. Christopherson represents the Lassen County Fire Warden's Office as a member of the Technical Advisory Committee (TAC), which body recommends conditions of approval to the Planning Commission. Therefore, although Mr. Christopherson has not specifically identified project wildfire impacts under CEQA, he may propose the above as a condition of approval through his role with the TAC.

In said email, Mr. Christopherson also states that the "project falls outside of any fire district in Lassen County, part of the wildland falls within the protection of [the Bureau of Land Management (BLM)] and the other is just unprotected lands." In her email to this Department dated March 25, 2021, BLM Eagle Lake Field Office Field Manager Emily Ryan asks in part whether "any welding or other industrial activity" is proposed. Is any welding or other industrial activity proposed? Furthermore, your submitted fire management plan identifies several measures to be taken in order to minimize fire risk. In the event of a fire incident, where will the water come from? Are you proposing water tanks on-site?

Again, the above-referenced initial study remains on hold until the above items are addressed. As stated in previous letters to you, this Department has the authority to require you to submit data and information necessary to determine whether your project may have a significant effect on the environment, pursuant to Section 21160 of the Public Resources Code.

Given the complexity of this project and the number of agencies involved, this Department requests that you restrict communication with this Department to writing (e.g. email is acceptable). If you do believe that you need to contact this Department by phone or in person, please propose such in writing, and identify a stated, clear purpose for any such meeting. Please contact Senior Planner Stefano Richichi at srichichi@co.lassen.ca.us if you have further questions.

Sincerely,

Maurice L. Anderson,
Director

MLA:smr
Enclosures: Letter from California Department of Fish and Wildlife dated March 26, 2021
Email from the Bureau of Land Management dated March 24, 2021
Email from Cal Fire dated March 18, 2021

cc: Lassen County Counsel
Lassen County Fire Warden
Lassen County Environmental Health Department
Shaun Vemuri, Sierra Geotech, DBE, Inc.

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Northern Region
601 Locust Street
Redding, CA 96001
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

March 26, 2021

Stefano Richichi, Senior Planner
County of Lassen
Department of Planning and Building Services
707 Nevada Street, Suite 5
Susanville, CA 96130

Subject: Response to Project Applicant to the Early Consultation for Initial Study #2020-004 and Use Permit #2020-004 (Hooper), Assessor Parcel Numbers 137-170-12 and 137-170-13, State Clearinghouse Number 2020100366, Lassen County

Dear Stefano Richichi:

The California Department of Fish and Wildlife (Department) has reviewed the information sent by Sierra Geotech, DBE, Inc. in response to the Department's November 13 and December 14, 2020 early consultation letters. The Department has the following comments and recommendations, which are repetitive of our previous comments in our early consultation letters:

General Comments

In our previous two letters, the Department requested a basic botanical, wildlife, and habitat assessment conducted at the appropriate time of year. In an email response from Senior Environmental Scientist, Amy Henderson, to Shaun Vemuri of Sierra Geotech, dated February 1, 2021, it was emphasized, "*The surveys need to be done at the appropriate time of year so looking for burrows can be done concurrently with botanical surveys. Most wildlife surveys are conducted in the spring months usually concurrently with the botanical surveys unless there is a specific protocol that says otherwise. I would recommend if you found a burrow and need to set up a trail cam to see if it is active, that you do so during the spring when the animals are more observable. The information I requested in my previous letter needs to be sent to the County and then they will forward me a referral to which I will comment on. As long as you hire qualified people and submit the reports to the County, CDFW is satisfied. I don't have the letter the County sent to you so if they have additional requirements you should make sure to follow those as well.*" These comments are still applicable as Sierra Geotech staff went out in February 2021 to conduct surveys disregarding the consultation to date as well as the previous comment letters, which are attached for your review.

In the revised Biological Assessment (BA) dated February 2021, it states, "*This BA has been prepared according to the legal requirements set forth under Section 7 of the federal Endangered Species Act (FESA)(16 U.S.C. 1536 [c], C.F.R. Sec. 402.12), and presents technical information upon which later determinations regarding project effects will be developed for compliance with the California Environmental Quality Act (CEQA).*" The BA goes on to say that no federally listed species occur in the Project area. If the official

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federal species list determined there were no federally listed species or critical habitat for said species within the Project, please clarify why a Section 7 consultation is being initiated.

Table 3 identifies plant species with California Native Plant Society rankings. The table incorrectly identifies these rankings as listings. For example, Geyer's milkvetch is not a CNPS listed fairly endangered in California species nor does it appear even as a sensitive species for the U.S. Fish and Wildlife Service. It is a California Rare Plant Rank 2.2 species which means it is considered fairly endangered in California. The Department recommends revising the table so that it is not reflecting non-federal species as federal. Further information on California Rare Plant Ranking can be found in the Department's March 2018 survey protocols.

Botanical Surveys

Conducting surveys ahead of Project approval is critical in that it allows the Department, land use planning agencies, and project proponents to make educated land use decisions. It also allows for the project proponents ample time to redesign their project to avoid and/or minimize significant impacts, if necessary. The special status plants provided in the previous comment letters and the BA have been shown to occur adjacent to or within a 5-mile radius of the Project area depicting similar habitat as the Project area. Conducting botanical surveys two weeks prior to the start of construction does not allow the Department or the Lead Agency time to fully analyze potential significant impacts to special status species; therefore, the Department recommends a thorough assessment of rare plants and rare natural communities be conducted following the Department's March 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (https://www.wildlife.ca.gov/conservation/survey-protocols#377281280-plants). As stated in the Protocols, these surveys must be conducted by a qualified botanist during the appropriate time of year to identify species of concern and should include areas with both direct and indirect impacts. Impacts to special status species and sensitive natural communities found during surveys should be analyzed and specific mitigation would be required to reduce any impacts to less than significant.

Mitigation Measure 12 states that special status plant species surveys will be conducted "*prior to any construction or ground disturbance activities*"; however, the construction schedule proposed states construction will begin in the winter meaning the pre-construction focused surveys will be done in the fall outside of the appropriate blooming period. The Department strongly recommends that the surveys take place beginning this spring, prior to project approval, in order of the Lead Agency and Department to consider the adequacy of mitigation measures.

Mitigation Measure 20 section (a) states if special status species are found, a "*rare plant mitigation program will be prepared and implemented.*" This measure is not a feasible mitigation measure for the following reasons. First, the fencing of the special status species needs a buffer to prevent indirect impacts to the plant population and none is proposed and re-doing the grading and construction plans right before the start of construction to include the fencing seems highly unlikely. Secondly, the measures states if avoidance of special status species cannot occur and the population is removed, a rare plant mitigation program would be prepared and implemented. Because the CEQA

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document for this project is an MND, not an Environmental Impact Report, the plan should be prepared as part of the document and success criteria included in the plan prior to Project approval. Stating a plan will be prepared without success criteria is deferring the mitigation to a future date after the Project has been approved. Third, collecting seed of annual species and replanting them in suitable habitat on the property may not be appropriate depending on the species, site, and the level of disturbance. Solar arrays often change the drainage and sunlight patterns of areas making the area unusable for replanting. Therefore, it is important to know if special status species occur on the site, where they occur, how they can be avoided through redesign, and where there is appropriate habitat to mitigate onsite prior to approval of the Project. Finally, the Department generally considers salvage and relocation (translocation) to be an inappropriate way to compensate for permanent impacts to rare, threatened, endangered, and sensitive native plants (rare plants). Rare plant translocations for mitigation have a low success rate and the Department considers such efforts experimental, unless they have been demonstrated to be effective through long-term experimentation. Successful rare plant translocations require many years of habitat surveys, habitat modeling, site selection, seed collection, plant propagation, site preparation, monitoring, and remedial actions such as management of competing plants, supplemental watering, and supplemental planting. Success is not guaranteed, and even translocations that are initially successful may fail to persist over the long term.

Additionally, transplantation efforts do not replace intact ecosystems or maintain the entire range of genetic diversity at the impact site. The presence of rare plants often signifies the presence of biogeographically important sites with unusual soil, microclimate, or other conditions that are not easy to identify and difficult or impossible to duplicate. Loss of genetic material from rare plant translocation may also hinder introduced populations from withstanding changing environmental conditions over time. The most effective way to mitigate for permanent loss of rare plant habitat is therefore to protect and manage existing populations in their natural habitat.

Sensitive Natural Communities - Wetlands

The description of the Alkali Basins, Flats or Playas could be describing a wetland. The State Water Resources Control Board describes a wetland[1] as the following:

> *An area is a wetland if: (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation. The Procedures provide the same wetland delineation methods that are used by the Army Corps of Engineers.*

Waters of the State include more aquatic features than Waters of the U.S., which are defined by the federal government. The U.S. Fish and Wildlife Service's National Wetlands Inventory Map indicates the presence of Palustrine, Unconsolidated Shore,

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1 https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/wrapp/dredge_and_fill_draft_procedures_fact_sheet_022519_update.pdf

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Temporarily Flooded (PUSA) occurring on the Project. The Department will consider these areas wetlands until the Project applicant can demonstrate otherwise with updated wetland surveys. The BA suggests that the consultants used data from old projects that occurred nearby to determine the playas were not wetlands. The Department could not find any recent wetland data sheets and will not accept data from a report that is decades old. The BA also states that the Project area does not have any of the features listed in the State wetlands definition; however, it appears that the areas show a presence of water and there is lack of vegetation. The alkali playa photo shown on the cover of the BA shows water was present by the cracking appearance of the soil and those same areas lack vegetation, which is two out of the three requirements under the State definition. The Department considers all wetlands sensitive, and the State has a "No Net Loss" wetland Policy[2]. Further, the BA states the impacts of the solar array are temporary and not permanent. The placement of the solar arrays are permanent impacts and should be discussed as such in the BA and the forthcoming environmental document. According to the BA, approximately 148 acres of alkali basin/flats/playas will be "temporarily" impacted. This is likely a permanent significant impact.

CESA

Mitigation Measure 12 states if listed species are found (federal or state), all construction halts until corrective measures have been completed. The Department strongly encourages that surveys are conducted at the appropriate time of year when both plants and wildlife are more likely to be observed to prevent this finding from occurring during the construction period. An Incidental Take Permit would be necessary for state-listed species and Section 7 or 10 Consultation would need to be initiated with the U.S. Fish and Wildlife Service, both can be lengthy processes. Issuance of a CESA Permit is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required to obtain a CESA Permit.

Wildlife

Loggerhead shrikes, a California Species of Special Concern, were observed during the February 2021 survey. A major threat to this species is habitat loss both breeding and wintering grounds.

Pronghorn and mule deer, both game species utilize this area during the winter months which are critical for their survival. The BA states that pronghorn antelope were observed in February 2021. Impacts to wintering range should be discussed in the forthcoming environmental document.

Nesting Bird Survey

Mitigation Measure 21 does not give a specific time for when pre-construction nesting bird

[2] https://fgc.ca.gov/About/Policies/Miscellaneous#Wetlands

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surveys will take place. Our previous comments stated that surveys should be conducted no more than one (1) week prior to start of construction.

Mitigation Measure 22 states, "In accordance with the MBTA, if an active nest is observed in the project area during construction, Calneva BESS/PSES will stop work within the appropriate buffer for the species…" It should state, "In accordance with the MBTA **and Fish and Game Code section 3503 and 3503.5,** if an active nest is observed…"

Survey Results

All surveys should be conducted prior to approval of the Project and survey results should be submitted via email to R1CEQARedding@wildlife.ca.gov. If any special-status species are found during surveys, the Department requests that CNDDB forms be filled out online or sent to Sacramento and a copy of the form be emailed to the Regional office at the above address. Instructions for providing data to the CNDDB can be found at: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data.

Mitigation

Avoidance and mitigation measures for impacts to special status species and sensitive habitats, if found, should be proposed in subsequent environmental review to avoid any significant effects the Project would have on the species or its habitat. Examples of mitigation measures for special status species and habitats include, but are not limited to, project modification to avoid the species and its habitat, enhancement of existing onsite habitat, offsite restoration or enhancement of habitat, or onsite/offsite preservation of habitat. Since appropriate botanical surveys were not conducted, it is unknown if those species are present, if they are impacted, or if the impact is significant to warrant mitigation.

If you have any questions, please contact Amy Henderson, Senior Environmental Scientist (Specialist), at (530) 598-7194, or by email at Amy.Henderson@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Curt Babcock
974D273FEE784E2...

Curt Babcock
Habitat Conservation Program Manager

ec: Stefano Richichi, Associate Planner
County of Lassen
srichichi@co.lassen.ca.us

State Clearinghouse
State.clearinghouse@opr.ca.gov

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Douglas Cushman
Senior Water Resource Control Engineer
Douglas.Cushman@waterboards.ca.gov

Amy Henderson
California Department of Fish and Wildlife
Amy.Henderson@wildlife.ca.gov

Habitat Conservation Planning Branch
CEQACommentLetters@wildlife.ca.gov

Stefano Richichi

From: Ryan, Emily S <esryan@blm.gov>
Sent: Wednesday, March 24, 2021 9:05 AM
To: Gifford, Grant J
Cc: Stefano Richichi
Subject: Re: [EXTERNAL] FW: Solar project

Follow Up Flag: Follow up
Flag Status: Flagged

This message comes from an external sender. EXTERNAL SENDER WARNING!

Hi Stefano - Thank you for reaching out. If you could please include BLM in any scoping efforts for this project that would be great.

Some initial thoughts about the project would be related to the actual construction of the project:

- what time of year they would be working in the field
- will any welding or other industrial activity would be going on
- will equipment have spark arresters

We could also provide a few examples of fire prevention plans that BLM has in place for solar projects elsewhere in the state if that would be of assistance.

Thanks!
Emily

From: Gifford, Grant J <ggifford@blm.gov>
Sent: Tuesday, March 23, 2021 11:58 AM
To: Ryan, Emily S <esryan@blm.gov>
Cc: Stefano Richichi <SRichichi@co.lassen.ca.us>
Subject: Fw: [EXTERNAL] FW: Solar project

Hi Emily-

This sounds like more of a compliance/ NEPA/ CEQA request for input for a project on private that may be adjacent to BLM lands.

See email chain below.

Let me know if I can assist further.

Thanks!

Grant Gifford
Fire Management Officer
Eagle Lake Field Office

2550 Riverside Drive
Susanville, CA 96130
530-252-5301 (desk)
530-200-6468 (mobile)
ggifford@blm.gov

From: Stefano Richichi <SRichichi@co.lassen.ca.us>
Sent: Tuesday, March 23, 2021 11:17 AM
To: Gifford, Grant J <ggifford@blm.gov>
Cc: Gaylon Norwood <GNorwood@co.lassen.ca.us>; Christopherson, Chris@CALFIRE <Chris.Christopherson@fire.ca.gov>
Subject: [EXTERNAL] FW: Solar project

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hi Grant,

My name is Stefano Richichi and I work for the Lassen County Department of Planning and Building Services. I'm reaching out to you because the County is processing a land use entitlement for a solar project and related battery energy storage system and power line out in the desert east of Herlong, near the Nevada border, and according to our Cal Fire representative, the BLM provides wildland fire protection out there (see email below).

The County is currently working on a CEQA document for said project, as said project is on private land, but I wanted to know whether you might be interested in commenting on the project, particularly whether the BLM believes that any measures or steps need to be taken in order to ensure that the project will have a less than significant effect on the environment, especially in regard to fire side of things. The County is currently in the initial study phase of the CEQA environmental review process for this project.

Please let me know whether you are the right person to talk to about this; I got your email address from Andrew Johnson at the Eagle Lake Field Office. Let me know and I can send you additional information.

Best,

Stefano M. Richichi
Senior Planner
Lassen County Planning & Building Services
707 Nevada St, Suite 5
Susanville CA 96130
(530) 251-8269
(530) 251-8373 (FAX)

From: Christopherson, Chris@CALFIRE <Chris.Christopherson@fire.ca.gov>
Sent: Thursday, March 18, 2021 12:55 PM
To: Gaylon Norwood <GNorwood@co.lassen.ca.us>
Cc: Stefano Richichi <SRichichi@co.lassen.ca.us>
Subject: Re: Solar project

This message comes from an external sender. EXTERNAL SENDER WARNING!

Gaylon,

For this project,

Fire Protection - This project falls outside of any fire district in Lassen County, part of the wildland falls within the protection of BLM and the other is just unprotected lands.

The photovoltaic array does not fall under the requirements of the Fire Safe Regulations. I would suggest in addition to any requirements of the county through fire code review, the project be required to submit an ongoing vegetation management plan preventing the annual growth of flammable vegetation and all access and covered with an all-weather covering.

Chris Christopherson #2246
Battalion Chief Law Enforcement
CAL FIRE Lassen-Modoc Unit
Fire Prevention Bureau
697-345 Highway 36
Susanville, CA 96130
Office: 530.257.8520
Cell: 530.310.2220
Chris.Christopherson@fire.ca.gov
Proudly serving Lassen, Modoc, and Plumas Counties.

"No one Cares how much you know, Until they know how much you Care"
Theodore Roosevelt

From: Gaylon Norwood <GNorwood@co.lassen.ca.us>
Sent: Wednesday, March 17, 2021 7:50 AM
To: Christopherson, Chris@CALFIRE <Chris.Christopherson@fire.ca.gov>
Cc: Stefano Richichi <SRichichi@co.lassen.ca.us>
Subject: Solar project

Warning: this message is from an external user and should be treated with caution.

Chris:

I am sorry to be a pain, but we also wanted to follow up on the fire suppression plan for the solar project Stefano referred to you. It appears that we will have to return the project and our sense is that there are also issues with the fire plan. When we return the project, we want to be as thorough as possible so they can resubmit.

We need to get whatever information we will have in the return letter regarding the fire suppression plan by the end of this week.

Sincerely,

Gaylon F. Norwood
Assistant Director of Planning
and Building Services
Lassen County
707 Nevada Street Suite 5
Susanville, CA 96130
(530) 251-8269
Fax: (530) 251-8373

Stefano Richichi

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Sent: Wednesday, March 17, 2021 7:50 AM
To: Christopherson, Chris@CALFIRE <Chris.Christopherson@fire.ca.gov>
Cc: Stefano Richichi <SRichichi@co.lassen.ca.us>
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We need to get whatever information we will have in the return letter regarding the fire suppression plan by the end of this week.

Sincerely,

Gaylon F. Norwood
Assistant Director of Planning
and Building Services
Lassen County
707 Nevada Street Suite 5
Susanville, CA 96130
(530) 251-8269
Fax: (530) 251-8373

ATTACHMENT 6

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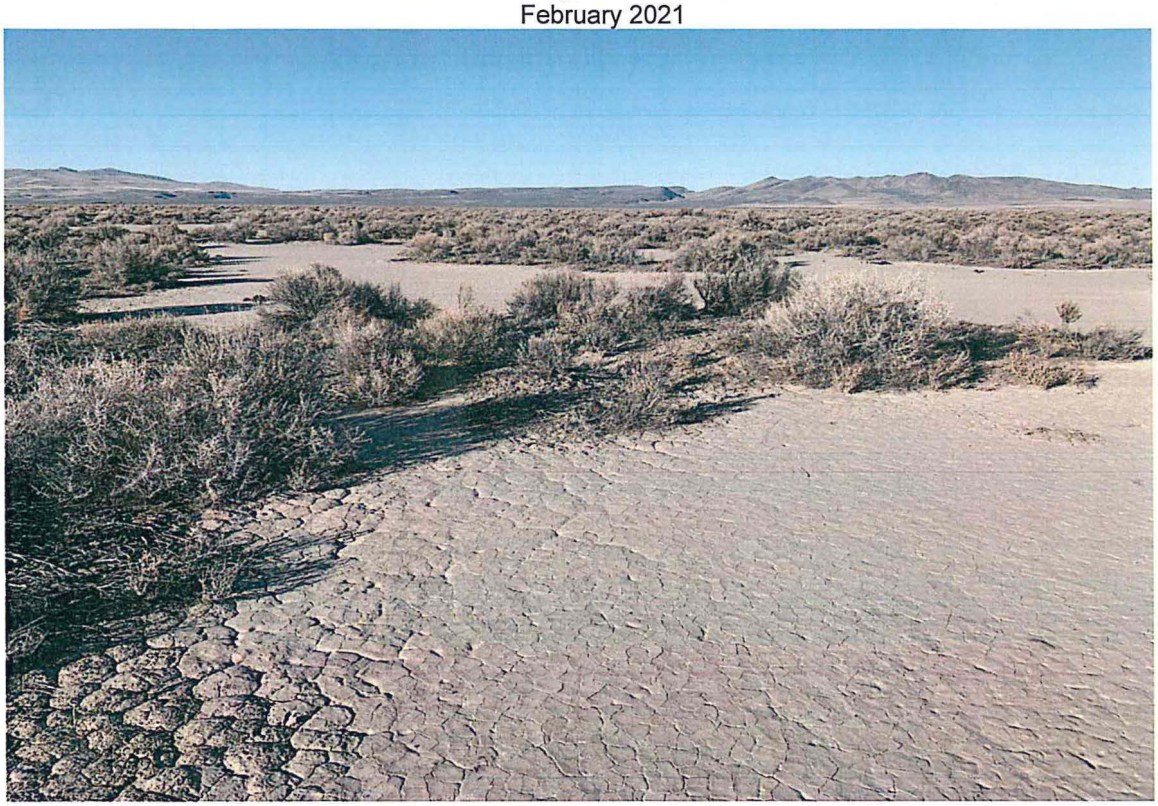
LASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES

Biological Assessment

for the

Calneva Battery Energy Storage System (BESS) and Photovoltaic Solar Energy System (PSES)

Lassen County, Calneva, California
February 2021



Prepared for:
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CDR (RET) MC USN
Board Certified Family Practice
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Pine Grove, CA 95665
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Chooper714@aol.com

Prepared by:

SIERRA GEOTECH

2250 Sierra Meadows Drive Suite A
Rocklin, CA 95677
916-712-9707

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Executive Summary

Dr. Charles Hooper, D.O. (Hooper) is planning to construct the Calneva BESS/PSES project in California's Honey Lake Valley in Lassen County, Calneva, California to provide renewable energy generation and storage for greater capacity and service reliability to the existing electric grid transmission and distribution line systems in the region. This project involves the construction of approximately 50 megawatts of solar photovoltaic (PV) array power generation, with 25 megawatts of battery energy storage system on approximately 278 +/- acres of open cattle range land with a 120 kV to 345 kV Gen-tie line to connect the project to the NV Energy Fort Sage substation via the Plumas Sierra Rural Electric Cooperative (PSREC) intertie line between the Herlong Substation and Fort Sage Substation.

Numerous sensitive and special-status species protected by the Federal Endangered Species Act, and the Migratory Bird Treaty Act, may exist within the project lease area or action area, and may be impacted by project construction activities. Project effects to special-status species and their habitats can be minimized to a less than significant impact or avoided with the implementation of the recommended construction practices and avoidance measures outlined in this report.

Project construction will result in temporary effects to approximately 278 acres of land located in the Honey Lake Valley in the northwestern margins of the Basin and Range. The entire project area is located within the California Department of Fish and Wildlife's, *California Wildlife Habitat Relationship System*, Alkali Desert Scrub, and the also described as Holland's 36120 Desert sink scrub, and Holland's 11300 Disturbed Habitat, based on Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (1986). The plants found on the project lease area: big sagebrush (*Artemisia tridentata),* four wing sagebrush (*Atriplex canecens*), shadscale saltbush (*Atriplex confertifolia*), Parry's saltbush (*Atriplex parryi*), spiny saltbush (*Atriplex spinifera*), downy brome (*Bromos tectorum*), yellow rabbitbrush (*Ericamerica nauseosa*), and interconnected basins also known as alkali flats or playas which are barren of vegetation.

The Alkali Desert Scrub or Desert sink scrub, area within the project lease area, borders on shallow, interconnected basins (alkali flats or playas) where water intermittently collects during the wet season. Alkali basins/flats/playas are unvegetated and barren, they occur within a matrix of low mounds that support Desert sink scrub plant communities. Therefore, these features have been categorized on the project site as Desert sink scrub plant community underlain by Epot Soil series very fine sandy loam and are alkali lacustrine soils. Water has been observed to collect temporarily during rain events, and then dry within 24 hours (reconnaissance survey December 2019 and February 2021) in the alkali basin/flats/playa areas of the project lease area. However, puddling is sporadic and unpredictable from one year to the next. The alkali basin/flat/playas on the project lease area do not qualify as jurisdictional wetlands because of the lack of hydrophytic vegetation and lack of wetland hydrology and hydric soils. Wetland hydrology is not present due to low average annual precipitation and low frequency of rainfall during the growing season, and the alkali basins/flats/playas abilities to dry rapidly following a rainfall event.

The construction of several permanent structures (electric substation, battery energy storage system containers, electrical inverters and transformers, site access roads, metrological stations, pilings for single axis track systems, and utility poles) will permanently remove approximately two (2) acres of alkali basins/flats/playas, and 11 acres of Desert sink scrub plant communities within the project footprint. All other project effects will be temporary, and all disturbed areas will be restored to preconstruction conditions following installation of the solar PV arrays and battery energy storge systems.

No federally listed, federal candidate, or state-listed plant species occurs in the project lease area or action area for the proposed project. The following determinations have been made for federally listed species, state special status species, and critical habitat, with the potential to occur in the project lease area:

Table 1. Determinations for Federal, State, Listed Species or Special Status Species and Critical Habitat with Potential to Occur in Project Action Area

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
Geyer's milkvetch	*Astragalus geyeri var. geyeri*	An annual that blooms from May to August and is typically found on sandy flats, depressions within stabilized or mobile dunes, margins of alkaline sandy playas, and in sandy bottomed gullies. It is common in the northwestern section of the Great Basin of Nevada and there is potential habitat within the Proposed Project as Lassen County represents the western most extension of this species.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Cruciform evening-primrose	*Camissonia claviformis* ssp. *cruciformis*	An annual that blooms from May to July and grows in sandy or rocky slopes or washes in the Modoc Plateau. Known sites are north of the Proposed Project.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Dugway wild buckwheat	*Eriogonum nutans* var. *n*utans	An annual that blooms from May to September and grows in sand or gravel flats and slopes. It is known to occur in the northeastern part of Lassen County. No known occurrences in southeastern parts of Lassen County.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Bailey's ivesia	*Ivesia baileyi* var. *baileyi*	A perennial that blooms from May to August and is found in volcanic crevices. There is no potential habitat for this species within the Proposed Project.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Sagebrush loeflingia	*Loeflingia squarrosa* var. *artemisiarum*	An annual that blooms from April through May and is found on sandy, gravelly areas of sand dunes and sand flats in sagebrush scrub.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
MacDougal's lomatium	*Lomatium foeniculaceum* var.	A perennial that blooms from April to July and is found in rocky clayey soils in	2.2	The proposed project may affect but is not likely to adversely affect the CNPS

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
	macdougalii	sagebrush communities. The project lease area does not have suitable soils to support this species.		listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Intermontane lupine	*Lupinus pusillus* var. *intermontanus*	An annual that blooms from May to June in open sandy areas.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Lance-leaved scurf-pea	*Psoralidium lanceolatum*	A perennial that blooms from April to August in sandy soils with a preference for disturbed soils.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Winged dock	*Rumex venosus*	A perennial that blooms in May and June in dry, sandy soils, preferably in disturbed areas. In California it is found only in the Honey Lake valley.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Currant-leaved desert mallow	*Sphaeralcea grossulariifolia* ssp. *grossularifolia*	A perennial found in dry alkaline or volcanic soils. Known populations are north and northeast of the project area.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Western seablite	*Suaeda occidentalis*	An annual that blooms from July to September in dry, saline, or alkaline wetland soils. This species may occur regionally but are associated with habitat not present within the project lease area.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Many-flowered thelypodium	*Thelypodium milleflorum*	A perennial that blooms April to June in sandy soils.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
				August will ensure any potential impacts will be mitigated to less than significant.
Hillman's cleomella	*Cleomella hillmanii*	An annual that blooms from April to June in clay soils within the Chenopod scrub habitat community	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Kellogg's sand verbena	*Tripterocalyx crux-maltae*	A perennial that blooms May to July in partially or fully stabilized sand dunes.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Nelson's evening primrose	*Eremothera minor*	An annual that blooms from April to July in the Chenopod scrub habitat	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Ochre-flowered buckwheat	*Eriogonum ochrocephalum*	A perennial that blooms May to June in volcanic or clay soils.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Paiute lomatium	*Lomatium ravenii*	A perennial that blooms April to June in rocky, gravely, volcanic with underlying clay soils	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
American badger	*Taxidea taxus*	Badger has been known to occur in the western portions of the Basin and Range. CNDDB reported badger burrow in the vicinity	Special Status Species	The proposed project may affect but is not likely to adversely affect the special status species American badger. Burrow survey was conducted and no burrows found on project site.
Long-eared Owl	*Asio otus*	Project site does not provide adequate habitat for breeding. Project could provide foraging habitat.	Special Status Species	The proposed project may affect but is not likely to adversely affect the special status species Long-eared Owl.
prairie falcon	*Falco mexicanus*	Project site does not provide adequate habitat for breeding. Project could provide foraging habitat. Project area is yearlong range.	Watch List	The proposed project may affect but is not likely to adversely affect the watch list species prairie falcon.

Notes:

CNPS Listing Definitions:

1A = Presumed extinct in California.

1B = Rare, threatened, or endangered in California and elsewhere.

2 = Rare in California but more common elsewhere.

2.1 = Seriously endangered in California

2.2 = Fairly endangered in California

2.3 = Not very endangered in California

1. Introduction

Dr. Charles Hooper, DO, CDR (RET) MC USN, is responding to the California Public Utility Commission (CPUC) to develop cost-effective energy storage projects totaling approximately 567 MW statewide. CPUC Resolution E-4909 adopted January 11, 2018 authorized public utilities in California to procure energy storage to address local deficiencies in the various sub-areas of the public grid system and ensure local reliability. The proposed Calneva BESS/PSES project would provide renewable energy and critically needed flexibility attributes needed to advance California's and Nevada's Renewable Portfolio Standard (RPS) goals, climate policies, and to enhance electrical grid reliability. To meet this demand, Dr. Hooper is planning to construct a battery electrical storage system (BESS) that would store up to 25 megawatts (MW) or 100 megawatt hours (MWh) of electricity for dispatch into the local grid via the existing adjacent PSREC 120 kV intertie line. The project will also construct 50 MW of solar photovoltaic power generation with the installation of Approximately 143,000 to 163,000 solar PV modules on a single axis track system on the 278 +/- acre site. The project will also include:

- Electrical inverters and transformers
- Battery energy storage system (BESS)
  - Thirty (30) battery storage enclosures (i.e., 25 MW of power) store up to 25 megawatts (MW) or 100 megawatt hours (MWh) of electricity for dispatch
  - BESS power inverters, transformers switches, MV switchgear, SCADA enclosure,
- On-site electrical substation
- Meteorological stations
- Remote monitoring system (SCADA)
- Site access roads and maintenance access roads
- Security fencing
- Gen-Tie line structures to interconnect with the PSREC 120kV intertie line south of the solar generation site and
- Gen-Tie Laydown Area

On behalf of Dr. Hooper, Sierra Geotech prepared this Biological Assessment (BA) to determine to what extent the proposed action may affect any of the federally threatened, endangered, proposed, candidate, or special-status species, critical habitat, or other species protected by the federal, state, or local plans and regulations that may occur in the project lease area or action area (the project lease area or action area is defined in detail in Section 3 below). The purpose of this BA is to review existing resource information; to summarize the results of the field surveys performed in the project lease area; to determine if species or their habitats addressed in this BA are likely to be adversely affected by construction, operation, or maintenance of the project; and to describe impact avoidance and minimization measures that would reduce or avoid potential adverse project effects to these species and their habitats. This BA has been prepared according to the legal requirements set forth under Section 7 of the federal Endangered Species Act (FESA) (16 U.S.C. 1536 [c], C.F.R. Sec. 402.12), and presents technical information upon which later determinations regarding project effects will be developed for compliance with the California Environmental Quality Act (CEQA).

Rare plant and wetland delineation surveys were conducted by Hafen Environmental (Botanists Jeanene Hafen, John Hafen, William Harnach, and Nancy Harnach) 2007, 2008, 2010, for the Plumas Sierra Rural Electric Cooperative (PSREC) inter-tie line which is a portion of the proposed project. Aspen Environmental conducted rare plant, and wetland delineation surveys for the Sierra Pacific Power Company, Alturas Transmission Line Project, which had several segments within the project action area in 1995. URS conducted rare plant, wetland delineation surveys for Tuscarora Gas Transmission Company, for the Tuscarora Gas Pipeline in 1994 which traverses the project lease area. In 2007 and 2010 wildlife field surveys were conducted by local biologist, Paul Hardy and Paul Arsenault both local Lassen County independent biologists for the PSREC inter-tie line which is a portion of the proposed project. Sierra Geotech, DBE, Inc., conducted a habitat assessment for special-status species for the project area in September of 2019, December of 2019 and February of 2021. Sierra Geotech biologists conducted reconnaissance-level surveys for avian, and mammalian species for the project lease area and action areas. These surveys are described in detail in Section 4 of this report.

Project Description

Project Location and Regional Context

The proposed Calneva BESS/PSES project lease area is located four (4) miles north of the Fort Sage Road and Calneva Road intersection on the eastside of Calneva Road, in Lassen County. The proposed project lease area is approximately 278 +/- acres in size within the parcels identified as Lassen County Assessor's Parcel Numbers (APNs) proposed project lease area north half is 137-170-12 (180 acres) and proposed project lease area south half is 137-170-13 (98 acres). Adjacent to the project lease area, are the following properties and associated land uses:

- North: A 412-acre vacant parcel, owned by the State of California, Calneva Lake, and another vacant parcel owned by the State of California of approximately 105 acres in size.
- South: Vacant open rangeland with two parcels that abut the southern boundary of the proposed project lease area, one parcel is 160 acres, and the other parcel is 128 acres in size.
- West: Is Calneva Road right-of-way and then vacant range land approximately six (6) miles to Herlong and the military installation Sierra Army Depot. Two privately owned parcels border the western half of the proposed project lease area one being 275.4 +/- acres in size and the other being 170.1 +/- acres in size.
- East: Is more vacant range lands and the California/Nevada state border. The entire project lease area for the proposed Calneva BESS/PSES project is vacant range land with a Union Pacific (Historical Western Union) railroad corridor which bisects the site in a general east/west direction and provides rail service to the Sierra Army Depot.

The Tuscarora natural gas pipeline runs through the entire project lease area. The Union Pacific railroad bisects the entire project lease area. The terrain is primarily flat (0-2 percent slopes) throughout the entire proposed project lease area with an approximate elevation above sea level (asl) on the northwest corner of the BESS/PSES project lease area at 4006 feet and then experiencing a very slight slope to the east/southeast toward the Nevada State border where the elevation is approximately 4,000 feet asl on the BESS/PSES project eastern boundary. The railroad tracks has an elevation of approximately 4012 feet asl. (See Figure 1: Project Setting, shows the surrounding land uses)



PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

N W E S

Project Setting

DATE:	02-16-2020	SCALE:	As Shown
BY:	AKM	FIGURE:	1

SIERRA GEOTECH

The climate in the project lease area is characterized as a semiarid region with dry hot summers, and cold winters and an average precipitation of ranging from six (6) inches to sixteen (16) inches. The Project lease area lies within a rain shadow created by the northern Sierra Nevada mountain range. Most of the precipitation falls in the winter, whereas the greatest demand for soil moisture occurs in the summer. For the project lease area, the availability of water or soil moisture is the critical factor that determines the broad distribution of vegetation types and associated wildlife species.

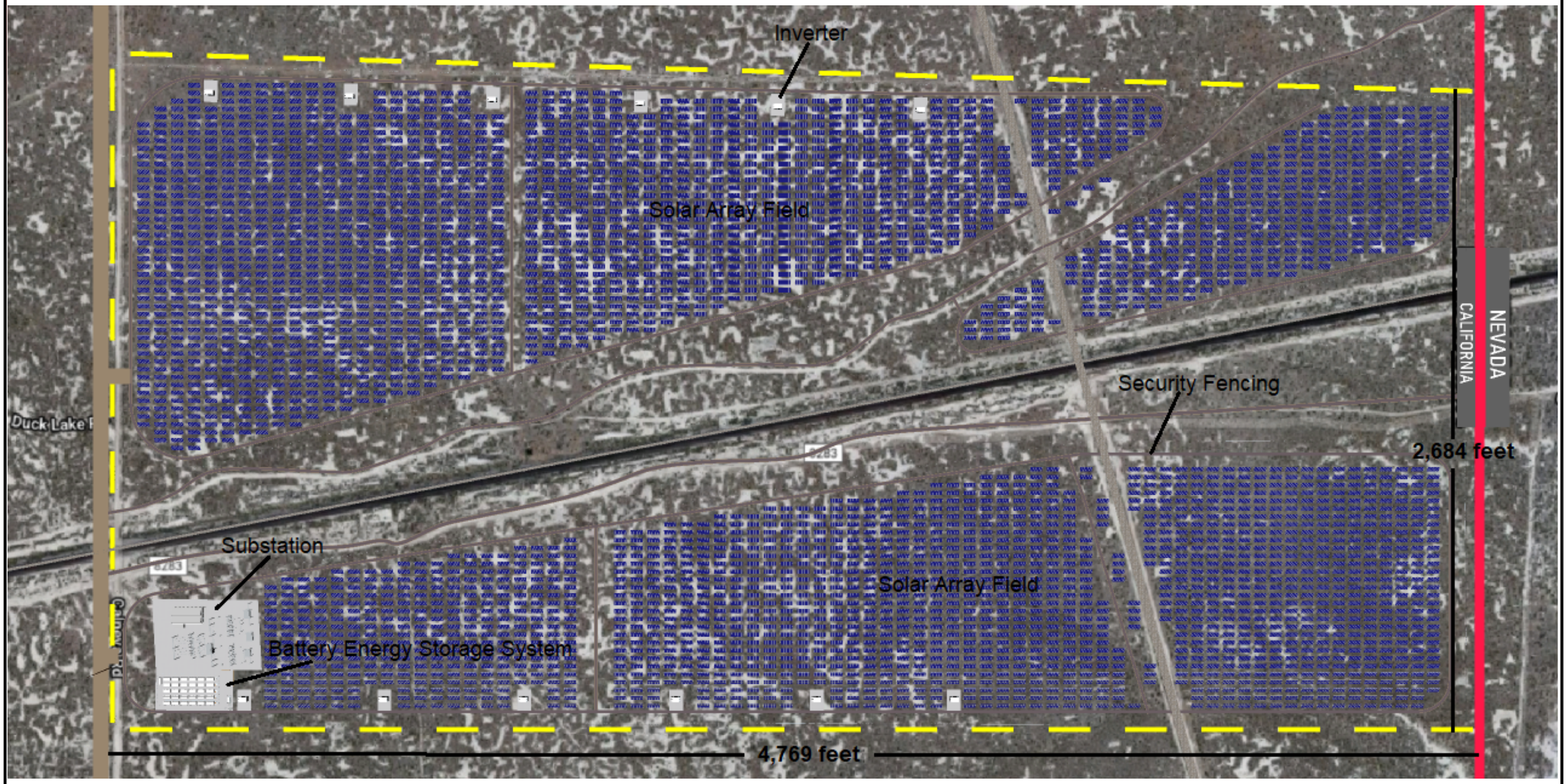
Project Components

The Calneva BESS/PSES project consists of a battery electrical storage system (BESS) that would store up to 25 megawatts (MW) or 100 megawatt hours (MWh) of electricity for dispatch into the local grid via the planned adjacent PSREC 120 kV inter-tie line between Herlong and Fort Sage. At complete buildout, the BESS would consist of several fully enclosed battery storage enclosures that would each house battery modules mounted in racks and associated electrical equipment. Each battery storage enclosure would have separation to allow for maintenance and inspections. The lease area for the Calneva BESS/PSES project would be fenced for security and to restrict access.

Calneva BESS/PSES project would comprise the following project components located within an approximate footprint of 278 acres:

- Approximately 143,000 to 163,000 solar PV modules
- A single axis track system
- Electrical inverters and transformers
- Battery energy storage system (BESS)
  - Thirty (30) battery storage enclosures (i.e., 25 MW of power) store up to 25 megawatts (MW) or 100 megawatt hours (MWh) of electricity for dispatch
  - BESS power inverters, transformers switches, MV switchgear, SCADA enclosure,
- On-site electrical substation
- Meteorological stations
- Remote monitoring system (SCADA)
- Site access roads and maintenance access roads
- Security fencing
- Gen-Tie line structures to interconnect with the PSREC 120kV transmission line south of the site and
- Gen-Tie Laydown Area

Conceptual Site Plan for Calneva BESS/PSES follows on next page. The components identified above are described in more detail below.



Scale: 1" = 475'

PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

N W E S

Conceptual Layout Plan

DATE: 02-16-2021	SCALE: As noted above (11"x17")
BY: AKM	FIGURE: 2

SIERRA GEOTECH

Solar PV Energy Generation System

The Calneva BESS/PSES project will produce 50 MW solar energy generating facility to be built over a ten (10) month period. Calneva BESS/PSES project lease area will house all structures, including solar panels, tracking/support structures, direct current ("DC") combiner boxes, inverters, and a PCS. Solar energy will be captured by an array of PV panels mounted to a single axis tracking system. It is anticipated the project lease area will install approximately 143,000 to 163,000 PV modules. The total number of PV panels would depend on the technology ultimately selected for Calneva BESS/PSES project during the final design and any setbacks for mitigation of environmental concerns. The high-efficiency, commercially available photovoltaic panels convert incoming sunlight to DC electrical energy. The panels are arranged in series to increase the DC system voltage to approximately 1,500 volts. These series chains of panels are typically called "strings" in industry terms and provide the basic building blocks of power conversion in the solar array. The strings are combined in the solar field through an above or below ground DC collection system and then further grouped together at the inverter stations, where the energy is converted to AC and then stepped up to an intermediate voltage, typically 34.5 kV. The chosen photovoltaic panel would be either crystalline silicon or thin film and would be well-suited for the desert environment due to their durability and reliability. The tracking systems will be supported by piers directly embedded into the ground. The systems will rotate slowly throughout the day at a range of +/- 60° facing east to west to stay perpendicular to the incoming solar rays so that production can be optimized.

Each tracker will hold approximately 70 to 90 panels (depending on final configuration), and at its highest rotated edge will have a maximum height of approximately 15 feet above grade depending on the dimensions of the chosen panel. The minimum clearance from the lower edge of the panel to ground level is anticipated to be approximately 12 to 24 inches, pending final design. The panel connection electrical system would be suspended under the PV panels and at main junctions would be placed underground and routed to the inverter stations. The inverters convert the DC power to AC power and AC output voltage is boosted to 34.5 kV through a medium-voltage step-up transformer. The inverter/medium-voltage transformer together are referred to as an inverter skid assembly.

From each such transformer, electricity will be conveyed via an underground collector circuit to the solar substation. The inverter stations will be up to 13 feet in height and perform three critical functions for the solar plant: (1) collect DC power in a central location; (2) convert the DC power into AC power; and (3) convert low-voltage AC power to medium-voltage AC power. The inverter stations are typically open-air and well suited for desert environments. The stations consist of DC collection equipment, utility scale inverters, and a low to medium voltage transformer. The output power from the inverter stations is then fed to the AC collection system via an above ground or below ground collection system. This AC collection system will deliver the electricity to the on-site substation, where the voltage will be stepped up to the interconnection voltage.

Gen-Tie Line and Routes

The Gen-Tie line final design will determine the conveyance of electricity from the project which will range between 120kV and 345 kV depending on the final plans of the PSREC intertie line. The final voltage, and route selection of the Gen-Tie line will be determined during the transmission interconnection approval process with the State of Nevada Public Utility Commission and Permit to Construct.

Gen-Tie Route Calneva Road

This route will utilize the public roadway known as Calneva. Lassen County requested Sierra Geotech investigate the right to use the roadway since the County declared in 1973, they would no longer maintain the right of way of Calneva Road. Sierra Geotech responded to Lassen County making the finding that Calneva Road was an expressly granted public right-of-way to Lassen County in the early 1900's. Calneva Road is depicted in the Condition of Title issued to Lassen County by Chicago Title Company on July 16, 2020, Item Number 5: "Easement rights of the public over and across those portions lying within Duck Lake Road and Calneva Road". Calneva Road from the early 1900's till May 29, 1973 was maintained by Lassen County as a public right-of-way. Lassen County has "maintained and controlled" a road within that Calneva right-of-way for approximately 73 years. On May 29, 1973 Lassen County Board of Supervisors passed a resolution stating the County would no longer provide maintenance for Calneva Road, however, Resolution 2355, did not change the status of Calneva Road as a public right-of-way.

Lassen County in adopting Resolution 2355 simply transferred routine maintenance obligations for the Calneva Road public easement to the servient tenement.

In accordance with California Case Law Schmidt v. Bank of America (2014) 223 Cal. App. 4th 1489, the California Court of Appeal ruled that a public right-of-way easement may be used for any infrastructure necessary for the adjoining parcels to the public right-of-way. The fact that Lassen County maintained and controlled Calneva Road with annual grading to remove ruts in the dirt road for 73 years establishes the grantors of the public right-of-way intent for public purposes and not private. In addition, for those 73 years Lassen County regulated use of the public right-of-way and prescribed an encroachment permit process for improvements or use of the public right-of-way. The requirement for an encroachment permit was dropped in 1973 by administrative application of the Lassen County Public Works Department in response to the Lassen County Board of Supervisors Resolution 2355. Calneva Road continues to benefit public interests providing public access connection between Desert Drive in the south and Moore Road in the north within the Honey Lake Valley of Lassen County. The Lassen County Board of Supervisors has never initiated a vacation of Calneva Road in accordance with the California Streets and Highways Code Sections 8320 through 8325 given up the public right-of-way, but rather merely terminated maintenance of Calneva Road in accordance with California Streets and Highways Code Section 954.6.

A public right-of-way is a form of easement, in that it grants use rights in a particular parcel of land to nonowners of the land. (Civ.Code, § 801, subd. (4); City of Manhattan Beach v. Superior Court (1996) 13 Cal. 4th 232, 240, 52 Cal. Rptr. 2d 82, 914 P.2d 160.) A private easement ordinarily vests those use rights in the owner of a particular parcel of neighboring property, the "dominant tenement." (Moylan v. Dykes (1986) 181 Cal. App. 3d 561, 568, 226 Cal. Rptr. 673.) Unlike a private easement, the use rights of a public right- of-way are vested equally in each and every member of the public. (In re Anderson (1933) 130 Cal. App. 395, 398-399, 19 P.2d 1027.) The city or county government ordinarily administers use of the right-of-way. (E.g., Sts. & Hy. Code, §§ 1450, 1460.)

The Supreme Court instructed to the contrary in Colegrove, holding that "`... this [residual] right of the owner may grow less and less as the public needs increase....'" (Colegrove, supra, 151 Cal. at p. 430, 90 P. 1053, quoting Allen v. Boston, supra, 159 Mass. 324, 34 N.E. 519.) The “modern" trend which began in California Courts with Montgomery in 1894 is to construe public rights-of-way to accommodate technological advancement in the conveyance of goods and people, an approach that has been adopted invariably by California courts in right-of-way decisions since Gurnsey.

The use of Calneva Road by Calnvea BESS/PSES project to convey electricity to market by a private energy company rather than a public utility, the Courts have cited no statutory or doctrinal basis for a per se exclusion of private users from above-ground overhead rights-of-way. On a fundamental level, every member of the public has an equal right in the use of a public right-of-way. (In re Anderson, supra, 130 Cal.App. at pp. 398-399, 19 P.2d 1027; People v. Henderson (1948) 85 Cal. App. 2d 653, 657, 194 P.2d 91.) Hooper status as a private corporation and property owner no more disqualifies it from access to the overhead portion of the Calneva Road right-of-way than it would justify excluding Hooper trucks from using the above-ground right-of-way.

Significantly, Streets and Highways Code section 1460, which grants to county governments the right to issue encroachment permits in county rights-of-way, makes no distinction between public agencies or utilities and other proposed users. Indeed, Streets and Highways Code section 1463, which implements section 1460, expressly anticipates that encroachment permits will be granted to private users. It notes that permits "issued to a public agency or a public utility" must contain a particular provision, while "all permits other than those issued to public agencies or a public utility" are subject to a somewhat different rule. (Sts. & Hy. Code, § 1463, italics added.) Consistent with this view, People v. Sweetser (1977) 72 Cal. App. 3d 278, 140 Cal. Rptr. 82 interpreted section 1450 as granting counties "the statutory authority to issue a written encroachment permit allowing any person, including the underlying landowner, to place fences or other structures or objects upon portions of a county highway easement." (Id. at p. 284, 140 Cal. Rptr. 82, citing Sts. & Hy. Code, §§ 1450, subds. (a)-(b) & 1460, subd. (b), italics added.)

The initial task of determining whether a proposed use of a county road right-of-way satisfies these criteria is vested by California statute in the county road commissioner. (See People v. Henderson, supra, *830 85 Cal.App.2d at p. 657, 194 P.2d 91.) Streets and Highways Code section 1460 grants to the road commissioner the authority to issue permits for the use of rights-of-way, including the making of any opening or excavation in the right-of-way and the placement of any encroachment. (Sts. & Hy. Code, § 1460, subds. (a) & (b).) The road commissioner's decision will be reversed only if it is found "to have been the result of capricious or arbitrary action or abuse of discretion." (People v. Henderson, at p. 657, 194 P.2d 91.) Again, in the case of Calneva Road the Lassen County Board of Supervisors, Resolution 2355, adopted May 29, 1973, merely removed the requirements for encroachment permits on this segment of roadway within Lassen County, but not the vacation of the public right-of-way or ability of a private energy company to use such right-of-way to convey electricity to market in the public interest and good.

The Calneva route would convey power generated by Calneva BESS/PSES facilities to the PSREC point of interconnect (POI) near the intersection of Calneva Road and Fort Sage Road approximately four (4) miles, utilizing an overhead Gen-Tie line. The Gen-Tie poles would be tubular steel structures approximately 60 to 95 feet tall placed approximately 200 feet to 900 feet apart along the Gen-Tie route (24 poles). A manual disconnect (air) switch would be located on the last pole of the Gen-Tie to provide means of manually isolating the Gen-Tie and solar facility from the PSREC 120kV intertie line between the Herlong and Fort Sage Substations.

The design characteristics of the Gen-tie are listed in Table 2, below.

Table 2. Typical Design Characteristics for a 345 kV Gen-Tie Line

Feature	120kV to 345 kV Characteristics
Type of Structure	Per SPPCo's/NVEnergy Design Specifications
Structure Height	60 to 95 feet
Span Length	Between 200 feet to 900 feet
Anticipated Number of Structures	Thirty (30)
Voltage	120 kV to 345 kV SPPCo's/NV Energy Design Specifications
Conductor Size	2 per Phase Bundle – 795 kcmil ACSR 1.06" diameter
Ground Clearance of Conductor	Minimum 30 feet
Pole Foundation Depth	19 to 24 feet
ADSS Fiber Optic Cable (Redundant Communication Path)	Strung above the 120 kV to345 kV conductors
OPGW	Strung above the 120 kV to 345 kV conductors

Gen-tie Interconnection / Point of Change of Ownership Pole (POCO)

It is anticipated Calneva BESS/PSES will construct a project electric substation which will connect to SPPCo's/NV Energy existing Fort Sage Substation via a 345 kV Gen-tie approximately six (6) miles from the Calneva BESS/PSES substation. The Calneva BESS/PSES's POCO will be located just outside of the Fort Sage Substation. The Gen-tie line will be constructed, operated, and maintained by Calneva BESS/PSES project and/or PSREC. The structures will be designed consistent SPPCo's/NV Energy's specifications and design standards and will have a 120 kV to 345 kV electric disconnect switch mounted on it. The size and color of the steel structures/poles will match existing structures/poles in and around the Ft Sage Substation. The Gen-tie will also provide a communication path via OPGW strung above the 120 kV to 345 kV conductor. We anticipated specific network upgrades at the Fort Sage Substation will include a new 120 kV or 345 kV terminal, two breakers, three switches, five CCVTs, three lighting arresters, and structures and associated bus work.

Calneva BESS/PSES Project Electrical Substation

The electrical substation is the central hub for the 34.5kV (AC) collection system and where the produced solar electricity voltage would be stepped up from 34.5kV to 120 kV or 345kV to match the transmission grid voltage at the point of interconnection (POI) with SPPCo/NV Energy. The proposed Calneva

BESS/PSES project substation would be located inside the Solar Field Area on the southwest corner. A new, on-site, access road would be constructed to serve the solar substation. The solar substation would cover an approximately two-acre area and would include the following major components:

- 34.5kV bus and associated switchgear and protection devices
- 345kV bus and associated switchgear and protection devices
- 125 Mega Volt-Ampere (MVA), 34.5/230kV Generator Step-up Transformer (GSU)
- 34.5kV capacitor bank
- Revenue meter and protection equipment
- Steel support and dead-end structures up to 95 feet in height
- Grounding grid
- Prefabricated modular control building (unoccupied)
- Perimeter chain link fence topped with 3 strands of barbed wire.

The substation equipment would range in height from 8 feet to 30 feet; the dead-end steel structure may be up to 90 feet tall. The substation area would be graded and compacted to an approximately flat and level grade. Precast and/or cast in place concrete pads would be used as foundations for substation equipment, and the remaining area would be graveled per industry standards. Electrical transformers, switchgear, and related substation facilities would be designed and constructed to transform medium-voltage power from the Calneva BESS/PSES project's collection system 34.5kV to the 120 kV to 345kV transmission grid voltages at SPPCo's/NV Energy's Fort Sage Substation. The substation GSU transformer would contain approximately 10,000 gallons of environmentally benign, vegetable based (FR3) insulating oil, and the transformer foundation would be designed to accommodate an accidental spill of transformer oil by the use of secondary containment. No polychlorinated biphenyl (PCB)-containing fluids would be used. A modular prefabricated control building would be installed in the substation, where metering, control, communications, protection equipment, and battery backup systems would be located.

Battery Storage System Components

Batteries

Individual Li-ion cells form the core of the battery storage system. Cells are assembled either in series or parallel connection in sealed battery modules. The cells would have an operating direct current (DC) voltage ranging from two to six volts, while the battery modules would have a DC voltage range between 40 to 60 volts. The battery modules would be installed in self-supporting racks electrically connected either in a series or parallel to each other. The operating rack-level DC voltage ranges between 700 and 1,500 volts. The individual battery racks are connected in series or parallel configuration to deliver the battery storage system energy and power rating.

Battery Storage System Enclosures and Controller

The battery storage system enclosure would house the batteries described above, as well as the battery storage system controller, ultimately delivering 100MWh to the utility grid over 4-6 hours for Calneva BESS/PSES project site. The battery storage system controller is a multi-level control system designed to provide a hierarchical system of controls for the battery modules, PCS, medium voltage system, and up to the point of connection with the electrical grid. The controllers ensure that the battery storage system effectively mimics conventional turbine generators when responding to grid emergency conditions. The battery storage system enclosure would also house required heating, ventilation, and air conditioning (HVAC) and fire protection systems.

Power Conversion System

The PCS consists of an inverter, protection equipment, DC and alternating current (AC) circuit breakers, filter equipment, equipment terminals, and connection cabling system. Electric energy is transferred from the existing power grid to the project batteries during a battery charging cycle and from the project batteries to the power grid during a battery discharge cycle. The PCS converts 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 and solar PV arrays to the grid. The energy conversion is enabled by a bi-directional inverter that connects the DC battery and solar PV array system to the AC electrical grid. The PCS AC operating voltage would typically be 480 volts AC nominal and the DC operating voltage would be between 700 and 1,500 volts with a power rating in excess of 500 kW.

AC Collection Transformers

The AC collection transformers are pad-mounted transformers that transforms the AC side output of the PCS to medium AC voltage in the range of 16 kV to 34.5 kV to increase the overall efficiency of the battery storage and solar PV system and to protect the PCS in the event of system electrical faults. One or more PCS units would be connected to the AC collection transformers.

Medium Voltage (MV) Switchgear

The MV switchgear for the battery storage system would connect the battery storage system to the existing AC power distribution system and provide the required level of protection during electrical faults in the system.

Meteorological (MET) Stations

Meteorological stations (MET Stations) are used to collect weather and solar radiation data. MET Station information would be used to optimize the energy production of the Calneva BESS/PSES project. Typical instrumentation on a MET Station includes sensors for ambient air temperature, relative humidity, wind speed and direction, barometric pressure, a rain gauge, and global horizontal and plane of array solar irradiance using pyranometers in a horizontal position and at an orientation consistent with the solar modules. A PV reference cell may also be installed at the MET station(s) to be used for performance optimization. MET Stations can have an instrument mast approximately 20 feet tall and would be located across the projects lease areas. Up to two MET Stations are anticipated to be installed for Calneva BESS/PSES project.

Battery Modules, Lithium-Ion Battery Technology, and Fire Protection

Each battery storage enclosure would be located within a metal frame storage enclosure, which will have insulation, air-conditioning, and fire suppression with separate enclosures for the electronic controls, inverters, and rectifiers. Due to the positive pressure required within each storage enclosure to ensure functionality of the fire suppression system, the enclosures would not be vented. Each storage enclosure would utilize a supply and return thermal management system; this system has a fresh air closed loop system. The mechanics of this type of pressure environment do not require venting. The primary storage components would consist of self-contained electrochemical battery systems using conventional storage technologies with proven safety and performance records. The battery storage enclosures are designed such that the periodic maintenance and replacement of underperforming battery components can be easily performed on an as needed basis without replacing the entire module.

The lithium-ion battery is a high-density battery that is rechargeable. Due to the energy density levels of lithium-ion batteries along with their charge and discharge profiles, these batteries are ideal and commonly used for a project of this size and proposed project lease area. These batteries will allow a safe and effective installation into an enclosure and be able to perform well under rigorous demand should the need arise.

The proposed Calneva BESS facilities could use a built-in fire protection system, utilizing suppression through cooling, isolation, and containment which is widely used in the industry. Each battery storage enclosure would include a gaseous fire suppressant agent (e.g., Stat-X® Aerosol Fire Suppression) and an automatic fire extinguishing system with sound and light alarms. Stat-X® fire suppression is an advanced aerosol technology that protects enclosed special hazards. Aerosols are an effective new alternative to traditional special hazard fire protection. Stat-X fire suppression is currently used worldwide in many critical applications. Stat-X fire suppression is an approved halon replacement and hydrofluorocarbon (HFC) alternative. Stat-X® is an environmentally friendly automatic fire suppression product line.

- US EPA Snap Listed for Normally Occupied and Unoccupied Spaces
- Insignificant Global Warming Potential
- Zero Atmospheric Life
- Zero Ozone Depletion Potential
- Non-toxic

The system would be designed in accordance with National Fire Protection Association (NFPA), as well as state and local safety standards including an automatic shut-down system for fans that keep the enclosure sealed when the fire extinguishing system is activated. The fire suppressant agent is released by a releasing panel that uses an aspirating smoke detection system and has a manual release. The aspirating smoke detection system provides for four levels of signaling before release of the fire suppressant agent. A disable switch would be provided for maintenance personnel to allow for work on the enclosures without accidental discharge. In addition, these BESS facilities will incorporate passive fire containment methods through engineering design of the cabinets and enclosures for battery storage, which further mitigates fire hazards associated with the BESS facilities.

Direct current electricity would be collected from the batteries via a battery management system (BMS) and conveyed to the inverters. Each battery module would be connected with a BMS to form a rack mountable module assembly. Multiple module assemblies are then combined into a rack, or battery-integrated cabinet (BIC) to optimize battery voltage and battery current. A number of series circuits are combined together to form an individual parallel circuit; parallel circuits are grouped together in individual BICs which are sized appropriately, and each BIC contains a rack-level BMS. The number of BICs would vary according to final project specifications and can be sized to accommodate electrical design. BICs combine multiple parallel circuits through a fused bus system to collect the energy into one set of direct current collection cables. The fuses within the BICs create another line of protection from overcurrent. These cables run from the BICs to the inverters, where they would terminate in the direct current side of the inverter.

The proposed BESS facilities would have a Supervisory Control and Data Acquisition (SCADA) system that would allow for remote monitoring and control of inverters and other project components. The SCADA system would be able to monitor project output and availability, and to run diagnostics on the equipment. Calnvea would also have a local overall plant control system (PCS) that would provide monitoring of the BESS facilities as well as control of the balance of facility systems. The microprocessor-based PCS would provide control, monitoring, alarm, and data storage functions for plant systems as well as communication with the project's SCADA system. Redundant capability would be provided for critical PCS components so that no single component failure would cause a plant outage. All field instruments and controls would be hardwired to local electrical panels. Local panels would be hard-wired to the plant PCS. Wireless technology would be considered as a potential alternative during final project design.

Solar Facility Monitoring System

A monitoring system is an essential part of a solar PV project. Automatic data acquisition and monitoring technology is utilized during the operational phase in order to maintain a high level of performance, reduce downtime and ensure rapid detection of faults or system/component failure. For Calneva PSES the monitoring would be done using a remote monitoring station that would likely be located in the solar power substation.

The monitoring system allows the actual yield of the proposed Calnvea BESS/PSES project to be monitored and compared with theoretical calculated yield on a real-time basis and if performance is not meeting expectations issues can be detected and performance optimized quickly before they have an appreciable effect on production. Without a reliable monitoring system, it could take months for a poorly performing system or element to be identified.

The key to a reliable monitoring and fault detection methodology is to have good simultaneous measurements of the solar irradiance, environmental conditions, and plant power output. This monitoring is achieved by incorporating one or more meteorological (MET) station(s) on site to measure the plane of

array irradiance, module temperature, and global horizontal irradiance, ambient air temperature, relative humidity, wind speed, and direction. Actual voltage and current would typically be monitored at the inverter, combiner box or string level, each offering more granularity than the previous.

Data from the MET Station(s), inverters, combiner boxes, meters, and transformers would be collected in data loggers and transmitted, in real time, to the remote monitoring station, typically via wireless or fiber optic link. A separate SCADA system would be installed at the proposed project's substation or BESS to monitor and control the required revenue metering and transmission system protection equipment. This system would be specified and monitored by the transmission provider (SPPCo/NVEnergy) and the CAISO.

Access Roads and Site Maintenance Roads

Solar Field Area Internal Roads

Three (3) types of roadways would be utilized for the Solar Field Area: a site entrance road, interior access/maintenance roads, and perimeter roads. The Calneva BESS/PSES project is bordered by Calneva Road on the western boundary of the project site and Calveda Way on the eastern boundary of the project site. The site entrance road for Calneva BESS/PSES would connect to Calneva Road which would be the primary point of access to the proposed project lease area. The Calneva BESS/PSES project lease area entrance roads, perimeter road, and central fire road would be 26 feet wide and constructed of compacted native soil and gravel per Sierra Geotech's specifications and approved engineering drawings. A security gate would be installed. The interior access/maintenance roads would be designed to meet Lassen and Washoe Counties requirements for emergency vehicles, which consists of in-situ soil, compacted to a minimum of 85 percent standard proctor and gravel.

Perimeter access roads would be located inside the Solar Field Area and adjacent to the perimeter fence surrounding the project lease areas and would also run north/south through the middle of the sites. These perimeter and center roads are provided for emergency vehicle response to allow them to readily access all areas of the projects lease areas during an emergency event.

The perimeter roads would be 26 feet wide and constructed of compacted native soil and gravel. Internal access roads would be provided to access critical equipment for ongoing operations and maintenance activities. These roadways would be 20 feet wide and constructed of compacted native soil and gravel. Site access roads (Calneva Road/Fort Sage Road) would provide adequate ingress and egress to and from the Calneva BESS/PSES project lease area for emergency vehicles.

Calneva BESS/PSES Construction Access Road

Construction access to the Calneva BESS/PSES project's Solar Field Area and BESS Area would be via Highway 395 to Doyle Grade Road, to Doyle Loop, to Hackstaff Road to Fort Sage Road to Calneva Road. All roads to the Calneva BESS/PSES project lease area are county public roadways and allow all weather travel with no weight limits, except Calneva Road segment from Fort Sage Road to the project lease area is an unpaved public roadway, measures approximately four (4) miles, and is under the jurisdiction of Lassen County. Portions of this segment of Calneva Road would be improved to allow pothole free and safe access for large trucks and heavy loads to facilitate delivery of equipment and materials to the Calneva Solar Field Area, and BESS Area. Proposed improvements would be limited to blading, adding road base material, and compacting, as needed. Proposed improvements would only occur where the existing road condition is deteriorated, such as areas that contain potholes, ruts, soft and unstable road surfaces, and/or corrugation (wash boarding). All road improvements would occur within the existing improved portion of the unpaved roadway and would not extend into undisturbed areas. Proposed improvements will not require an encroachment permit from Lassen County due to non-maintenance Resolution adopted by the Board of Supervisors in 1973. During the construction phase the contractor would water this segment of Calneva Road to prevent fugitive dust.

Calneva BESS/PSES Auxiliary Systems

Plant auxiliary systems (including lighting and cathodic protection systems) designed to protect and

support the project during its operational phase. During daylight hours, power for plant auxiliaries will be provided by the project's electrical generation. During non-daylight hours, the Calneva project will require small amounts of power to keep transformers energized, and for plant lighting and security. This auxiliary power would be provided by back-feed from the electrical grid. Auxiliary power will be stepped down to an appropriate voltage to support plant auxiliaries and will be connected to the station service power switchgear. A back-up emergency generator will be installed, but only operated in the event the electrical grid is down. Water for construction activities at Calneva BESS/PSES project will be provided by a connection to a Tahoe Meadows Water Agency ("TMWA") main located approximately 5.2 miles from the lease area near the Fort Sage Substation. Pursuant to an entering into an agreement with TMWA, water will be made available to Calneva BESS/PSES from TMWA's non-potable water supply. The water will be brought on-site using water trucks. Total water needs for construction dust control and compaction are estimated to be up to 100 acre-feet annually ("AFA") during construction.

Water use during facility operation would be for cleaning of the PV modules. It is anticipated that cleaning would occur once annually, if warranted, due to excessive soiling resulting in degrading performance. Module cleaning would use approximately 98,000 gallons of potable water per cycle, assuming approximately 160,000 PV modules and would be trucked to the lease area. Because the facilities would not be staffed, there would be no restrooms or need for a permanent water supply to the lease areas. Module cleaning requires water that is low in minerals and dissolved solids to prevent spotting and hazing on PV module surfaces to keep PV module efficiency at optimal level. PV Module cleaning water would be delivered to the site by truck. No PV module cleaning water would be stored on site.

Calneva BESS/PSES lighting system will provide O&M personnel with illumination for both normal and emergency conditions. Lighting will be designed to provide the minimum illumination needed to achieve safety and security objectives and will be downward facing and shielded to focus illumination on the desired areas only. There will be no lighting in the solar field, so light trespass on the surrounding properties will be minimal. In the event lighting at individual solar panels or other equipment is needed for night maintenance, portable lighting would be used. There will be lighting at the shared Substation, shared O&M Building, and site entrances to provide personnel with illumination for substation O&M under normal conditions and means of egress under emergency conditions.

Underground metal structures would have cathodic protection, as necessary, based on soil conditions, to avoid corrosion of metal surfaces. Fire protection systems would meet Washoe County fire standards, Doyle Fire District fire standards and California Department of Forestry and Fire Protection, Lassen-Modoc Unit, Susanville fire standards.

General Construction Methods

Site Disturbance

Solar Field Area

Permanent disturbance to the Solar Field Area would result from construction of internal roads, the substation, the BESS, equipment pads, PV tracker steel piles, and fencing. Temporary disturbance to the site would result from pile driving, trenching for electrical conductors, construction staging areas, and temporary access roads.

The proposed project design confines the solar arrays, BESS, substation, and internal access roads to a footprint of approximately 250 acres, for a total disturbance of approximately 90 percent. The remaining areas within the Solar Field Area would be left undeveloped. Undeveloped areas would include on-site drainages.

Only limited grading for internal access roads is expected to be required because of the low impact development (LID) approach and nearly flat terrain. The project site has a slope of less than five (5%) percent; thus, no grading would be required for PV power blocks. Project grading requirements are anticipated to be approximately eleven (11) to sixteen (16) acres, associated with roadways, substation,

battery energy storage container areas, and laydown areas, resulting in approximately 78,000 cubic yards of cut-and-fill and no cubic yards of export.

Interconnection Facilities
Permanent disturbance to the Interconnection Facilities area would result from the placement of Gen-Tie pole structure foundations, and road grading to maintain Calneva Road to meet roadway standards necessary for safe travel and construction. Temporary disturbance would result from pole construction work areas at each Gen-Tie pole sites along Calneva Road right of way.

Erosion Control
A Storm Water Pollution Prevention Plan (SWPPP) outlining the various Best Management Practices (BMPs) for minimizing erosion and runoff would be prepared prior to proposed project construction. Typical erosion control BMPs would be used. The site would be stabilized according to the SWPPP requirements. Existing vegetation would remain in place and be trimmed if it grew into interfering with the equipment.

Substation Construction
The substation would be constructed by a contractor selected by the Independent Power Merchant in accordance with its Engineering, Procurement, and Construction (EPC) contract specifications. The substation would occupy an area of approximately 2 acres and would be graded flat and level. Four to 6 inches of gravel would be installed on the entire area to keep down dust and mud and make for easier housekeeping. Precast or cast in place concrete foundations would be built for the substation equipment and structures.

Foundation would be drilled pier or spread footing. Foundations type and size would be determined during the detailed engineering phase. The substation would be enclosed with a security fence and would be within the Solar Field Area.

Gen-Tie Line Construction
The Gen-tie Line would be constructed by a contractor selected by the Independent Power Merchant in accordance with its Engineering, Procurement, and Construction (EPC) contract specifications. Gen-Tie Line construction would generally follow the sequence outlined below, but may vary depending on final engineering designs:

- Contractor mobilization of equipment and personnel
- Staging yard preparation
- Access road construction and site preparation
- Foundation construction and anchor installation
  - The Gen-Tie would typically consist of drilled pier reinforced concrete foundations. No guys or anchors would be installed on the Gen-Tie.
- Assembly and erection of tubular steel poles for the Gen-Tie Line
- Wire stringing and sagging
- Testing and commissioning
- Cleanup and restoration

Construction would require heavy equipment including, but not limited to, pick-up trucks, water trucks, haul trucks, bucket trucks, bulldozers, graders, compactors, backhoe, excavator, drill rig, concrete trucks, cranes, puller and tensioner, reel trailer, splice trailer, and air compressors. Helicopters may also be utilized to support wire stringing operations.

Battery Energy Storage System Construction
The BESS would be constructed by a contractor selected by the Independent Power Merchant in accordance with its EPC contract specifications. The BESS would occupy an area of approximately 2 to 3 acres and would be graded flat and level. Precast or cast in place concrete foundations would be built for the BESS equipment and container/structures. Foundations type and size would be determined during

the detailed engineering phase. The BESS would be enclosed with a security fence, within the Solar Field Area.

Tracker Modules Installation

The tracking system components would arrive on site, at an estimated rate of approximately 10 to 20 MW per month, to be assembled and installed at the site. PV modules would arrive on site and be placed in a staging area inside shipping containers. Modules would be distributed out to the blocks and put in place manually and secured to the tracker per vendor specifications and approved engineering plans. Each tracker would be populated with modules, wired in series, to create strings, and connected to a DC combiner box, which would deliver DC power to the block's inverter station.

Laydown Areas, Staging Areas, Work Areas, and Stringing Sites

The laydown area would be near the main site entrance at Calneva Road and would have the contractor site trailers/offices as well as fabrication areas, worker break area, sanitation and parking, material staging area, and storage (CONEX) boxes. This area would cover approximately 5 to 7 acres. Temporary power for the main laydown area would be provided by a temporary drop from the nearby PSREC system or from temporary mobile generators. Potable water for drinking and sanitation would be trucked in as needed. Secondary materials staging/laydown areas may be located closer to work areas and would be moved periodically as the site builds out.

The Gen-Tie and Service Line would have work areas around each structure location which may require grading and vegetation removal for various construction activities. Stringing sites would support required equipment to perform wire stringing and sagging operations.

Restoration

The permanent easement and temporary use areas will be restored. All construction material and debris will be removed and disposed of at appropriate permitted landfills. All work areas will be graded and restored to as close to preconstruction contours as is feasible. EPC contractor will prepare and implement a postconstruction erosion control and ROW restoration plan.

Construction Schedule

Construction of the Calneva BESS/PSES Project is scheduled to begin in Winter to Spring 2022, and may continue through Fall 2022, depending on interconnection approvals. If sensitive environmental resources such as nesting birds are encountered in preconstruction surveys or during construction, construction scheduling in those identified portions of the project may be modified to prevent impacts to sensitive species or sensitive habitat. Construction is expected to be conducted 10 hours per day, 6 days per week, depending on the schedule for the phases of construction.

2. Description of Project Lease Area or Action Area

The project lease area or action area includes the ROW of Calneva Road from Fort Sage Road to the BESS/PSES project lease area and the full extent of additional space that may be directly or indirectly affected by project construction. In addition, some area on the southwest corner of the 278-acre project lease area will be utilized as workspace areas necessary for laydown of materials, maneuvering of construction vehicles, and access to and from the ROW and the PSES field. It is not anticipated that direct or indirect effects resulting from project construction or operation will extend beyond this action area.

To delineate the project action area, local topography, hydrology, special-status species populations, and potential project effects were considered. The topography of the project area is relatively flat with a slope of less than five (5%) percent for all project action areas. There are no water features in the project area, nor jurisdictional wetlands.

Vegetation Communities and Habitat Types

Plant communities and habitat types were mapped on the project lease area. Preconstruction surveys and focused blooming season surveys may be required to identify the location of special-status species habitat within the project lease area or action area prior to construction and earth moving activities. Figure 3 shows the habitat characterization of the project lease area (*Holland's 36120 Desert sink scrub plant community, 11300 Disturbed Habitat, and CDFW Wildlife Habitat Relationship System-Alkali Desert Scrub*). Figure 3 shows the areas of alkali basins/flats/playas which are barren and void of all vegetation, and the Desert sink scrub plant community areas between the alkali basins/flats/playas which can support vegetation. The habitat characterization types that were identified in the project lease area are described in detail below, based on Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (1986) and the California Department of Fish and Game's *California Wildlife Habitat Relationship System* (2006).

Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California – Desert Sink Scrub and Disturbed Habitat

36120 Desert Sink Scrub is comprised primarily of woody and succulent shrub species from the Goosefoot Family, that persist for periods of two to five years, Desert Sink Scrub Communities are usually situated between Alkali Marsh and Saltbush Scrub Plant Communities. Soils that underly these communities are occasionally salt-encrusted, and highly alkaline. Shrub species common to this community type at the project lease area included: big sagebrush (*Artemisia tridentata),* four wing sagebrush (*Atriplex canecens*), shadscale saltbush (*Atriplex confertifolia*), Parry's saltbush (*Atriplex parryi*), spiny saltbush (*Atriplex spinifera*), downy brome (*Bromos tectorum*), yellow rabbitbrush (*Ericamerica nauseosa*), and interconnected basins also known as alkali basins/flats/playas which are barren of vegetation.

11300 Disturbed Habitat consists mostly of bare dirt and is associated with access roads for the Union Pacific Railroad along the railroad tracks, disturbed areas from the construction and maintenance of the Tuscarora Natural Gas Transmission Pipeline, and several dirt roads for access to the project lease area that criss cross the project lease area.

CDFW California Wildlife Habitat Relationship System - Alkali Desert Scrub

Vegetation

Structure**--** Alkali Scrub plant assemblages (primarily chenopods) are generally subdivided into two phases: xerophytic and halophytic (Hunt, 1966, Twisselman, 1967, Vasek and Barbour, 1977, Turner, 1982a, b). The xerophytic phase (here, including Shadscale Scrub) consists of open stands of very low to moderately high (0.25-2.0 m; 0.8-6.6 ft) grayish, spinescent, leptophyllous to microphyllous subshrubs and shrubs, which are physiognomically uniform, widely spaced, occur on relatively dry soils, and exhibit low to moderate osmotic tolerance (Billings 1949, 1951, Küchler 1964, Knapp 1965, Johnson

1976, Thorne 1976, Vasek and Barbour 1977, Crosswhite and Crosswhite 1982, Fowler and Koch 1982). The halophytic phase consists of suffrutescent species which exhibit varying degrees of succulence, are generally more closely spaced than the xerophytic phase, tolerate periodic flooding, and generally exhibit a high degree of osmotic tolerance (Flowers 1934, Hunt 1966, Twisselman 1967, Johnson 1976, Vasek and Barbour 1977).

Composition**--** Some primary perennial plant species of the xerophytic phase include various species of shrubby saltbushes, especially allscale, desert holly, fourwing saltbush, Nuttall saltbush, big saltbush, Parry saltbush, shadscale, Torrey salt bush, and western Mojave saltbush (Cheatham and Haller 1975, Thorne 1976, Vasek and Barbour 1977). Other important shrubs include bud sagebrush, white bursage, cresotebush, Fremont dalea, Nevada ephedra, black greasewood, spiny hopsage, spiny menodora, rabbit-thorn, Thurber sandpaper-plant, winterfat, and Anderson wolfberry. Subshrubs common in the xerophytic phase include cheesebush, desert alyssum, desert prince's plume, alkali goldenbush, Cooper goldenbush, Shockley goldenhead, honeysweet, and common snakeweed. The diversity of cactuses and other succulents in the Alkali Scrub is relatively low; however, cottontop cactus, hedgehog cactus, beavertail pricklypear, grizzlybear pricklypear, staghorn cholla, and redspined sclerocactus may be common in certain areas. Forbs and grasses that characterize the xerophytic phase of the Alkali Scrub or are known only from this type of vegetation include Torrey blazingstar, kidney-leaved buckwheat, obtuse-leaved cleomella, desert sunbonnet, Booth evening-primrose, browneyed evening-primrose, desert globe-mallow, Nevada goosefoot, oligameris, oxystylis, desert pepperweed, annual psathyrotes, leaf-cover saltweed, Lemmon scurfpea, white-margined spurge, Nevada sumpweed, hairy wildcabbage, sand dropseed, galletagrass, Indian ricegrass, and King eyelashgrass (Beatley, 1976) (Bureau of Land Management, unpublished data on file; P. G. Rowlands, unpublished data). Trees are generally not present in the xerophytic phase of Alkali Scrub.

Some of the primary perennial shrub and subshrub species of the halophytic phase of Alkali Scrub include arrow-weed, black greasewood, alkali goldenbush; species of kochia, iodinebush, alkali rubber rabbitbrush; species of seablite, in particular, alkali blite, and Mojave seablite; and species of saltbush and saltcedar. Forbs and grasses are important constituents of the halophytic phase. Among the more notable are alkaliheath, alkaliweed, weak arrowgrass, canaigre, common glasswort, salt heliotrope, western miterwort, various species of annual saltbushes, Cooper wirerush, yerba mansa, aparejograss, alkali muhly, alkali sacaton, and saltgrass. Cactuses are noticeably absent from this phase. Screwbean, western honey-mesquite, and saltcedar may occasionally form a sparse overstory. Munz and Keck (1959), Ornduff (1974), Cheatham and Haller (1975), Thorne (1976), and Vasek and Barbour (1977) list these and many other secondary associates.

Habitat Stages

Vegetation Changes**--** 1.24:S-M. There are few, if any, undisputed examples of plant succession (as described by Odum 1971) occurring in deserts (Lathrop and Rowlands, 1982). The alkali scrub is a heterogeneous habitat whose component plant assemblages vary considerably in composition along gradients of moisture, salinity, and microtopography (Cannon 1908, Flowers 1934, Billings 1949, Marks 1950, Hunt 1966, Mitchell et al. 1966, Twisselman 1967, West and Ibrahim 1968, Vasek and Barbour 1977, Vasek and Lund 1980). However, a succession, of sorts, was observed by Vasek and Lund (1980) on the edge of Rabbit Dry Lake. Kochia was succeeded successively by Torrey saltbush, alkali goldenbush, and shadscale, with a concomitant accumulation and coalescence of earth mounds. Hunt (1966) described a plant zonation in Death Valley along a salinity gradient starting with iodinebush (tolerant to 6% salt) and continuing through Cooper wirerush, saltgrass, Mojave seablite, saltcedar, alkali sacaton, fourwing saltbush, arrow-weed, and western honey mesquite (tolerant to 2% salt). At soil salinities below 2 percent, a xerophytic alkali scrub of desert holly and allscale predominates and grades into creosotebush. Similar observations were made by Bradley (1970) around Saratoga Springs. These habitat stages may exist as any of structural classes 1.2-4:S-M.

In addressing long-term changes in shadscale communities, Holmgren and Hutchings (1972) (Was written as Hutchins in draft. I changed to Hutchings to match Hab Lit Cite.) stated that shadscale has become a much more important constituent of many cold desert communities than before exploitation of western rangelands. Shadscale increases as more desirable forage species are weakened. However,

compositional change under protection or under grazing treatments favorable to range improvement is not linear over time and may require either man caused natural catastrophic events to be set in motion.

Duration of Stages**--** Fourwing saltbush appears to have a life span of around 20 years (Wallace and Romney 1972). Other species of shrubby saltbushes probably live about as long or within an order of magnitude. Spiny hopsage, often an associate species, was also found to have a similar life span (Wallace and Romney 1972). Two subshrubs, common snakeweed (West et al. 1979) and desert alyssum (Rowlands unpublished) live about 8-10 years. Indian ricegrass has an observed longevity of about 19 years (West et al. 1979). In cold desert communities, plants seem to be highly plastic with no reliable size-age relationship (West et al. 1979). However, general patterns may be inferred. Dominant shrub species of the Alkali Scrub may live for decades; overstory species, such as Joshua trees or mesquite, live for centuries; and pioneer subshrubs, except under continuous grazing pressure, do not persist for more than a decade. Recovery following severe disturbance in the Alkali Scrub, like other desert scrub types, requires decades and perhaps centuries, (Webb et al. 1982).

Biological Setting

Habitat**--** Alkali Scrub vegetation generally occurs at lower to middle elevations and interdigitates with a number of other arid and semiarid wildlife habitats. At lower elevations, Alkali Scrub may intermingle with Barren (BAR) salt flats and Desert Scrub (DSC); and in the southern part of its range, Palm Oasis (POS). At lower-middle elevation Alkali Scrub may interface with Joshua Tree (JST); and at upper middle elevations, with Juniper (JUN), Pinyon-Juniper (PJN), Sagebrush (SGB), Low Sagebrush (BSB), and Bitterbrush (BBR). Throughout its range, Desert Wash (DSW) and Desert Riparian (DRI) may occur within the Alkali Scrub. In the San Joaquin Valley, Alkali Scrub borders on Annual Grassland (AGS) habitat. In many locations, Alkali Scrub overlaps with Perennial Grassland (PGS).

Wildlife Considerations-- Characteristic species of the shadscale aspect of the xerophytic phase of Alkali Scrub include the pallid kangaroo mouse, chisel-toothed kangaroo rat, zebra-tailed lizard, and the San Emigdio blue butterfly, whose host plant is fourwing saltbush (Jaeger and Smith 1966, Pyle 1981). Characteristic species of other aspects of Alkali Scrub habitat are the Mojave ground squirrel, zebra-tailed lizard, and long-nosed leopard lizard.

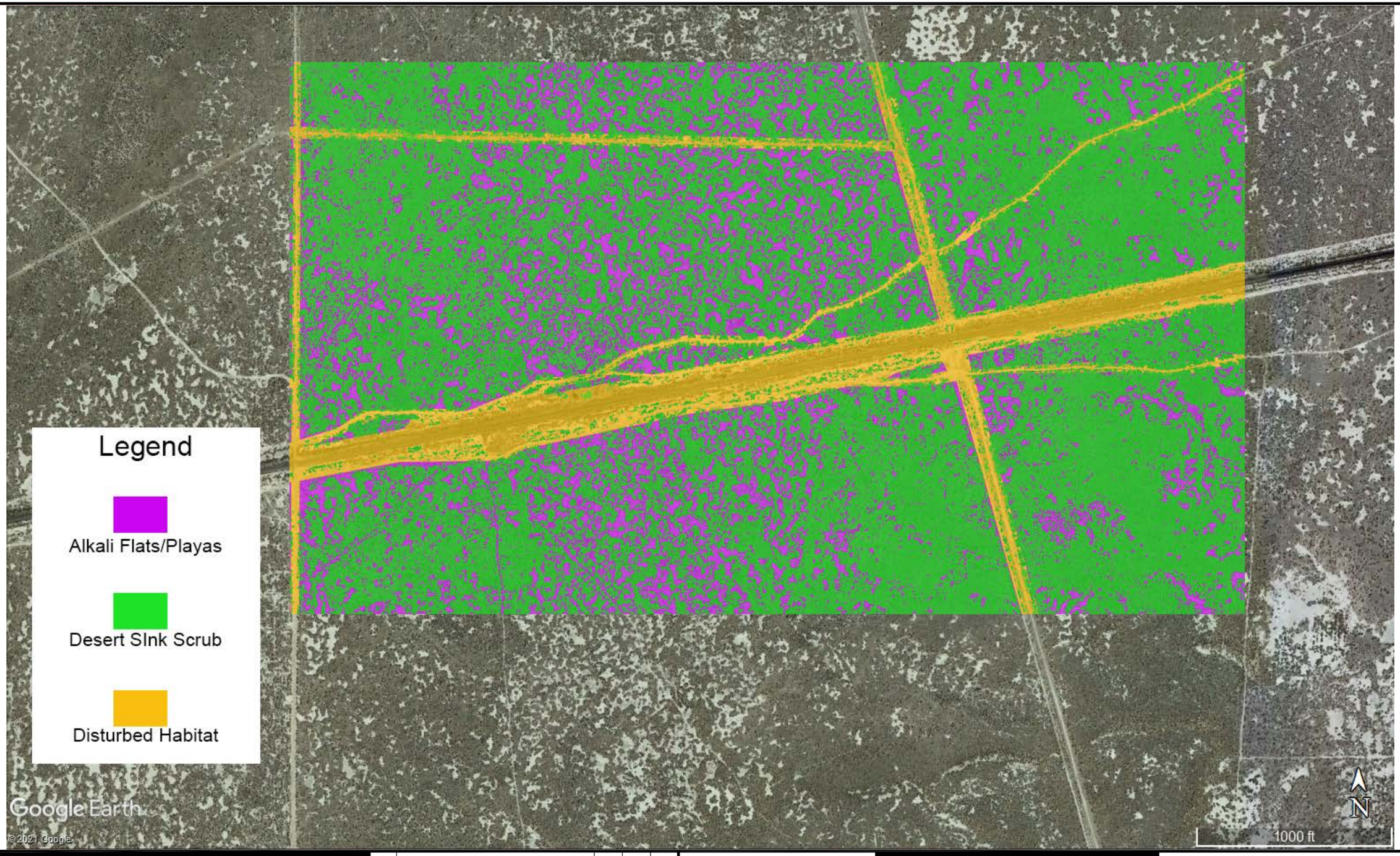
Physical Setting

Alkali Scrub types can generally be found surrounding the receding shores of large prehistoric lakes or alkali playas that mark the locations of dry lake beds (Fowler and Koch 1982). At sites where the halopytic phase predominates, the available groundwater is usually at or very close to the surface and is heavily mineralized (Turner 1982b). Hunt (1966) reported that soils in allscale stands (i.e., xerophytic phase) contained few salts, though the water table was as shallow as 5 m (16.4 ft), but permanent water was mostly much deeper. The soils under allscale communities are often very deep, tend to have high proportions of silt and clay, and have a much greater moisture holding capacity than soils of creosotebush communities (Schantz and Piemeisel 1924, Marks 1950, Vasek and Barbour 1977, Turner 1982b). Conversely, soils supporting desert holly are often very coarse and gravelly (Hunt 1966).

Climatic conditions associated with Alkali Scrub include generally low precipitation and relative humidity, high summer temperatures (mean July maxima, 30 to 47 C; or 86 to 117 F), rather cool winter temperatures (mean January minima, 8 to 5 C or 18 to 41 F), and very high levels of solar radiation all year round, especially during the summer. Precipitation ranges from around 42 to 230 mm (1.7 to 9.1 in) per year; depending upon location (Rowlands et al. 1982).

Distribution

Alkali Scrub vegetation occurs in California throughout the Mojave Desert, parts of the Colorado Desert, parts of northeastern California within the Great Basin, and in the southern San Joaquin Valley. Examples of the halophytic phase of alkali scrub are common in California deserts, but are scattered and usually associated with dry lakes and flood plains of rivers such as the Mojave, Colorado, and Amargosa. Alkali Scrub phases occur from below sea level in Death Valley to over 1800 m (5900 ft) in some Great Basin locations (Rowlands et al. 1982).



PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

N W E S

Habitat Characterization Map

DATE: 03-02-2021	SCALE: As Shown
BY: AKM	FIGURE: 3

SIERRA GEOTECH

Wetlands

Wetlands are lands that may be covered periodically, or permanently, with shallow water, and which include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, fens, and vernal pools. A search of the United States Fish and Wildlife Service's (USFWS) National Wetlands Inventory Map indicates the presence of previously classified wetlands in the project lease area identified as Palustrine, Unconsolidated Shore, Temporarily Flooded (PUSA). The PUSA mapped on the project lease area are alkali basins/flats/playas or interconnected basins. See Figure 5: National Wetlands Inventory Map.

Alkali Basins Flats or Playas – Interconnected Basins

The Desert sink scrub areas within the project lease area, borders on shallow, alkali basins/flats/playas where water has been known to collect intermittently. All the alkali basins/flats/playas within the project lease area are barren and unvegetated, they occur within a matrix of low mounds that support Desert sink scrub plant community. These features, alkali basins/flats/playas, and the Desert sink scrub plant community are underlain by Epot Soil series very-fine sandy loam and are alkali lacustrine soils. Water has been observed to puddle (reconnaissance survey December 2019) in the alkali basins/flats/playa areas of the project lease area. However, puddling is sporadic and unpredictable from one year to the next. The alkali basins/flats/playas on the lease area do not qualify as jurisdictional wetlands because of the lack of hydrophytic vegetation and lack of wetland hydrology and hydric soils. Wetland hydrology is not present due to low average annual precipitation and low frequency of rainfall during the growing season, and the alkali basins/flats/playas abilities to dry rapidly following a rainfall event. Alkali basins/flats/playas were included in the National Wetland Inventory in the past as potentially jurisdictional non-wetland waters of the United States based on the presence of visible ordinary high-water marks around the margins in the form of drift lines, and dramatic changes in vegetation in the past. (See Figure 5: National Wetlands Inventory Map.)

Figure 4: Typical Alkali Basin/Flat/Playa on Project Lease Area



Waters of the United States

A search of the United States Fish and Wildlife Service's (USFWS) National Wetlands Inventory Map indicates the presence of previously classified wetlands in the project vicinity. These maps indicate that the project area has historically been subject to seasonal, unconsolidated Palustrine wetlands, commonly referred to as alkali flats or playas. USFWS documents the characteristic vegetation and physiographic

features as “salt”. Additionally, Calneva lake, just north of the project lease area is identified as unconsolidated, seasonal Lacustrine feature with documented vegetation and physiographic features limited to “sand”. However, the current guidelines of EPA and Department of the Army, on the Navigable Waters Protection Rule, officially redefined the criteria by which the waters of the United States are classified and establish federal regulatory authority under the Clean Water Act. Under this adopted rule four clear categories of waters are federally regulated:

1) The territorial seas and traditional navigable waters,
2) Perennial and intermittent tributaries to those waters,
3) Certain lakes, ponds, and impoundments, and
4) Wetlands adjacent to jurisdictional waters

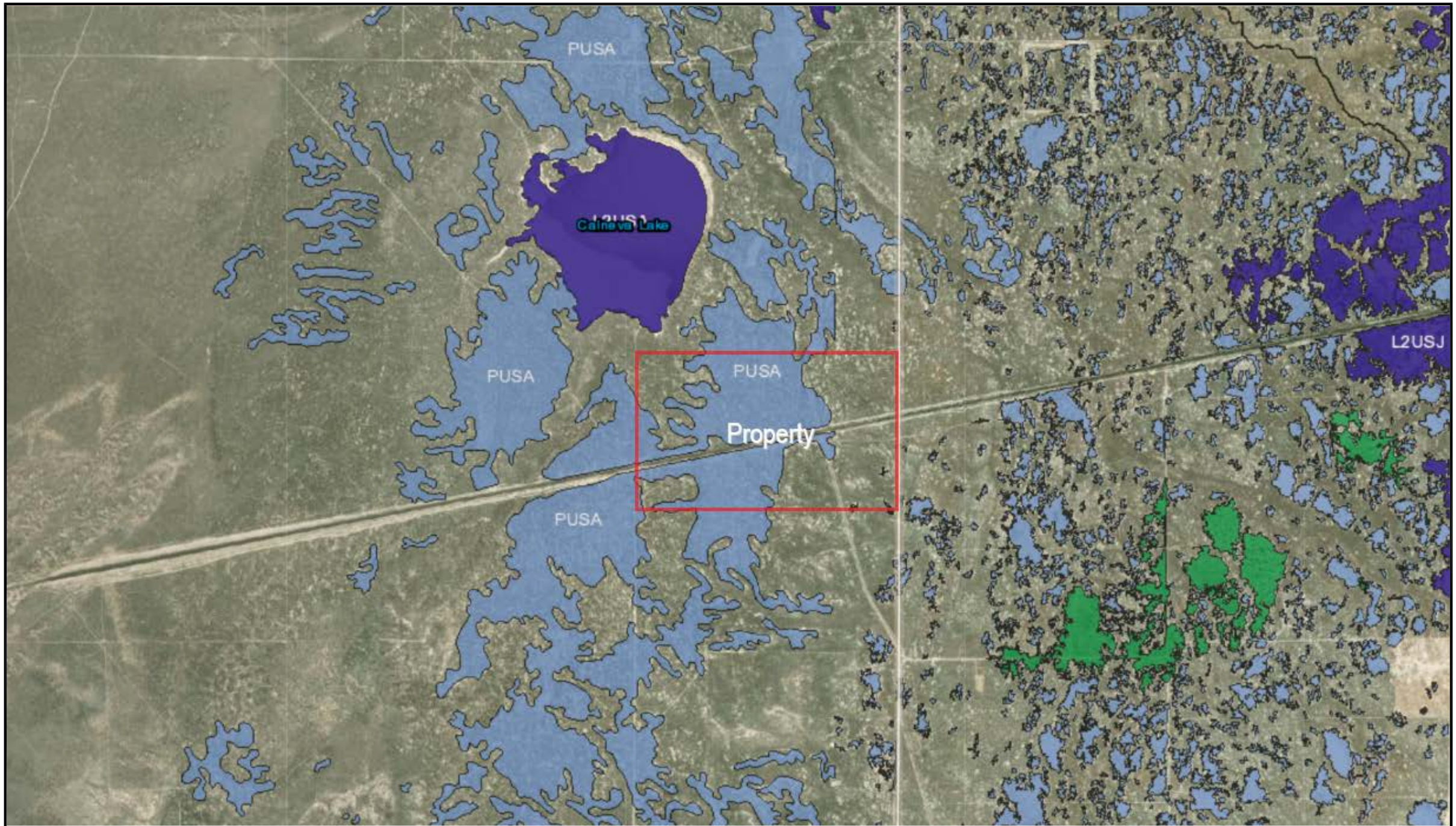
Under this framework, the historically recognized wetland features shown in the existing mapping within the project lease area no longer benefit from federal protection as they are not adjacent to anybody of jurisdictional water.

Waters of the State

The California State Water Resources Control Board (CSWRCB) has issued guidance for wetland protections at the state level in the form of the *2020 State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* which defines an area as a wetland if, under normal circumstances:

1) The area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;
2) The duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and
3) The area’s vegetation is dominated by hydrophytes or the area lacks vegetation.

The proposed project lease area fails to meet any of these conditions outlined above and is therefore not recognized as wetland by current state or federal policy, despite USFW’s documentation of historical alkali flats in the region. On site reconnaissance (December 2019 and February 2021) surveys during the wet season demonstrate the alkali basins/flats/playas do not qualify as wetlands (Do Not Retain Water during Rain Events), according to the current adopted criteria at both the federal and state level.



PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	AKM		BLM

N W E S

National Wetland Inventory Map

DATE: 02-23-2021	SCALE: NTS
BY: AKM	FIGURE: 5

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3. Study Methods and Species Considered

Literature Review

Special-status species lists from the USFWS (USFWS, 2020 and 2020), National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) (NMFS, 2020), and California Natural Diversity Data Base (CNDDB) (CDFW, 2020), and California Native Plant Society (CNPS 2020) Inventory of Rare and Endangered Plants of California were referenced to compile a master list of special-status and sensitive species that could potentially occur in the project action area. Aerial photography and geographic information system (GIS) maps were then used to assess the potential for sensitive habitats in the project area. In order to encompass the full extent of the project action area, species lists were compiled for the Calneva Lake USGS 7.5-minute quadrangle.

Special-status species that were considered include all federally listed threatened and endangered species, candidates for listing, species proposed for listing, species delisted within the last five years, species of concern (NMFS). No federally listed, federal candidate, or state-listed plant species occur in the project lease area or action area. A special-status species was considered a potential inhabitant of the project action area if its known geographical distribution encompassed any of the Calneva Lake quad and its general habitat requirements (e.g., roosting, nesting, or foraging habitat; specific soil type; permanent water source) were present. A list of special-status species with the potential to occur was compiled, and the habitat requirements of each species were considered during reconnaissance field surveys and habitat assessments. The list of special-status plant species will be utilized to organize and implement blooming focused surveys in the 2021 blooming season. Figure 6 show the locations of CNDDB records near the project lease area or action area. Table 3 lists the special-status species identified in the literature review, their listing status, habitat association, and potential to occur in the project lease area or action area.

A total of eight (8) plant species classified by the CNPS as 2.2 = Fairly endangered in California and nine (9) plant species classified by the CNPS as 2.3 = Not very endangered in California were found in record searches for the Calneva Lake quad. Of these, seven (7) species listed below were ruled out from potentially occurring in the project lease area or action area because these areas are out of the species' known range, suitable habitat is absent from the project lease area or action area, and/or they were not found during reconnaissance plant surveys of the project lease area on previous projects carried out on the project lease area:

Table 3. Determinations for Federal, State, Listed Species or Special Status Species and Critical Habitat with Potential to Occur in Project Action Area

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
Geyer's milkvetch	*Astragalus geyeri var. geyeri*	An annual that blooms from May to August and is typically found on sandy flats, depressions within stabilized or mobile dunes, margins of alkaline sandy playas, and in sandy bottomed gullies. It is common in the northwestern section of the Great Basin of Nevada and there is potential habitat within the Proposed Project as Lassen County represents the western most extension of this species.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Cruciform evening-primrose	*Camissonia claviformis* ssp. *cruciformis*	An annual that blooms from May to July and grows in sandy or rocky slopes or washes in the Modoc	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
		Plateau. Known sites are north of the Proposed Project.		very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Dugway wild buckwheat	*Eriogonum nutans* var. *n*utans	An annual that blooms from May to September and grows in sand or gravel flats and slopes. It is known to occur in the northeastern part of Lassen County. No known occurrences in southeastern parts of Lassen County.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Bailey's ivesia	*Ivesia baileyi* var. *baileyi*	A perennial that blooms from May to August and is found in volcanic crevices. There is no potential habitat for this species within the Proposed Project.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Sagebrush loeflingia	*Loeflingia squarrosa* var. *artemisiarum*	An annual that blooms from April through May and is found on sandy, gravelly areas of sand dunes and sand flats in sagebrush scrub.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
MacDougal's lomatium	*Lomatium foeniculaceum* var. *macdougalii*	A perennial that blooms from April to July and is found in rocky clayey soils in sagebrush communities typical of the Proposed Project.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Intermontane lupine	*Lupinus pusillus* var. *intermontanus*	An annual that blooms from May to June in open sandy areas.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
				very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Lance-leaved scurf-pea	*Psoralidium lanceolatum*	A perennial that blooms from April to August in sandy soils with a preference for disturbed soils.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Winged dock	*Rumex venosus*	A perennial that blooms in May and June in dry, sandy soils, preferably in disturbed areas. In California it is found only in the Honey Lake valley.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Currant-leaved desert mallow	*Sphaeralcea grossulariifolia* ssp. *grossularifolia*	A perennial found in dry alkaline or volcanic soils. Known populations are north and northeast of the project area.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Western seablite	*Suaeda occidentalis*	An annual that blooms from July to September in dry, saline, or alkaline wetland soils. This species may occur regionally bur are associated with habitat not present within the project lease area.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Many-flowered thelypodium	*Thelypodium milleflorum*	A perennial that blooms April to June in sandy soils.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
				endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Hillman's cleomella	*Cleomella hillmanii*	An annual that blooms from April to June in clay soils within the Chenopod scrub habitat community	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Kellogg's sand verbena	*Tripterocalyx crux-maltae*	A perennial that blooms May to July in partially or fully stabilized sand dunes.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Nelson's evening primrose	*Eremothera minor*	An annual that blooms from April to July in the Chenopod scrub habitat	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Ochre-flowered buckwheat	*Eriogonum ochrocephalum*	A perennial that blooms May to June in volcanic or clay soils.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Paiute lomatium	*Lomatium ravenii*	A perennial that blooms April to June in rocky, gravely, volcanic with underlying clay soils	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
				very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
American badger	*Taxidea taxus*	Badger has been known to occur in the western portions of the Basin and Range. CNDDB reported badger burrow in the vicinity.	Special Status Species	The proposed project may affect but is not likely to adversely affect the special status species American badger. Burrow survey was conducted and no burrows found on project site.
Long-eared Owl	*Asio otus*	Project site does not provide adequate habitat for breeding. Project could provide foraging habitat.	Special Status Species	The proposed project may affect but is not likely to adversely affect the special status species Long-eared Owl.
prairie falcon	*Falco mexicanus*	Project site does not provide adequate habitat for breeding. Project could provide foraging habitat. Project area is yearlong range.	Watch List	The proposed project may affect but is not likely to adversely affect the watch list species prairie falcon.

Note:

CNPS Listing Definitions:
1A = Presumed extinct in California.
1B = Rare, threatened, or endangered in California and elsewhere.
2 = Rare in California but more common elsewhere.
2.1 = Seriously endangered in California
2.2 = Fairly endangered in California
2.3 = Not very endangered in California

Two (2) special-status wildlife species (or distinct populations of species) were found in record searches within the Calneva Lake quad (refer to Table 3) which included the American badger (*Taxidea taxus)* and the Long-eared Owl (*Asio otus).* One (1) watch list wildlife species was found in the record searches for the project action area known as the prairie falcon (*Falco mexicanus)*.

Consultation to Date

Donna Cobb of CDFW responded to a Lassen County request for early consultation for a California Environmental Quality Act (CEQA) Initial Study #2020-004 and Use Permit #2020-004 (Hooper) Assessor's Parcel Numbers 137-170-12 and 137-170-13, State Clearinghouse Number 2020100366 concerning biological resources and potential impacts for the Calneva BESS/PSES project action area. The letter included a list of species of primary concern to the CDFW, and other projects in the area that may potentially affect species or habitat under their jurisdiction (see Attachment B: November 13, 2020 CDFW Response Letter for a copy of the letter). Sierra staff discussed with Amy Henderson of the CDFW on Monday February 1, 2021 regarding the project and concerns of the CDFW in detail and second comment letter dated December 22, 2020 (See Attachment B: December 22, 2020 CDFW Comment Letter). At that meeting on February 1, 2021 clarifications were made regarding focused blooming surveys and requests from CDFW regarding edits and review of the Administrative Draft IS/MND Biological Section for IS#2020-004 and UP#20200004 – HOOPER CDFW Letter dated December 22,

2020. Sierra staff had another follow up call with Amy Henderson on February 9, 2021 regarding special-status species potential to exist in the project action area, critical habitat designations, and sensitive natural communities.

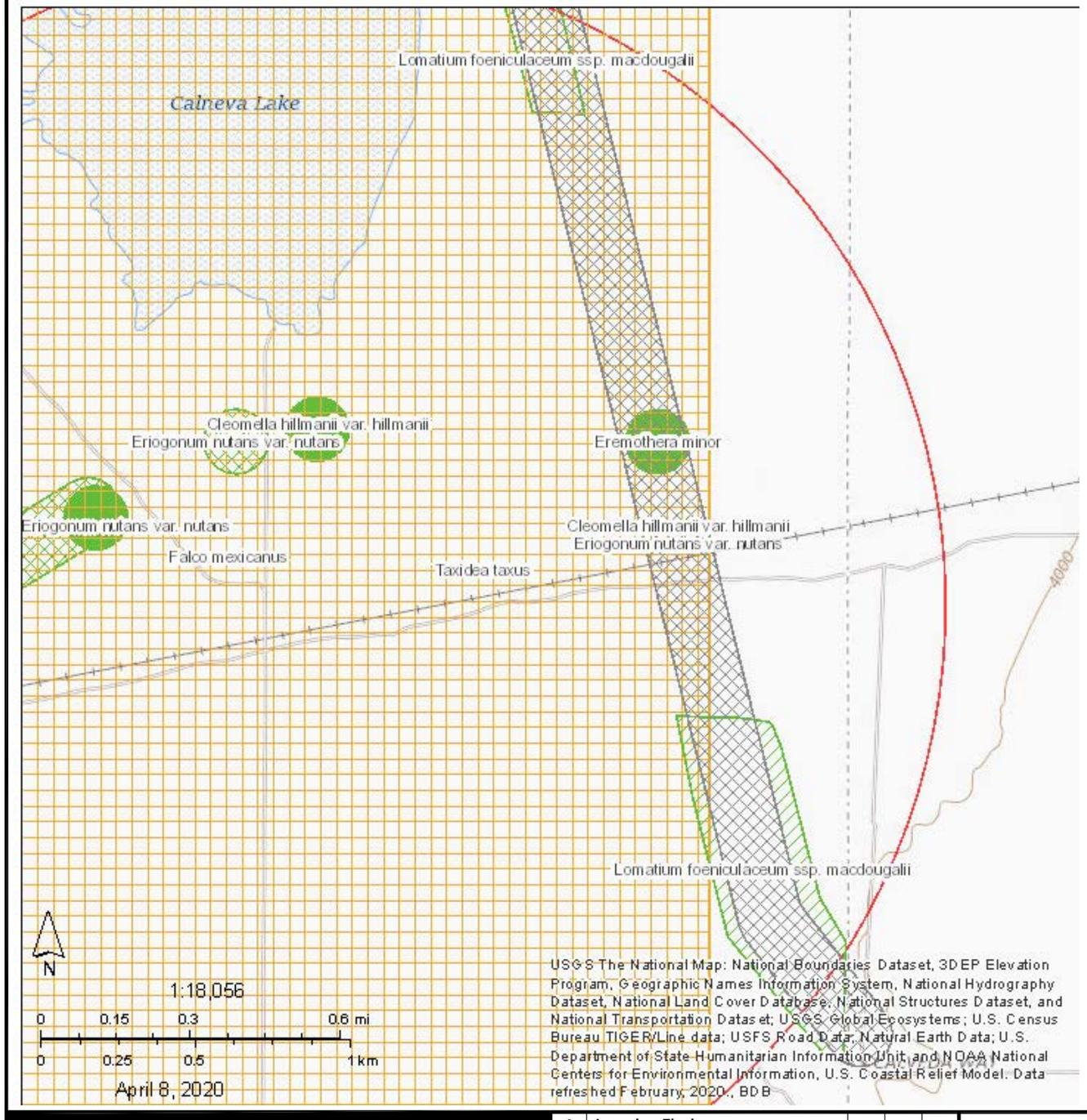
Field Surveys

Preliminary site visits to the project area were conducted to identify sensitive resources in proximity to the project and consisted primarily of visually canvasing the vicinity from the vantage of all accessible roads adjacent to the project lease area or action area. After initial site visits, biological reconnaissance surveys were conducted on the project lease area in September 2019, December 2019, and February 2021 by Sierra staff who walked the project lease area on 50 foot transects.

Methodology of Surveys

Three reconnaissance biological field surveys of the Project site, including a general site survey, a species inventory, and a directed survey for sensitive plants and animals, was completed by Sierra staff (Greg Matuzak, Brent Moore, CEP) on September 26, 2019, December 20, 2019, and February 26, 2021. All surveys were conducted between the hours of approximately 9:00 am till 3:00 pm. Weather conditions during the September 26, 2019 and February 26, 2021 surveys were conducive to biological field work, with clear skies, high temperatures for the day in the lower 60's and no significant wind. The December 20, 2019 field survey had a few rain showers, with clearing skies and mild wind during the visit.

The entirety of the project lease area was meticulously canvased, and all plants, animals, and habitats were noted and identified in the field. Because of the season of the surveys and the methods used (visual and auditory identifications only), some of the plants and many of the cryptic or migratory animals, which might have been observed at other times or by using other techniques, were not detected. Animal activity was moderate, although some of the animal detections were based on characteristic signs of inhabitance, rather than a visual sighting of the specimens themselves.



California Natural Diversity Database (CNDDB) Commercial [ds85]

- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)
- Aquatic Comm. (80m)
- Aquatic Comm. (specific)
- Aquatic Comm. (non-specific)
- Aquatic Comm. (circular)
- Multiple (80m)
- Multiple (specific)
- Multiple (non-specific)
- Animal (non-specific)
- Animal (circular)
- Terrestrial Comm. (80m)
- Terrestrial Comm. (specific)
- Terrestrial Comm. (non-specific)
- Terrestrial Comm. (circular)
- Multiple (circular)
- Sensitive EO's (Commercial only)

Author: Sierra Geotech
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PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

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0	Issued as Final	SCV		BLM

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CNDDB Map

DATE:	04-09-2020	SCALE:	As Shown
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4. Results of Surveys, Species Accounts and Status of Special-Status Species With Potential to occur in the Project Action Area

Flora and Fauna

The flora and fauna identified during the surveys is typical of the Basin and Range and Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California: 36120 Desert Sink Scrub and 11300 Disturbed Habitat; or the CDFW California Wildlife Habitat Relationship System for Alkali Desert Scrub. All the plants and animals associated with the project lease area are locally common, although one watch list status bird (Prairie falcon) was observed flying south of the project lease area during February 26, 2021 survey. Seven species of plants and six species of animals were detected during the field surveys of the project lease area. The plants observed are expected to represent at least 90-95 percent of the naturalized species occurring on the project lease area. The animals observed likely represent only about 25-50 percent of the total site fauna, as most of the animals (particularly invertebrates and nocturnal or burrowing species) are cryptic and difficult to detect.

Approximately 53% or 148 +/- acres of the project lease area is comprised of Alkali basins/flats/playas which are barren and lack any vegetation. Approximately 18% or 50 +/- acres of the project lease area is characterized as disturbed habitat. The disturbed habitat consists mostly of bare dirt and is associated with access roads, natural gas pipelines, and the railroad. The remaining areas of the project lease area which represents approximately 29% or 80 +/- acres is associated with the plant community known as Desert Sink Scrub which can support limited plant life.

Flora

The following plants were observed on the field surveys between the Alkali basins/flats/playas on slightly raised ground associated with the Desert Sink Scrub plant community:

- **Big sagebrush (*Artemisia tridentata)*** The big sagebrush was one of the dominate plant species in the project lease area comprising of approximately 30% of all plants.
- **Parry's saltbush (*Atriplex parryi*)** The Parry's saltbush was one of the dominate plant species in the project lease area comprising of approximately 20% of all plants.
- **Four wing sagebrush (*Atriplex canecens*)** The four wing sagebrush was found in many of the small islands of plants representing approximately 20% of all plants.
- **Shadscale saltbush (*Atriplex confertifolia*)** The shadescale saltbush was found in many of the small islands of plants representing approximately 10% of all plants.
- **Spiny saltbush (*Atriplex spinifera*)** The spiny saltbush was found in many of the small islands of plants representing approximately 10% of all plants.
- **Yellow rabbitbrush (*Ericamerica nauseosa*)** The yellow rabbitbrush was found in many of the small islands of plants representing approximately 10% of all plants.
- **Downy brome (*Bromos tectorum*)** Only an exceedingly small amount of downy brome was found on the project lease area. Downy brome was found near disturbed habitat only.

Almost no understory of vegetation was found within the Desert sink scrub plant community within the project lease area.

Fauna

The following species were observed on or just nearby the project lease area.

Loggerhead Shrike (Lanius ludovicianus)

The loggerhead shrike is a medium-sized songbird found throughout North America. They are most often seen perched on overhead wires, barbed-wire fences, and isolated shrubs along pastures, grasslands, and agricultural fields. Loggerhead shrikes occur in open landscapes characterized by widely spaced

shrubs and low trees within a variety of plant associations, including arid shrublands, grasslands, savannahs, pasturelands, and farmlands. Trees and shrubs used for nesting generally share common characteristics of having dense foliage and can be bushy and thorny. Shrikes are unique among songbirds in that they prey upon large insects, small birds, amphibians, reptiles, and small rodents. Shrikes hunt from perches often returning to these perches to impale their prey on barbed wire and thorns. Shrikes use open habitats for foraging during both breeding and non-breeding seasons (Pruitt 2000; Humple 2008).

During the field surveys, loggerhead shrikes were more common on the northern portion of the project lease area north of the Union Pacific railroad tracks. During the most recent field survey February 26, 2021, a total of 8 loggerhead shrikes were observed. One nest was observed on the northwest corner of the project lease area; however, it was believed to be inactive.

Pronghorn Antelope (Antilocapra americana)

The most noticeable characteristic of pronghorn is also the source of their common name. Both males and females have a pair of short horns on the top of the head. The female's horns are small, usually only a bump. In contrast, the males' horns are around 10 to 12 inches long. They also have a unique shape, because unlike other ungulates, a pronghorn's horns point backward. The horns extend straight up and then curve toward the rump. At the front of the horn is a small notch or prong that points forward, hence the animal's name. Pronghorns have large eyes and fantastic vision. Pronghorns are about 4.5 feet long, three feet tall, and weigh between 90 and 150 pounds. Females tend to weigh less than the males.

During the February 26, 2021 field survey, a herd of approximately 18 pronghorns migrated through the area, immediately south (approximately 2,500 feet) of the project lease area.

Prairie falcon (Falco mexicanus)

The prairie falcon (Falco mexicanus) is a medium-large sized falcon of western North America. It is about the size of a peregrine falcon or a crow, with an average length of 40 cm (16 in), wingspan of approximately 1 meter (40 in), and average weight of 720 g (1.6 lb). the prairie falcon eats mostly small mammals, some small birds, and reptiles. The prairie falcon catches prey in air and on ground in open areas. Usually nests in a scrape on a sheltered ledge of a cliff overlooking a large, open area. Sometimes nests on old raven or eagle stick nest on cliff, bluff, or rock outcrop. Aerial courtship display occurs near nest site. Southeast-facing nest site apparently preferred, but height and orientation secondary to nature and character of the ledge.

During the field survey on February 26, 2021 a prairie falcon was observed south of the project lease area approximately four (4) miles south in a flight mode of approximately 100 feet above the ground hunting. The project lease area does not provide adequate habitat for breeding. Project lease area could provide foraging habitat. Project area is yearlong range for the prairie falcon.

Black-tailed Jack Rabbit (Genus Lepus)

The black-tailed jack rabbit is 18 to 25 inches long and is colored buff peppered with black above, and white below. The tail has a black stripe above. The ears are long and brown with black tips. The antelope jack is approximately the same size, but colored gray above with the lower sides mostly white. The face, throat and ears are brownish, but there is no black tip on the ears. The black-tailed jack is by far the most common and is found all over California except in the mountainous areas at elevations above 12,000 feet.

During all three field surveys black-tailed jack rabbits were seen on each visit. Sierra staff observed between 1 and 3 jacks on each survey.

Wild Horse (Equus ferus)

Most wild horses living today are descendants of animals that were released or escaped from Spanish explorers, ranchers, miners, the U.S. Cavalry and Native Americans. These feral horses are untamed members of the domestic horse subspecies (*Equus ferus caballus*), not to be confused with the truly "wild" horse subspecies extant into modern times. Wild horses are diverse in their coloring, ranging from

solid brown and black to colorful pintos and palominos. Most wild horses stand 13 to 15 hands high (52-60 inches) and weigh from 700 to 1,000 pounds.

The Bureau of Land Management manages and protects wild horses and burros on 26.9 million acres of public lands across 10 Western states as part of its mission to administer public lands for a variety of uses. The Wild Horse and Burro Program's goal is to manage healthy wild horses and burros on healthy public rangelands. Broadly, the law declares wild horses and burros to be "living symbols of the historic and pioneer spirit of the West" and stipulates that the BLM and the U.S. Forest Service have the responsibility to manage and protect herds in their respective jurisdictions within areas where wild horses and burros were found roaming in 1971.

During the February 26, 2021 field survey, a herd of approximately 30 wild horses were observed migrating from east to west approximately 1 mile southeast of the project lease area along the California/Nevada border.

Abandoned Burrows

The project lease area is suitable habitat for American badger which could occur within the project lease area; however, no burrows or dens of suitable size for American badger were observed during field surveys conducted by Sierra staff with the September 2019, December 2019, or February 2021 surveys.

Sensitive Vegetation Communities

Vegetation communities (habitats) are generally considered "sensitive" if they; *(a)* are recognized by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service as being locally depleted; *(b)* are considered rare within the region by local experts, *(c)* are known to support sensitive animal or plant species, including Listed Species; and/or *(d)* they are known to serve as important wildlife corridors. These sensitive habitats are typically depleted throughout their known ranges or are localized and/or highly fragmented.

The vegetation on the project lease area is not sensitive and is not considered a significant biological resource for analysis purposes in this report.

Special-Status Plant Species

Seventeen (17) special status plant species were identified in preliminary research for this analysis from the CNPS list which occurred in Lassen County. Out of the seventeen listed special status plant species found in Lassen County only ten (10) plant species could find the project lease area suitable habitat. However, none of these ten species were found in protocol-level surveys within the project lease area conducted for the Tuscarora Natural Gas Pipeline in 1994. Potential effects to special-status plant species that may occur in the project action area, are discussed in Section 7 of this report.

Special-Status Wildlife Species

The following section contains descriptions of special-status wildlife species that may occur in the project action area. Critical habitat has been designated for many of these species but is not mentioned in the species descriptions below unless it occurs within the project action area.

American badgers (T*axidea taxus*)

American badgers are listed as a special status species by CDFW. American badgers are heavy bodied, short-legged, grayish-colored mammals that have a white medial stripe from nose over the top of the head and down the back. Their feet are black with long front claws for burrowing. They are found in a variety of open, arid habitats, but are most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub. Principal habitat requirements for the species include sufficient prey base, friable soils, and relatively open, uncultivated ground. They are generally found in areas of low to moderate slope. American badgers are carnivorous and feed on fossorial rodents including ground squirrels, cottontail rabbits, jackrabbits, small rodents, and pocket gophers (Stephenson and Calcarone 1999; Laudenslayer and Parisi 2007).

During the wildlife survey for the PSREC Inter-tie Line located four (4) miles south of the project lease area in 2007 and 2010, one adult badger and an active badger burrow complex were recorded west of the Union Pacific Railroad, approximately 6 miles southwest of the project lease area. During the three surveys (September 2019, December 2019, and February 2021) no burrows or dens of suitable size for American badger were observed during field surveys conducted by Sierra staff.

Long-eared Owl (Asio otus)

The long-eared Owl is designated by CDFW as a species of special status. The long-eared owl is one of the most widely distributed and most numerous owl species in the world, and due to its very broad range and numbers it is considered a least concern species by the International Union for Conservation of Nature (IUCN). The long-eared owl is a medium-sized woodland owl. Long-eared owls nest in conifer, oak, riparian, piñon-juniper, and desert woodlands that are either open or are adjacent to grasslands, meadows, or shrublands (Marks et al. 1994). Key habitat components are some dense cover for nesting and roosting, suitable nest platforms, and open foraging areas. Long-eared owls nest mainly in old corvid (e.g., crow, raven) or hawk nests but also in old woodrat and squirrel nests, mistletoe brooms, and natural platforms of (or debris piles in) trees. Long-eared owls forage primarily at night by flying low over open ground, including grasslands, meadows, active or fallow agricultural lands, sagebrush scrub, and desert scrub. They feed almost exclusively on small mammals but opportunistically take other prey, such as small birds and rabbits (Hunting 2008).

In 2007, one active long-eared owl nest was documented along Long Valley Creek, approximately 600 feet upstream (southeast) of the Garnier Road bridge or approximately ten (10) miles from the project lease area. No long-eared owls were observed during the 2019's or 2021 surveys. The project lease area provides no suitable habitats for nesting and roosting. The project lease area only provides potential for foraging areas.

Prairie falcon (Falco mexicanus)

The prairie falcon (Falco mexicanus) is a medium-large sized falcon of western North America. It is about the size of a peregrine falcon or a crow, with an average length of 40 cm (16 in), wingspan of approximately 1 meter (40 in), and average weight of 720 g (1.6 lb). the prairie falcon eats mostly small mammals, some small birds, and reptiles. The prairie falcon catches prey in air and on ground in open areas. Usually nests in a scrape on a sheltered ledge of a cliff overlooking a large, open area. Sometimes nests on old raven or eagle stick nest on cliff, bluff, or rock outcrop. Aerial courtship display occurs near nest site. Southeast-facing nest site apparently preferred, but height and orientation secondary to nature and character of the ledge.

The prairie falcon is primarily associated with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. The prairie falcon uses open terrain for foraging and nests in open terrain with canyons, cliffs, escarpments, and rock outcrops. This species typically builds nests in a scrape on a sheltered ledge of a cliff overlooking a large, open area. Diet consists mostly of small mammals, some small birds, and reptiles (CWHR 2020).

Historically, prairie falcons nested on Fort Sage Mountains (CNDDB 2020). In the past, one prairie falcon eyrie was documented in this area on a low cliff ledge approximately 6.2 mile south of the project lease area. This nest site appeared to have been active earlier in 2020, since the scrape was lined with down feathers and eggshells were present. One prairie falcon was observed just north of Fort Sage Road and south of the project lease area in February 2021. The observed prairie falcon was in flight mode of approximately 100 feet above the ground hunting.

It is assumed prairie falcons commonly nest on or near Fort Sage Mountain based on the historical information, as well as the 2007 and 2010 survey results for Sierra Plumas Intertie Line, and the suitable nesting substrate for this species in this area. The project lease area does not provide adequate habitat for breeding. Project lease area could provide foraging habitat. Project lease area is yearlong range for the prairie falcon.

5. Regulatory Background

Federal Endangered Species Act

The FESA protects plants and wildlife that are listed as endangered or threatened by the USFWS and the NMFS. Section 9 of the FESA prohibits the take of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land, and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16USC1538). Under Section 7 of the FESA, federal agencies are required to consult with the USFWS and/or the NMFS if their actions, including permit approvals or funding, could adversely affect a listed plant or wildlife species or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS and/or the NMFS may issue an incidental take permit allowing take of the species that is incidental to another authorized activity, provided the action will not jeopardize the continued existence of the species. Section 10 of the FESA provides for issuance of incidental take permits to private parties, provided a habitat conservation plan (HCP) is developed.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties devised to protect migratory birds and any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits are in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the Fish and Game Code.

Federal Clean Water Act

The federal Clean Water Act's (CWA) purpose is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into waters of the United States without a permit from the USACE. The definition of waters of the United States includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency also has authority over wetlands and may override a USACE permit. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or Waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board.

California Environmental Quality Act

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into the regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant under CEQA such a case occurs when impacts result

in an adverse alteration of existing conditions, but do not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA directs agencies to consult with the California Department of Fish and Wildlife (CDFW) on projects or actions that could affect listed species, directs the CDFW to determine whether jeopardy would occur, and allows the CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA generally parallels the main provisions of FESA, but unlike its federal counterpart, CESA applies the "take" prohibitions to species proposed for listing (called candidates by the State). "Take" is defined in Section 86 of the California Fish and Game (CFG) Code as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Section 2080 of the CFG Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. CESA allows the CDFW to authorize exceptions to the state's prohibition against take of a listed species (except for designated fully protected species) if the take of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (CFG Code § 2081).

Fully Protected Species

The State of California first began to designate species as fully protected prior to the creation of CESA and FESA. Lists of fully protected species were initially developed to provide protection to those species that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under CESA and/or FESA. The regulations that implement the Fully Protected Species Statute (CFG Code Section 4700) provide that fully protected species may not be taken or possessed at any time. Senate Bill 618, amended in 2011, allows CDFW to issue permits authorizing the incidental take of fully protected species under CESA, as long as any take authorization is issued in conjunction with the approval of a Natural Community Conservation Plan that covers the fully protected species.

California Species of Concern

In addition to formal listing under FESA and CESA, some species receive additional consideration by the CDFW and lead agencies during the CEQA process. Species that may be considered for review are included on a list of species of special concern, developed by the CDFW. The list tracks species in California whose numbers, reproductive success, or habitat may be in decline.

California Fish and Game Code

Section 3503.5 of the CFG Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto". Disturbance activities that result in abandonment of an active bird-of-prey nest in areas adjacent to the disturbance may also be considered a violation of the CFG Code.

California Native Plant Protection Act and California Native Plant Society

The California Native Plant Protection Act of 1977 (CFG Code Sections 1900-1913) affords the California Fish and Game Commission the authority to designate native plants as endangered or rare and protects such endangered or rare plants from take. In addition, plants that are not State listed, but meet the standards for listing are also protected under CEQA (CEQA Guidelines, Section 15380). The California Native Plant Society (CNPS) maintains a list of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The definitions for each of the CNPS listings are below:

Plant Ranks

- List 1A: Plants presumed extinct in California
- List 1B: Plants rare, threatened, or endangered in California and elsewhere

- List 2A: Plants presumed extinct in California, but more numerous elsewhere
- List 2B: Plants rare, threatened, or endangered in California, but more numerous elsewhere
- List 3: Plants about which we need more information — A review list

Threat Ranks
- 0.1: Plants are seriously endangered in California
- 0.2: Plants are fairly endangered in California
- 0.3: Plants are not very endangered in California

State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State

In accordance with the Porter-Cologne Water Quality Control Act 6 (Water Code, § 13000 et seq.), the Water Boards are authorized to regulate discharges of waste, which includes discharges of dredged or fill material, that may affect the quality of waters of the state. Waters of the state include some, but not all, features that are defined as wetlands, as well as other features, including the ocean, lakes, and rivers. These Procedures for the Discharges of Dredged or Fill Material to Waters of the State (Procedures) conform to Executive Order W-59-93, commonly referred to as California's "no net loss" policy for wetlands. In accordance with Executive Order W-59-93, the Procedures ensure that the California Water Boards' regulation of dredge or fill activities will be conducted in a manner "to ensure no overall net loss and long-term net gain in the quantity, quality, and permanence of wetlands acreage and values…"

Lassen County General Plan

The Lassen County General Plan wildlife segment establishes goals and policies that aim to protect and enhance the overall health of wildlife habitats and special resource areas to maintain healthy, abundant, and diverse wildlife populations with an ecosystem approach to habitat management which also supports multiple land uses and enhances opportunities for consumptive and non-consumptive uses of wildlife resources recognizing the economic, educational, recreational, and aesthetic benefits that said uses bring to the County.

Required Permits and Approvals

No biological resources permits are required for the proposed Calneva BESS/PSES project.

6. Effects Analysis

The following section describes impacts to habitat types, species, and critical habitat that may result from construction of the project. Temporary and permanent impacts are described for all habitats and species. Additionally, direct and indirect impacts are discussed for each species and critical habitat that may be affected by the project. These types of impacts are described below.

- **Temporary Impacts:** Construction of Calneva BESS/PSES and components of the project will require temporary disturbance of an approximate 250 acres or 90% percent of the site to install pilings. No grading and a low impact construction method will be implemented for 90% of the project lease area. Maintenance of Calneva Road and installation of the power poles within the Calneva right of way will require temporary disturbance to an approximate 40-foot-wide ROW. In certain areas, the ROW may be narrowed to avoid impacts to sensitive habitats and special-status species. In other areas, additional workspace needs may require that the ROW be expanded temporarily beyond the 40-foot widths.

Potential temporary construction impacts may include loss of foraging and/or nesting habitat, decreased habitat value, disturbance of nesting sites, or habitat fragmentation. However, the majority of these impacts will be temporary, as Calneva BESS/PSES plans to restore all disturbed habitats within the project lease area following construction. Temporary impacts resulting from construction activities will be reduced to less than significant levels with the implementation of the avoidance, minimization, and mitigation measures outlined in Section 8 of this report.

- **Permanent Impacts:** The Calneva BESS/PSES project consists of the construction of an a electrical substation, battery energy storage system, access/maintenance roads and underground collection cables for electrical collection from the solar panels to the invertors. These project improvements will take approximately 16 acres or 5% of the project lease area. Permanent impacts that may result from project construction are only anticipated where the above-described project improvements (electrical substation, battery energy storage system, and access/maintenance roads) will permanently convert existing habitat.

Permanent impacts to special-status species may consist of loss of suitable foraging, nesting, roosting, breeding, aestivation, or hibernation habitat. However, permanent impacts will be reduced to less than significant levels by avoiding location of permanent structures in sensitive habitat to the maximum extent feasible, by final spatial relationships of the project components responding and reflecting special-status species geography on the project lease aera and properly restoring the project lease area and work areas, and by replacing sensitive habitat features as may be identified in focus blooming surveys through avoidance, restoration, and compensatory mitigation.

- **Direct Impacts:** Direct impacts are defined in the FESA as effects to species or their critical habitat that occur during the implementation of a project. These impacts are likely to result from construction of the project but are not likely to continue once construction is complete.

- **Indirect Impacts:** Indirect impacts are defined in the FESA as effects that occur to species or their critical habitat after implementation of the project is complete. These effects are caused by or result from project activities and are reasonably certain to occur.

Plant Communities and Habitat Types

Project impact is confined to acreages with habitat types as summarized in Table 4.

Table 4: Project Impact Acreages

Habitat Type	Temporary Impact Acreage	Permanent Impact Acreage
Disturbed Habitat	50	5
Desert Sink Scrub	80	11
Alkali Basins/Flats/Playas	148	0.5

Disturbed Habitat

Temporary Impacts

Construction of the project will temporarily impact approximately 50 acres of disturbed habitat (approximately 50 acres of existing dirt roads, natural gas pipelines, railroad right of way). Impacts may include the temporary loss of portions of disturbed areas was they are used for laydown areas. Following construction, a majority of disturbed habitat lands disturbed during installation of the project will be restored to its previous condition or better, including replanting desert sink scrub vegetation. However, some impacts will be permanent, as described below. Calneva BESS/PSES will restore the Calneva ROW as agreed upon with Lassen County following completion of construction activities. Additionally, Calneva BESS/PSES will implement the mitigation measures outlined in Section 8 to minimize potential temporary construction impacts to disturbed habitat.

Permanent Impacts

The construction of the five permanent structures, on disturbed habitat which will include portions of the electrical substation, battery energy storage system, and access/maintenance roads, weather monitoring stations, and maintenance of the permanent ROW on Calneva Road will permanently remove approximately 5 acres of disturbed habitat. Dirt access roads and Calneva Road will be permanently impacted where a 30-foot-wide permanent strip of the permanent ROW centered on electrical infrastructure facilities will be maintained by Calneva BESS/PSES to keep the area free of deep-rooted vegetation for safety purposes.

Desert Sink Scrub

Temporary Impacts

Construction of the project will temporarily impact approximately 69 acres of desert sink scrub habitat. Desert sink scrub will be developed with low impact methods. This area will have pilings driven into the ground to support the solar array axis. No clearing or grading of vegetation or the surface will be conducted in 69 acres of the desert sink scrub. Sensitive areas located in Desert sink scrub such as locations of special status species, or active burrows and nesting will be avoided, or impacts minimized using the mitigation measures outlined in Section 8 of this report.

Permanent Impacts

The construction of the Calneva BESS/PSES electrical substation, battery energy storage system, weather monitoring stations, and access/maintenance roads will permanently remove approximately 11 acres of desert sink scrub habitat. Additionally, Calneva BESS/PSES will implement the mitigation measures outlined in Section 8 to minimize permanent impacts to desert sink scrub habitat.

Alkali Basins/Flats/Playas

Temporary Impacts

Construction of the project will temporarily impact approximately 148 acres of alkali basins/flats/playas

habitat. This habitat type is barren and void of vegetation and does not provide habitat value to special-status plant or wildlife species, with the exception of providing open areas for predators to forage and more success in hunting for species like the prairie falcon or Long-eared Owl. Alkali basins/flats/playas will be developed with low impact methods. This area will have pilings driven into the ground to support the solar array axis. No clearing or grading of basins/flats/playas will be conducted in the 148 acres of the alkali basins/flats/playas. Sensitive areas located in alkali basins/flats/playas such as locations active burrows and nesting will be avoided, or impacts minimized using the mitigation measures outlined in Section 8 of this report.

Permanent Impacts
Construction of the project will permanently impact approximately ½ acre of alkali basins/flats/playa habitat where the solar arrays pilings are placed and driven into the earth. No other permanent impacts to this habitat type are expected.

Special-status Plant Species
No special-status plant species listed by the USFWS or the CDFW were found during surveys conducted in September 2019, December 2019, or February 2021, however, these surveys were conducted outside the time period for blooming focused surveys of the project lease area. A protocol blooming survey was conducted in 1994 for the Tuscarora Natural Gas Pipeline on the project lease area and no special status plant species were found at that time. However, suitable habitat does exist in the project action area and Calneva BESS/PSES will take the proper precautions to avoid any potential indirect impacts to suitable habitat through implementation of BMPs and the mitigation measures described in Section 8 of this report.

Because special-status plants were not found in protocol-level blooming surveys historically with other projects conducted (Tuscarora Natural Gas Pipeline) within the project lease area and are not likely to have populated in the project lease area since the last focused survey, temporary, permanent, direct, and indirect impacts to these special status species are not expected to result from the project.

Special-status Wildlife Species

American Badger

Temporary Impacts
Temporary construction impacts to the American badger could include loss of foraging or burrow habitat resulting from pile driving, and grading of the access roads, or den activity disruption resulting from construction noise that causes a loss of young, species harassment, or displacement.

Permanent Impacts
Permanent impacts to the American badger could include direct mortality or permanent loss of foraging or burrow habitat if the project lease area is not properly restored.

Direct Impacts
Direct effects resulting from solar array construction could include habitat destruction resulting in loss of cover or foraging opportunities, den activity disruption resulting from construction noise, displacement, or direct mortality.

Indirect Impacts
Indirect effects could include adverse habitat modification that results in loss of future foraging or burrow opportunities if the project lease area is not properly designed and restored.

Long-eared Owl

Temporary Impacts
Temporary construction impacts to the Long-eared owl could include loss of foraging opportunities

resulting from pile driving and grading of the access roads, foraging activities disruption resulting from construction noise and activities.

Permanent Impacts
Permanent impacts to the Long-eared owl could include loss of foraging opportunities if the solar arrays obstruct access to the ground during portions of the day if the project lease area is not properly designed and restored.

Direct Impacts
Direct impacts to the Long-eared owl could include loss of foraging opportunities resulting from clearing of the access roads and construction of the solar arrays, foraging activity disruption resulting from construction noise.

Indirect Impacts
Indirect impacts to the Long-eared owl could include adverse habitat modification that results in loss of future foraging opportunities if the project lease area is not properly designed and restored.

Prairie Falcon

Temporary Impacts
Temporary construction impacts to the Prairie falcon could include loss of foraging opportunities resulting from pile driving and grading of the access roads, foraging activities disruption resulting from construction noise and activities.

Permanent Impacts
Permanent impacts to the Prairie falcon could include loss of foraging opportunities if the solar arrays obstruct access to the ground during portions of the day if the project lease area is not properly designed and restored.

Direct Impacts
Direct impacts to the Prairie falcon could include loss of foraging opportunities resulting from clearing of the access roads and construction of the solar arrays, foraging activity disruption resulting from construction noise.

Indirect Impacts
Indirect impacts to the Prairie falcon could include adverse habitat modification that results in loss of future foraging opportunities if the project lease area is not properly designed and restored.

Loggerhead Shrike

Temporary Impacts
Temporary construction impacts to the loggerhead shrike could include loss of nesting or foraging opportunities resulting from driving of pilings for the solar array axis during construction or grading of the access roads, nesting activity disruption resulting from construction noise, or displacement.

Permanent Impacts
Permanent impacts to the loggerhead shrike could include loss of nesting or foraging opportunities if the solar array area is not properly restored, or if suitable nesting shrubs are removed during construction, or direct mortality.

Direct Impacts
Direct impacts to the loggerhead shrike could include loss of nesting or foraging opportunities resulting from pile driving, and grading of access roads, nesting activity disruption resulting from construction noise, or displacement.

Indirect Impacts
Indirect impacts to the loggerhead shrike could include adverse habitat modification that results in loss of future foraging or nesting opportunities if the project lease area is not properly designed and restored.

Operation and Maintenance
Operation and maintenance activities are not expected to have permanent impacts to sensitive habitats or special-status species, as all aboveground structures will be located in fenced yards within previously disturbed areas, alkali basins/flats/playas, or desert sink scrub, and will require minimal maintenance once construction is complete. Routine maintenance will consist of quarterly to annual patrolling (e.g., foot or vehicle), and use of water to clean the solar arrays, and will not require significant disturbance of habitat. Within the project lease area, construction and maintenance vehicles will remain on designated project access routes and existing surfaced roads. Calneva BESS/PSES will implement an ongoing worker education program to educate staff in recognizing and avoiding sensitive habitats in order to minimize impacts during maintenance and operation.

Interrelated and Interdependent Effects
This project activity is not interrelated with any other action, and there are no known interdependent effects.

Cumulative Effects
Cumulative effects include the effects of future state, Tribal, local, or private actions that are reasonably certain to occur in the southeast corner of the Honey Lake Valley considered in this BA. Future federal actions that are unrelated to the proposed action are not considered in this section because they will be subject to separate consultation pursuant to Section 7 of the FESA.

The project may contribute to the cumulative effects to special-status species and their habitats resulting from numerous developments and road expansions that are planned in the region. Planned developments in the area include the Fish Springs Solar Project, Rock Springs Solar Project, and Sierra Plumas Rural Electric Cooperative Herlong to Fort Sage Intertie Line. In addition, road maintenance and improvements are planned for Calneva Road, and Rainbow Road between the Union Pacific railroad and Fort Sage Road. Gen-tie lines associated with Fish Springs and Rock Springs Solar project are planned for construction in 2022.

These new developments and road improvements are likely to permanently impact the habitats of special-status species, including rare plants and wildlife associated with local habitats found in the Basin and Range of northeastern California, raptors and other avian species that utilize alkali desert scrub, and alkali basins/flats/playas for foraging and roosting. These impacts may include take of special-status species, fragmentation or permanent loss of habitat, or reductions in the quality of habitat.

While the project may contribute to the cumulative effects resulting from new development and road expansion, most of the impacts from the project are going to be temporary in nature, as habitat will be restored to preconstruction conditions following the completion of construction activities. It is likely that many of the habitats temporarily impacted by project construction will be fully restored by the time construction begins for many of the new developments planned in the area.

Cumulative impacts will be minimized by constructing the Calneva BESS/PSES with low impact methodologies (no grading, grubbing only pile driving) access roads to follow existing roadways such that fragmentation of habitat will be minimized. To the extent possible, the project will be constructed in areas that have previously been disturbed, or within alkali basins/flats/playas that are barren of very low value for habitat to support special status species.

7. Impact Avoidance and Minimization Recommendations

The following mitigation measures will be implemented by Calneva BESS/PSES to avoid or minimize the potential impacts to biological resources that may result from project construction, operation, and maintenance. These mitigation measures have been grouped into two categories: general measures and species- or habitat-specific measures.

General mitigation measures apply to the entire project, and are organized into preconstruction, during construction, and postconstruction measures. General mitigation measures include worker education training, erosion control, ROW restoration, and seasonal construction-timing restrictions.

Specific measures include those that will be implemented for specific species or habitat types, and detail procedures that will be utilized such as special plant species-blooming focus surveys prior to construction, migratory and nesting bird surveys and monitoring, and special status species avoidance and minimization measures.

General Preconstruction

MM 1: Project Maps: Detailed construction maps showing location of sensitive environmental resources, construction sites and related features, environmental protection measures, and access routes will be provided to construction supervisors, and will be available to the construction crew members and environmental monitors prior to during construction activities.

MM 2: Worker Training: Calneva BESS/PSES contractor will provide a qualified biologist(s) to conduct environmental compliance training, including an endangered species/sensitive habitat education program for construction crews prior to the commencement of the project and during construction activities. Additional “tailgate” training will be conducted for new construction personnel as needed during construction. Sessions will include discussions of regulatory requirements, including the federal and California Endangered Species Acts, the CWA, California Department of Fish and Wildlife’s (CDFW) Fish and Game Code, and consequences of noncompliance with these acts and requirements. Training will also include identification of special-status species that are likely to occur in the project area and discussion of the values of sensitive habitats. Training will also brief construction crews on the blooming focus surveys results concerning special status plant species for the project lease area and the findings and mitigation requirements.

MM 3: Educational Brochure: As part of construction training, Calneva BESS/PSES will produce an educational brochure for crews working on the project. Color photos of threatened and endangered species, likely to occur in the area will be included, as well as a discussion of protective measures agreed to by Calneva BESS/PSES and the resource agencies.

MM 4: Exclusion Zone Fencing: Calneva BESS/PSES will mark the boundaries of environmentally sensitive exclusion zones and sensitive habitat features that are to be avoided (active burrows, active nests, special status plant species locations, etc.) before and during construction with highly visible flagging or fencing to prevent impacts from vehicles. All construction personnel will be required to conduct work activities within the defined area only.

MM 5: Vegetation Removal: Calneva BESS/PSES contractor will only remove vegetation within the approved work area. Low impact construction will be adhered to minimize removal of vegetation and restrict grading.

General Construction

MM 6: Work Area: Calneva BESS/PSES will confine all heavy equipment, vehicles, and construction work to approved roads and work areas. Solar array work areas will be limited to what is necessary for construction (Pile Driver). Where possible, construction vehicles will be kept out of the project areas with

the potential to support special-status species. Where these avoidance measures are not feasible, Calneva BESS/PSES will apply for and obtain the appropriate permits prior to construction from the Lahontan Regional Water Quality Control Board (LRWQCB), grading permit and will implement any additional avoidance or mitigation measures that are agreed upon during the grading permit process.

MM 7: Construction Monitoring: Calneva BESS/PSES will retain a qualified biologist(s) to be on-site during construction activities to perform pre-activity surveys just prior to construction in order to clear the work area of any special-status species, and to monitor compliance with mitigation measures.

MM 8: Workday Schedule: To the extent possible, Calneva BESS/PSES will conduct all construction activity during daylight hours only. Where it is deemed necessary and feasible, night lighting and monitors will be used for work that occurs after sundown.

MM 9: Vehicle Inspection: Calneva BESS/PSES will ensure that all construction personnel are instructed to visually check for wildlife beneath vehicles and equipment before moving or operating them.

MM 10: Speed Limit: Calneva BESS/PSES will enforce a speed limit of 15 miles per hour on private roads and the posted speed limit on public roads.

MM 11: Trench Ramping: At the conclusion of each day's trenching or excavating activities, the end of the trench will be ramped at an approximate 2 to 1 slope to allow any wildlife that enters the trench to escape. A biological monitor may approve the use of boards placed at an approximate 2 to 1 slope for site-specific, pre-approved locations where earthen escape ramps are not feasible.

MM 12: Sensitive Habitat Monitoring and Procedures if Listed Species are Found: In accordance with the FESA and CESA, Calneva BESS/PSES will retain a qualified biological monitor to inspect any construction activity in habitat that is to be avoided or preserved to ensure that no unauthorized or unnecessary take of listed species or destruction of their habitat occurs. Upon recommendation of the biological monitor, the Calneva BESS/PSES work supervisor will be responsible for avoiding and stopping all activities that may result in such take or destruction of habitat until appropriate corrective measures have been completed. Calneva BESS/PSES will be responsible for immediately reporting any unauthorized impacts to the USFWS and the CDFW.

MM 13: Trash Cleanup: Calneva BESS/PSES will properly contain and remove all trash and waste items generated by construction or crew activities.

MM 14: Prohibitions for Pets, Fire, Firearms: Calneva BESS/PSES will prohibit employees, contractors, and subcontractors from having pets, campfires, or firearms at the project site. Smoking will be limited to designated smoking areas only.

General Postconstruction

MM 15: Restoration: Calneva BESS/PSES will restore work areas to pre-existing contours and conditions upon completion of work. Restoration, including revegetation and soil stabilization, will be performed as outlined in the Restoration and Monitoring Plan described below.

MM 16: Project Lease Area Restoration Plan: Calneva BESS/PSES will prepare a Restoration and Monitoring Plan to address postconstruction revegetation, success criteria, and monitoring periods in natural areas. The intent of this plan will be to ensure that impacts are minimized and adequately mitigated to the satisfaction of the permitting agencies, property owners, and/or habitat managers. Restoration will result in restoration of temporarily disturbed areas to conditions similar to preconstruction conditions. The Restoration and Monitoring Plan to be developed by Calneva BESS/PSES for review with resource agencies will include, at a minimum, the following measures:

- At the completion of construction activities, the ROW will be graded to restore flow lines and natural topography.

- Ripping or disking will be performed to relieve compaction at identified locations as needed.
- Stockpiled topsoil will be re-spread, providing organic matter and a seed bank for restoration.
- At the completion of soil work, all areas disturbed by construction activities will be subject to implementation of permanent erosion control measures.
- Permanent erosion control measures could include spreading a combination of native grass and forb seed, fertilizer, compost, and mulch for soil protection.
- Seed mixes will be identified, for Desert sink scrub areas and existing disturbed habitat areas.

MM 17: Seed Mix and Success Criteria: In sensitive communities such as Desert sink scrub areas, Calneva's Restoration and Monitoring Plan will include the use of native seed or plantings and will specify native species lists and propagule types, quantities of material, and appropriate success criteria and monitoring requirements to be determined in discussion with the appropriate resource agencies with responsibility for those areas (e.g., Lassen County, CDFW, and/or LRWQCB).

MM 18: Erosion Control: Calneva BESS/PSES will install and maintain appropriate temporary erosion and sediment control measures until revegetation is successful as defined by the success criteria to be outlined in the Restoration and Monitoring Plan.

Special-status Plant Species Blooming Focused Surveys

MM 19: Blooming Focused Surveys: Prior to any construction or ground disturbance activities, a blooming focus surveys of all identified special status plant species from the CNPS records search for the project lease area which include:

1. Geyer's milkvetch, (*Astragalus geyeri* var. *g*eyeri)
2. Cruciform evening-primrose (Camissonia claviformis ssp. Cruciformis)
3. Dugway wild buckwheat (*Eriogonum nutans* var. *n*utans)
4. Bailey's ivesia (Ivesia baileyi var. baileyi)
5. Sagebrush loeflingia (Loeflingia squarrosa var. artemisiarum)
6. MacDougal's lomatium (Lomatium foeniculaceum var. macdougalii)
7. Intermontane lupine (Lupinus pusillus var. intermontanus)
8. Lance-leaved scurf-pea (*Psoralidium lanceolatum)*
9. Winged dock (Rumex venosus)
10. Currant-leaved desert mallow (Sphaeralcea grossulariifolia ssp. Grossularifolia)
11. Western seablite (Suaeda occidentalis)
12. Many-flowered thelypodium (*Thelypodium milleflorum)*
13. Hillman's cleomella (*Cleomella hillmanii)*
14. Kellogg's sand verbena (Tripterocalyx crux-maltae)
15. Nelson's evening primrose (*Eremothera minor)*
16. Ochre-flowered buckwheat (*Eriogonum ochrocephalum)*
17. Paiute lomatium (*Lomatium ravenii)*

be conducted following CDFW's March 2018 *Protocols and Sensitive Natural Communities* (https://www.wildlife.ca.gov/conservation/survey-protocols#377281280-plants). Surveys shall be conducted by a qualified botanist during the appropriate blooming time of the year (adjusted for weather) to identify species listed above. If disturbance is anticipated, the botanist will ensure adequate mitigation measures are implemented (MM 22).

MM 20: Special Status Plant Species Found: Based on the results of the Blooming Focused Surveys and the finding of a special status plant species, in accordance with CDFW policies, the Botanist will work with the Calneva BESS/PSES project manager to mitigate and reduce the impacts of the project on the identified special status plant species to a less than significant impact.

If any special-status plant species are documented within the project lease area, grading and construction plans shall clearly show the location of special-status plants and delineation fencing that excludes the special-status plant species from disturbance. The fencing shall consist of highly visible construction

fence supported by steel T-stakes that are driven into the soil. The qualified biologist shall field-fit the placement of the delineation fencing to ensure that special-status plant species are excluded from the disturbance areas. The delineation fencing shall remain in-place and functional throughout the duration of the Project and no work activities shall occur outside the delineated work area. The grading plans shall clearly show all staging areas, which shall be located within the construction area and situated to avoid disturbances to special-status plant species. In some cases, avoidance of the plants may not be feasible and mitigation for the plants removed shall be implemented. The qualified biologist shall document the exact number of plants that are removed and establish the final impact quantities. If the special-status plant species cannot be avoided, the following measures shall be implemented:

a) If the plant species to be impacted is not listed under the CESA but is listed under FESA and/or has been assigned California Rare Plant Ranks 1A, 1B, 2A, 2B, or 3, Project activities shall be delayed long enough for the qualified biologist to prepare and implement a rare plant mitigation program.
b) If the Project will impact annual special-status plant species, the rare plant mitigation program shall include collecting seed of the annual special-status plant species, storing the seed off-site, and redistributing the seed in suitable habitat on the property in the fall following Project completion.
c) If the Project will impact perennial special-status plant species, the rare plant mitigation program shall include salvaging all perennial special-status plant occurrences that would be impacted, maintaining the salvaged specimens in containers off-site, and replanting the salvaged specimens in suitable habitat on the property in the fall following project completion. Supplemental irrigation shall be applied to the salvaged plantings as needed for two years following installation of the plantings.

Special-status and Nesting Birds

MM 21: Bird Nest Surveys and Monitoring: Because construction will take place during the breeding and nesting season of avian species in the project area (typically February 1 through August 31), Calneva BESS/PSES will conduct nesting bird surveys prior to construction for avian species with potential to occur on-site, or where accessible, in areas adjacent to construction. Where nesting migratory birds are found in or near the project area, the birds and their nests will be evaluated by a qualified biologist. If nest disturbance is anticipated, the biologist will ensure adequate mitigation measures are implemented (MM 22).

MM 22: Nesting Birds: In accordance with the MBTA, if an active nest is observed in the project area during construction, Calneva BESS/PSES will stop work within the appropriate buffer for the species and contact the biological monitor immediately. Nest disturbance is dependent on a number of site-specific and activity-specific factors, including the sensitivity of the species, proximity to work activity, amount of noise or frequency of the work activity, and intervening topography, vegetation, structures, etc. Additional mitigation may be required to minimize disturbance of detected nesting activity, such as allowing nesting activity to conclude before continuing construction in an area, restricting certain types of construction practices/activities, creating screening devices to shield nest sites from construction activity, and establishing buffer areas around active nest sites. For inactive nests, measures could include removal and/or handling of nest materials, which will be conducted under the supervision of a qualified biologist.

American Badgers

MM 23: Burrowing American Badger Surveys: Calneva BESS/PSES will retain a qualified biologist to conduct burrowing American badger surveys and to identify any occupied burrows in all project action areas and buffer zones with suitable habitat. These surveys will be conducted not more than 30 days prior to initial ground-disturbing activities. If the survey results are negative (no badger dens observed), no additional work would be necessary. If the results are positive (badger dens observed), the qualified biologist shall install a game camera at the den(s) for three (3) days and three (3) nights to determine if the den is in use. If the game camera does not capture an individual entering/exiting the den, the den can be excavated by hand. If the camera captures badger use of the den, the qualified biologist shall install a one-way door in the den opening and continue use of the game camera. Once the camera captures the individual exiting the one-way door, the den can be excavated by hand.

MM 24: Burrow Avoidance: If occupied burrows are identified during surveys, Calneva BESS/PSES will maintain a buffer of approximately 160 feet from occupied burrows during the nonbreeding season of October through July, and approximately 250 feet during the breeding season of August through September. Occupied burrows will not be disturbed within these buffers during the breeding season, from August through September, unless a qualified biologist has verified that the badgers have not begun mating, or the offspring from those burrows are foraging independently and capable of independent survival at a given date.

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MM 25: American Badger Monitoring Plan: If relocation of burrows is required, Calneva BESS/PSES will prepare a American Badger Monitoring Plan, which will include mitigation success criteria and a timeline for submittal of annual reports to the CDFW. Annual reports will describe the number and locations of relocations, relocation procedures used, and the degree of success.

8. Conclusions and Determination Statements

Conclusion

Potential direct effects resulting from solar array and batter energy storage systems construction include species harassment, displacement, or mortality; habitat destruction; or impacted water quality resulting from accidental hazardous material spills, sedimentation, or altered hydrology. Potential indirect effects include loss or degradation of future habitat functionality or impacted water quality resulting from adverse habitat modification causing future sedimentation and/or altered hydrology.

Potential adverse impacts to these species and their habitats can be minimized or avoided if project conservation measures are implemented. Implementation of appropriate construction BMPs, restricting work to non-sensitive or designated areas, providing environmental awareness to the crew, careful handling of chemicals near waterways, use of non-invasive installation methods, and restoring the site appropriately are general measures that will minimize or avoid the negative effects that may be associated with construction of the project. Additional conservation measures that may avoid or minimize adverse effects to potentially occurring special-status species include avoiding sensitive temporal windows for wildlife, conducting appropriate preconstruction surveys for wildlife species in the project action area, checking for wildlife beneath vehicles and equipment in the project area, restricting construction activities to daylight hours where feasible, and having a qualified biologist on-site for construction monitoring, conducting blooming focused surveys for special status plant species, and pre-construction surveys. Implementation of these measures will greatly reduce the potential for significant impacts to special-status species and their habitats.

Determination statements

Per the FESA, biologists who surveyed the project area recommend the following determinations:

Special Status Plant Species: Pending results from the 2021 Blooming Season Focus Surveys, the proposed project may affect but is not likely to adversely affect the identified special status plant species with mitigation measures incorporated.

Special Status Wildlife Species: Pending results from the 2021 Pre-construction Surveys, the proposed project may affect but is not likely to adversely affect the identified special status wildlife species with mitigation measures incorporated.

Watch List Wildlife Species: Pending results from the 2021 Pre-construction Surveys, the proposed project may affect but is not likely to adversely affect the identified Watch List wildlife species with mitigation measures incorporated.

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Attachment A: Photo Log Exhibits

September 26, 2019 Field Survey Photo Log



Photo 1: View east toward California/Nevada Border on UPRR.



Photo 2: View south down Calneva Road



Photo 3: View southeast across southern half of project lease area



Photo 4: View northeast from UPRR and Calneva Road looking at north section.



Photo 5: View north up Calneva Road from UPRR project lease area east of road.



Photo 6: View west from Tuscarora Natural Gas, Herlong Lateral Tap Valve Assembly, Disturbed habitat on project lease area.



Photo 7: View west southern portion of project lease area.

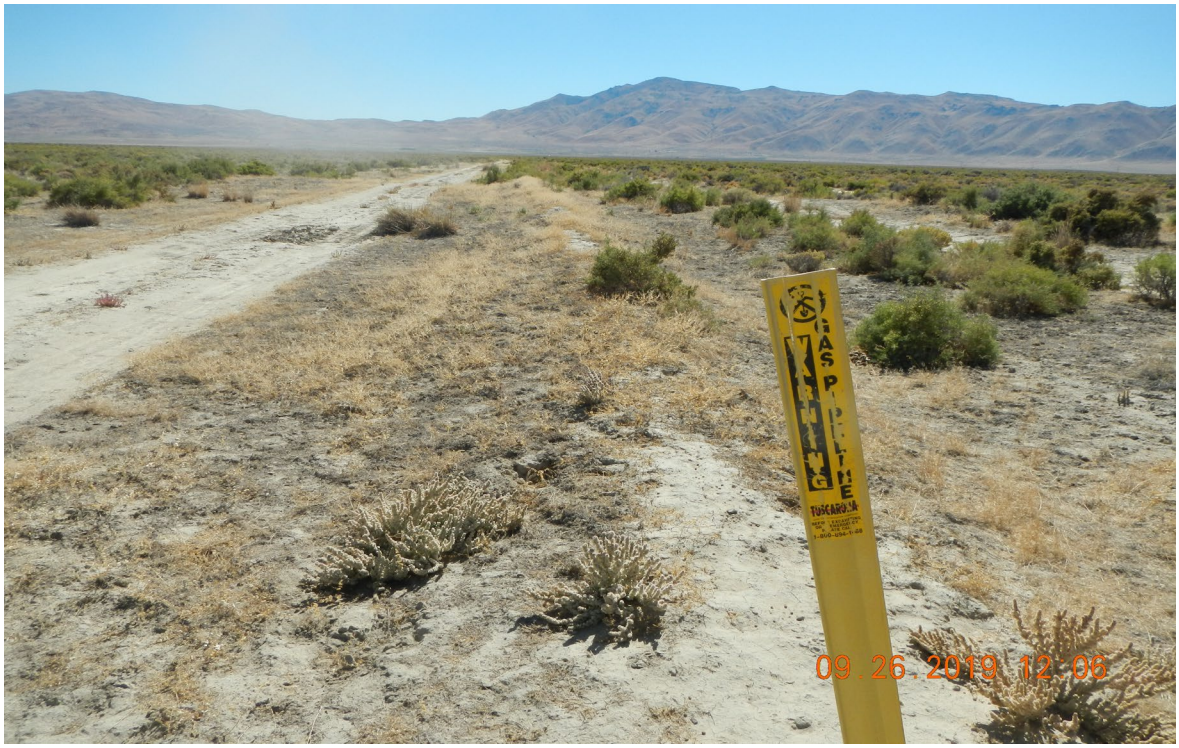


Photo 8: View south along Tuscarora Natural Gas Pipeline alignment in middle of project lease area.

December 20, 2019 Field Survey Photo Log



Photo 1: View southeast from UPRR and Calneva Road just after rain.



Photo 2: View northeast from UPRR and Calneva Road just after rain.



Photo 3: View east along UPRR access easement road south of tracks just after rain.



Photo 4: View south down Calneva Road just after rain with water collecting in low spots of road.



Photo 5: View southwest of UPRR on eastern border just after rain event.



Photo 6: View from southeast corner of property looking northwest just after rain event.

February 26, 2021 Field Survey Photo Log



Photo 1: Abandoned burrow on northwest corner of project lease area.



Photo 2: View east from northern portion of project lease area.



Photo 3: View east from north section of project lease area.



Photo 4: View north toward Calneva Lake in the distance from north section of project lease.



Photo 5: Middle of north section of project lease area view toward the northeast.



Photo 6: View east from middle north section of project lease area.



Photo 7: Wild Horses migrating south of the project lease area.



Photo 8: View of typical alkali basin/flat/playa five (5) days after rain event.



Photo 9: View east along UPRR easement access road on southern portion of project lease area near the middle looking toward border.



Photo 10: View north from north middle area of southern portion of project lease area.

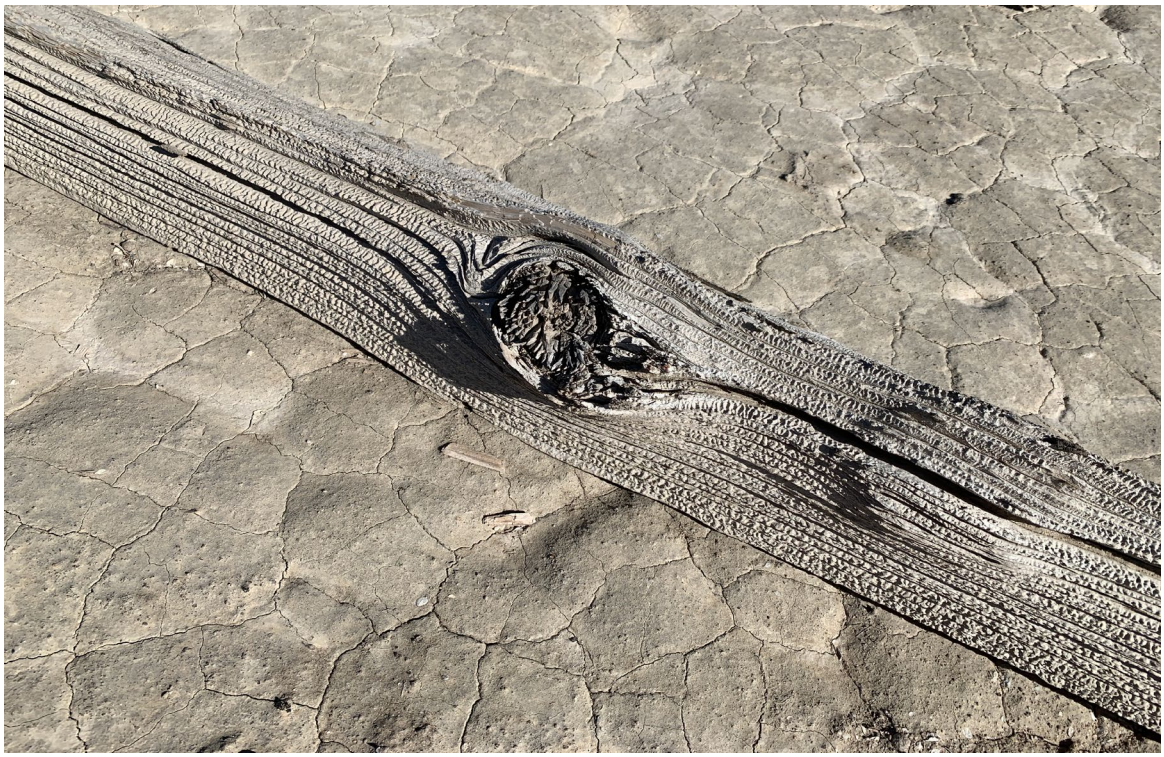


Photo 11: View of salt forming on fallen fence post on north section of project lease area.



Photo 12: View northeast from middle of north portion of project lease area.

Attachment B: CDFW Comment Letters

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Northern Region
601 Locust Street
Redding, CA 96001
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

RECEIVED
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LASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES

November 13, 2020

Stefano Richichi, Senior Planner
County of Lassen
Department of Planning and Building Services
707 Nevada Street, Suite 5
Susanville, CA 96130

Subject: Review of the Early Consultation for Initial Study #2020-004 and Use Permit #2020-004 (Hooper), Assessor Parcel Numbers 137-170-12 and 137-170-13, State Clearinghouse Number 2020100366, Lassen County

Dear Mr. Richichi:

The California Department of Fish and Wildlife (Department) has reviewed the Early Consultation dated October 20, 2020, for the above-referenced project (Project). As a trustee for the State's fish and wildlife resources, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and their habitat. As a responsible agency, the Department administers the California Endangered Species Act and other provisions of the Fish and Game Code that conserve the State's fish and wildlife public trust resources. The Department offers the following comments and recommendations on this Project in our role as a trustee and responsible agency pursuant to the California Environmental Quality Act (CEQA), California Public Resources Code §21000 et seq. The following are informal comments intended to assist the Lead Agency in making informed decisions early in the Project development and review process.

Project Description

The Project as proposed is "*to construct a 5O-megawatt photovoltaic solar array and a battery energy storage system (BESS) that would store 25 megawatts or 100 megawatt hours of electricity, along with related infrastructure. Such infrastructure would include a substation, a dead-end tower up to 90 feet tall, 24 130-foot tall steel gen-tie line poles to interconnect with the Plumas-Sierra Rural Electric 120-kV transmission line approximately 3 miles south of the project site, access roads, and perimeter fencing. The project has an approximate footprint of 278 acres, not including the proposed gen-tie lines.*"

The subject parcels are located approximately nine miles northeast of Herlong off Calneva Road, adjacent to the Nevada Border, Assessor Parcel Numbers 137-170-12 and 137-170-13.

Comments and Recommendations

The Department has the following recommendations and comments as they pertain to biological resources:

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Biological Resources

Biological Surveys

Since the Project is proposed in wildlife habitat, the Department will require a basic botanical, wildlife, and habitat assessment (conducted at the appropriate time of the year) to determine whether focused or protocol-level surveys are warranted. The Department recommends all plant and wildlife species identified in the California Natural Diversity Database (CNDDB) and other biological resource databases (U.S. Fish and Wildlife Service, California Native Plant Society, or other pertinent references) be analyzed for the potential to occur within the Project area.

A preliminary query of the CNDDB identified 18 special-status species known to occur within a five-mile radius of the Project including, but not limited to, the following:

Plants

- Lance-leaved scurf-pea (*Ladeania lanceolata*)(California Rare Plant Rank 2B.3)
- Many-flowered thelypodium (*Thelypodium milleflorum*)(California Rare Plant Rank 2B.2)
- Dugway wild buckwheat (*Eriogonum nutans* var. *nutans*)(California Rare Plant Rank 2B.3)
- Kellogg's sand-verbena (*Tripterocalyx crux-maltae*)(California Rare Plant Rank 2B.2)
- Hillman's cleomella (*Cleomella hillmanii* var. *hillmanii*)(California Rare Plant Rank 2B.2)
- Sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*)(California Rare Plant Rank 2B.2)
- Geyer's milk-vetch (*Astragalus geyeri* var. *geyeri*)(California Rare Plant Rank 2B.2)
- Western seablite (*Suaeda occidentalis*)(California Rare Plant Rank 2B.3)
- Intermontane lupine (*Lupinus pusillus* var. *intermontanus*)(California Rare Plant Rank 2B.3)
- Currant-leaved desert mallow (*Sphaeralcea grossulariifolia*)(California Rare Plant Rank 2B.3)
- Cruciform evening-primrose (*Chylismia claviformis* ssp. *cruciformis*)(California Rare Plant Rank 2B.3)
- Macdougal's lomatium (*Lomatium foeniculaceum* ssp. *macdougalii*)(California Rare Plant Rank 2B.2)
- Nelson's evening-primrose (*Eremothera minor*)(California Rare Plant Rank 2B.3)
- Winged dock (*Rumex venosus*)(California Rare Plant Rank 2B.3)
- Ochre-flowered buckwheat (*Eriogonum ochrocephalum* var. *ochrocephalum*)(California Rare Plant Rank 2B.2)
- Paiute lomatium (*Lomatium ravenii* var. *paiutense*)(California Rare Plant Rank 2B.3)

Wildlife

- Long-eared owl (*Asio otus*)(California Species of Special Concern)
- American badger (*Taxidea taxus*)(California Species of Special Concern)

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This list should not be considered comprehensive as additional special-status plant and animal species may occur within the Project vicinity. The CNDDB is a positive sighting database. It does not predict where something may be found. The Department maps occurrences only where we have documentation that the species was found at the site. There are many areas of the state where no surveys have been conducted and therefore there is nothing on the map. That does not mean that there are no special status species present. The next step is to conduct surveys to document what is present and submit the information on special status species to the Department and CNDDB.

Botanical Surveys

A thorough assessment of rare plants and rare natural communities should be conducted following the Department's March 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (https://www.wildlife.ca.gov/conservation/survey-protocols#377281280-plants). As stated in the Protocols, these surveys must be conducted by a qualified botanist during the appropriate time of year to identify species of concern and should include areas with both direct and indirect impacts. Impacts to special status species and sensitive natural communities found during surveys should be analyzed and specific mitigation should be required to reduce any impacts to less than significant.

Nesting Birds

If vegetation removal will be associated with the Project, these activities should be conducted outside of the bird nesting season (generally no work during February 1 – August 31) in order to avoid 'take' as defined and prohibited by Fish and Game Code sections 86, 3503, 3503.5, 3511, and 3513. If work must be conducted during the bird nesting season, a qualified ornithologist (someone who is able to identify Northern California/Great Basin birds, and who has experience in nest searching for passerines and raptors) should thoroughly survey the area no more than seven days prior to tree/vegetation removal to determine whether active nests (nests containing eggs or nestlings) are present. If active nests are found, appropriate buffers should be developed in consultation with the Department to avoid take. The qualified ornithologist should delineate the buffer zone with construction tape or pin flags that should remain in place until the young have fledged, as determined through additional monitoring. These surveys should occur within and surrounding all areas of the Project site in which Project activities take place, including construction and ground disturbance areas, staging areas, areas of fuel modification, ingress and egress routes, and utility routes, and be large enough to encompass areas subject to both direct and indirect Project impacts. Nesting survey results should also be sent to the Department at R1CEQARedding@wildlife.ca.gov, or at California Department of Fish and Wildlife, Attn: CEQA, 601 Locust Street, Redding, California 96001.

Habitat Assessment

American badger has numerous observations in the CNDDB within and adjacent to this Project. The Department recommends as part of the basic biological survey a burrow survey also be conducted to determine if habitat is present for the badger and/or other fossorial specialists.

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Survey Results

All surveys should be conducted prior to approval of the Project and survey results should be sent to the Department at the following address: Department of Fish and Wildlife, Attn: CEQA, 601 Locust Street, Redding, CA 96001 or submitted via email to R1CEQARedding@wildlife.ca.gov. If any special-status species are found during surveys, the Department requests that CNDDB forms be filled out online or sent to Sacramento and a copy of the form be sent or emailed to the Regional office at the above address. Instructions for providing data to the CNDDB can be found at: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data.

Mitigation

Avoidance and mitigation measures for impacts to special-status species and sensitive habitats, if found, should be proposed in subsequent environmental review to avoid any significant effects the Project would have on the species or its habitat. Examples of mitigation measures for special-status species and habitat include, but are not limited to, project modification to avoid the species and its habitat, enhancement of existing onsite habitat, offsite restoration or enhancement of habitat, or onsite/offsite preservation of habitat. Since appropriate botanical surveys were not conducted, it is unknown if those species are present, if they are impacted, or if the impact is significant to warrant mitigation.

If you have any questions, please contact Amy Henderson, Senior Environmental Scientist (Specialist), at (530) 598-7194, or by email at Amy.Henderson@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Curt Babcock
974D273FEE784E2...

Curt Babcock
Habitat Conservation Program Manager

ec: Stefano Richichi, Associate Planner
County of Lassen
srichichi@co.lassen.ca.us

State Clearinghouse
State.clearinghouse@opr.ca.gov

Amy Henderson
California Department of Fish and Wildlife
Amy.Henderson@wildlife.ca.gov

Habitat Conservation Planning Branch
CEQACommentLetters@wildlife.ca.gov

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
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601 Locust Street
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GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

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DEC 22 2020
LASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES
received by email -SR

December 22, 2020

Stefano Richichi, Senior Planner
County of Lassen
Department of Planning and Building Services
707 Nevada Street, Suite 5
Susanville, CA 96130

SUBJECT: SCH#2020100366 RESPONSE TO DRAFT IS/MND BIOLOGICAL SECTION IS#2020-001 UP#2020004 – HOOPER

Dear Mr. Richichi:

The California Department of Fish and Wildlife (Department) has reviewed the information sent by Sierra Geotech, DBE, Inc. in response to the Department's November 13, 2020, early consultation letter. The Department has the following comments and recommendations:

General Surveys

In our previous letter, the Department requested a basic botanical, wildlife, and habitat assessment conducted at the appropriate time of year. According to the extracted Biological Resources portion of an Initial Study/Mitigated Negative Declaration (IS/MND), Sierra Geotech staff biologist conducted a field survey of the project area on January 7, 2020. The IS/MND stated, "*During the field survey, all biological communities were characterized, and the observed plant and wildlife species were recorded.*" No stand-alone biological report was provided containing these observations.

Initial surveys conducted outside the blooming period for plants or the time of year when most wildlife is active is fine to do in order to determine which, if any, focused surveys will need to be conducted at a later date. However, it appears that Sierra Geotech staff consider this one survey sufficient if pre-construction surveys are completed after Project approval but before construction commences. The Department strongly encourages surveys be conducted at the appropriate time of year prior to project approval and recommends providing a stand-alone biological report that includes a list of plant and wildlife species observed as well as a description of habitats found onsite.

Botanical Surveys

The IS/MND states, "*The Following 5 species were documented in the CNDDB within a 5-mile radius of the proposed project lease areas: (1) American badger (Taxidea taxus); (2) prairie falcon (Falco mexicanus); (3) Dugway wild buckwheat (Eriogonum nutans var. nutans); (4) Hillman's cleomella (Cleomella hillmanii var. hillmanii); and (5) Nelson's evening-primrose (Eremonthera minor). None of which are classified as threatened or endangered species at either the federal or state level.*" The Department submitted an early consultation comment letter with 16 special status plant species queried from the

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California Natural Diversity Database within a 5-mile radius of the Project area (see list below). The fact that these are not state or federally listed species does not preclude them from being analyzed under CEQA. The plants are listed as California Rare Plant Rank 2B.2 or 2B.3. California Rare Plant Ranks 1 or 2 meet the definition of rare or endangered under CEQA Guidelines section 15380, subdivisions (b) and (d). The list of plants and wildlife queried below should not be considered comprehensive as additional special status plant and animal species may occur within the Project vicinity. The CNDDB is a positive sighting database. It does not predict where something may be found. The Department maps occurrences only where we have documentation that the species was found at the site. There are many areas of the state where no surveys have been conducted and therefore there is nothing on the map. That does not mean that there are no special status species present. The next step is to conduct surveys to document what is present and submit the information on special status species to the Department and CNDDB.

Conducting surveys ahead of Project approval is critical in that it allows the Department, land use planning agencies, and project proponents to make educated land use decisions. It also allows for the project proponents ample time to redesign their project to avoid and/or minimize significant impacts, if neccesary. The special status plants provided in the list below have been shown to occur within a 5-mile radius of the Project area within a similar habitat as the Project area. Conducting botanical surveys two weeks prior to the start of construction does not allow the Department or the Lead Agency time to fully analyze potential significant impacts to special status species; therefore, the Department recommends a thorough assessment of rare plants and rare natural communities be conducted following the Department's March 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (https://www.wildlife.ca.gov/conservation/survey-protocols#377281280-plants). As stated in the Protocols, these surveys must be conducted by a qualified botanist during the appropriate time of year to identify species of concern and should include areas with both direct and indirect impacts. Impacts to special status species and sensitive natural communities found during surveys should be analyzed and specific mitigation would be required to reduce any impacts to less than significant.

The list of plants queried from the CNDDB known to occur within a five-mile radius of the Project including, but not limited to, the following:

Plants

- Lance-leaved scurf-pea (*Ladeania lanceolata*)(California Rare Plant Rank 2B.3)
- Many-flowered thelypodium (*Thelypodium milleflorum*)(California Rare Plant Rank 2B.2)
- Dugway wild buckwheat (*Eriogonum nutans* var. *nutans*)(California Rare Plant Rank 2B.3)
- Kellogg's sand-verbena (*Tripterocalyx crux-maltae*)(California Rare Plant Rank 2B.2)
- Hillman's cleomella (*Cleomella hillmanii* var. *hillmanii*)(California Rare Plant Rank 2B.2)
- Sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*)(California Rare Plant Rank 2B.2)

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- Geyer's milk-vetch (*Astragalus geyeri* var. *geyeri*)(California Rare Plant Rank 2B.2)
- Western seablite (*Suaeda occidentalis*)(California Rare Plant Rank 2B.3)
- Intermontane lupine (*Lupinus pusillus* var. *intermontanus*)(California Rare Plant Rank 2B.3)
- Currant-leaved desert mallow (*Sphaeralcea grossulariifolia*)(California Rare Plant Rank 2B.3)
- Cruciform evening-primrose (*Chylismia claviformis* ssp. *cruciformis*)(California Rare Plant Rank 2B.3)
- Macdougal's lomatium (*Lomatium foeniculaceum* ssp. *macdougalii*)(California Rare Plant Rank 2B.2)
- Nelson's evening-primrose (*Eremothera minor*)(California Rare Plant Rank 2B.3)
- Winged dock (*Rumex venosus*)(California Rare Plant Rank 2B.3)
- Ochre-flowered buckwheat (*Eriogonum ochrocephalum* var. *ochrocephalum*)(California Rare Plant Rank 2B.2)
- Paiute lomatium (*Lomatium ravenii* var. *paiutense*)(California Rare Plant Rank 2B.3)

Mitigation measure BIO-5 states that special status plant species surveys will be conducted approximately two weeks prior to the start of construction. It goes on to say that if special status plants are found, fencing will be used to delineate and exclude the plant species from disturbance. If avoidance of special status species cannot occur then additional measures would be implemented including preparation and implementation of a rare plant mitigation program, collecting seed of annual special status plant species and redistributing the seed in suitable habitat on the property in the fall following Project completion, and salvaging all perennial special status plant species and replanting in the fall with supplemental irrigation.

The BIO-5 measure is not a feasible mitigation measure for the following reasons. First, the fencing of the special status species needs a buffer to prevent indirect impacts to the plant population and none is proposed. Secondly, if avoidance of special status species cannot occur and the population is removed, a rare plant mitigation program would be prepared and implemented. This is an MND, not an Environmental Impact Report; therefore, the plan should be written and success criteria proposed for this plan prior to Project approval. Stating a plan will be prepared without success criteria is deferring the mitigation to a future date after the Project has been approved. Third, collecting seed of annual species and replanting them in suitable habitat on the property may not be appropriate depending on the species, site, and the level of disturbance. Solar arrays often change the drainage and sunlight patterns of areas making the area unusable for replanting. Therefore, it is important to know if special status species occur on the site, where they occur, how they can be avoided through redesign, and where there is appropriate habitat to mitigate onsite prior to approval of the Project. Finally, the Department generally considers salvage and relocation (translocation) to be an inappropriate way to compensate for permanent impacts to rare, threatened, endangered, and sensitive native plants (rare plants). Rare plant translocations for mitigation have a low success rate and the Department considers such efforts experimental, unless they have been demonstrated to be effective through long-term experimentation. Successful rare plant translocations require many years of habitat surveys, habitat modeling, site selection, seed collection, plant propagation, site preparation, monitoring, and remedial actions such as management of competing plants, supplemental watering, and

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supplemental planting. Success is not guaranteed, and even translocations that are initially successful may fail to persist over the long term.

Additionally, transplantation efforts do not replace intact ecosystems or maintain the entire range of genetic diversity at the impact site. The presence of rare plants often signifies the presence of biogeographically important sites with unusual soil, microclimate, or other conditions that are not easy to identify and difficult or impossible to duplicate. Loss of genetic material from rare plant translocation may also hinder introduced populations from withstanding changing environmental conditions over time. The most effective way to mitigate for permanent loss of rare plant habitat is therefore to protect and manage existing populations in their natural habitat.

Sensitive Natural Communities

The IS/MND states, "*During the field survey, all biological communities were characterized, and the observed plant and wildlife species were recorded.*" The IS/MND does not mention how the habitats were characterized or which vegetation classification was used. The Department strongly encourages the use of a *Manual of California Vegetation*. The IS/MND describes three types of vegetation: big sagebrush, greasewood scrub, and saltgrass flats. The descriptions, however, are generic and do not represent what is physically present on the ground within the Project area. For example, Acton encelia (*Encelia actoni*) occurs within big sagebrush scrub but does not occur in Lassen County. Greasewood (*Sarcobatus vermiculatus*) and salt grass (*Distichlis spicata*) are listed as occurring on site but if they occur together, that association is considered a Sensitive Natural Community. Further, the description of saltgrass flats in the IS/MND could be describing a wetland. The State Water Resources Control Board describes a wetland[1] as the following:

> *An area is a wetland if: (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation. The Procedures provide the same wetland delineation methods that are used by the Army Corps of Engineers.*

Waters of the State include more aquatic features than Waters of the U.S., which are defined by the federal government. The hydrology of some of the sagebrush areas has large swaths of these playas that "fill" with rainwater and are vital for groundwater recharge in an area that receives little water. A wetland delineation can typically determine if these "playa" areas do in fact hold water.

The Department recommends the descriptions of the vegetation communities be revised to reflect what is present onsite using a *Manual of California Vegetation*. Once the vegetation community is defined, Sensitive Natural Communities can be determined.

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1 https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/wrapp/dredge_and_fill_draft_procedures_fact_sheet_022519_update.pdf

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Sensitive Natural Communities can be found here: https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities. Impacts to Sensitive Natural Communities must be analyzed and addressed in the environmental review process (see CEQA Guidelines checklist, item IV-b). Because vegetation mapping was not conducted, neither the Department nor the Lead Agency can ascertain if there are Sensitive Natural Communities present onsite, precluding the Lead Agency from making an informed decision on the level of significance of this CEQA Guidelines checklist item. The IS/MND did not mention how much of each "vegetation type" existed on site and which communities, if any, would be impacted by Project activities. The Department recommends reevaluating the vegetation mapping performed on the site, identifying the natural communities on the project site, determining which, if any, are identified as sensitive, and determining the level of significance and mitigation based off that analysis. Specific mitigation would be required to reduce any impacts to less than significant.

Wildlife

Two special status species were identified in CNDDB within a 5-mile radius of the project and include, but are not limited to, the following:

- Long-eared owl (*Asio otus*)(California Species of Special Concern)
- American badger (*Taxidea taxus*)(California Species of Special Concern)

Long-eared owl (*Asio otus*)

Based on the breeding habitat of the long-eared owl, the Project does not appear to have adequate habitat. However, the Project does provide foraging habitat. Impacts to foraging habitat should be analyzed in the forthcoming environmental document.

American badger (*Taxidea taxus*)

According to the CNDDB, the American badger has been observed within and adjacent to this Project. The Department had recommended in its early consultation letter a burrow survey be conducted to determine if habitat is present for the badger and/or other fossorial specialists. The project applicant is proposing to conduct burrow surveys as preconstruction surveys approximately two weeks prior to the start of construction. The Department strongly encourages the burrow survey to be conducted prior to project approval in the event there are badgers and/or other fossorial specialists present, allowing for the redesign of the Project to avoid the dens. Impact significance cannot be determined when there is no data to analyze.

Badgers are sensitive to the effects of habitat fragmentation, they have a low reproductive rate, and a high rate of juvenile mortality. Badgers give birth to young underground in March or April. Litter sizes range from one to five with two being the average. The young are born blind and with little fur. Their eyes open at about four weeks, at which time the mother may move them from the natal den closer to hunting areas. Thereafter, the family can be moved almost nightly. The kits are weaned at about six to eight weeks and begin to emerge above ground on their own. Solid prey is brought back to the den by the

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mother, and eventually, young badgers begin to accompany her on hunts. At about three to four months old, young badgers disperse to live in their own burrows. Dispersal typically occurs between July and August. Therefore, mitigation measure BIO-4 needs additional seasonal restrictions so natal dens are not inadvertently filled in and young can disperse. The Department recommends adding in a sentence such as, "Installation of one-way doors shall only be implemented outside of the natal rearing period, typically March through May.

Nesting Bird Survey – BIO-3

This measure states that a qualified biologist shall conduct a nesting bird survey no more than two weeks prior to construction. The Department recommends two be changed to one (1) week prior to construction.

Survey Results

All surveys should be conducted prior to approval of the Project and survey results should be submitted via email to R1CEQARedding@wildlife.ca.gov. If any special-status species are found during surveys, the Department requests that CNDDB forms be filled out online or sent to Sacramento and a copy of the form be emailed to the Regional office at the above address. Instructions for providing data to the CNDDB can be found at: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data.

Mitigation

Avoidance and mitigation measures for impacts to special status species and sensitive habitats, if found, should be proposed in subsequent environmental review to avoid any significant effects the Project would have on the species or its habitat. Examples of mitigation measures for special status species and habitats include, but are not limited to, project modification to avoid the species and its habitat, enhancement of existing onsite habitat, offsite restoration or enhancement of habitat, or onsite/offsite preservation of habitat. Since appropriate botanical surveys were not conducted, it is unknown if those species are present, if they are impacted, or if the impact is significant to warrant mitigation.

If you have any questions, please contact Amy Henderson, Senior Environmental Scientist (Specialist), at (530) 598-7194, or by email at Amy.Henderson@wildlife.ca.gov.

Sincerely,

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MAY 20 2021

LASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES

Biological Assessment

for the

Calneva Battery Energy Storage System (BESS) and Photovoltaic Solar Energy System (PSES)

Lassen County, Calneva, California
May 2021



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Executive Summary

Dr. Charles Hooper, D.O. (Hooper) is planning to construct the Calneva BESS/PSES project in California's Honey Lake Valley in Lassen County, Calneva, California to provide renewable energy generation and storage for greater capacity and service reliability to the existing electric grid transmission and distribution line systems in the region. This project involves the construction of approximately 50 megawatts of solar photovoltaic (PV) array power generation, with 25 megawatts of battery energy storage system on approximately 278 +/- acres of open cattle range land with a 120 kV to 345 kV Gen-tie line to connect the project to the NV Energy Fort Sage substation via the Plumas Sierra Rural Electric Cooperative (PSREC) intertie line between the Herlong Substation and Fort Sage Substation.

Numerous sensitive and special-status species protected by the Federal Endangered Species Act, and the Migratory Bird Treaty Act, may exist within the project lease area or action area, and may be impacted by project construction activities. Project effects to special-status species and their habitats can be minimized to a less than significant impact or avoided with the implementation of the recommended construction practices and avoidance measures outlined in this report.

Project construction will result in temporary effects to approximately 278 acres of land located in the Honey Lake Valley in the northwestern margins of the Basin and Range. The entire project area is located within the California Department of Fish and Wildlife's, *California Wildlife Habitat Relationship System*, Alkali Desert Scrub, and the also described as Holland's 36120 Desert sink scrub, and Holland's 11300 Disturbed Habitat, based on Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (1986). The plants found on the project lease area: Big sagebrush (*Artemisia tridentata),* bud sagebrush (*Artemisia spinescens*), shadscale saltbush (*Atriplex confertifolia*), downy brome (*Bromus tectorum*), great basin wild-rye (*Elymus cinereus*), spiny hopsage (*Grayia spinosa*), prickly Russian thistle (*Kali tragus*), clasping pepperweed (*Lepidium perfoliatum*), black greasewood (*Sarcobatus vermiculatus*), littleleaf horsebrush (*Tetradymia glabrata*), and interconnected basins also known as alkali basins/flats/playas which are barren of vegetation.

The Alkali Desert Scrub or Desert sink scrub, area within the project lease area, borders on shallow, interconnected basins (alkali flats or playas) where water intermittently collects during the wet season. Alkali basins/flats/playas are unvegetated and barren, they occur within a matrix of low mounds that support Desert sink scrub plant communities. Therefore, these features have been categorized on the project site as Desert sink scrub plant community underlain by Epot Soil series very fine sandy loam and are alkali lacustrine soils. Water has been observed to collect temporarily during rain events, and then dry within 24 hours (reconnaissance survey December 2019 and February 2021) in the alkali basin/flats/playa areas of the project lease area. However, puddling is sporadic and unpredictable from one year to the next. The alkali basin/flat/playas on the project lease area do not qualify as jurisdictional wetlands because of the lack of hydrophytic vegetation and lack of wetland hydrology and hydric soils. Wetland hydrology is not present due to low average annual precipitation and low frequency of rainfall during the growing season, and the alkali basins/flats/playas abilities to dry rapidly following a rainfall event.

The construction of several permanent structures (electric substation, battery energy storage system containers, electrical inverters and transformers, site access roads, metrological stations, pilings for single axis track systems, and utility poles) will permanently remove approximately two (2) acres of alkali basins/flats/playas, and 11 acres of Desert sink scrub plant communities within the project footprint. All other project effects will be temporary, and all disturbed areas will be restored to preconstruction conditions following installation of the solar PV arrays and battery energy storge systems.

No federally listed, federal candidate, or state-listed plant species occurs in the project lease area or action area for the proposed project. The following determinations have been made for federally listed species, state special status species, and critical habitat, with the potential to occur in the project lease area:

Table 1. Determinations for Federal, State, Listed Species or Special Status Species and Critical Habitat with Potential to Occur in Project Action Area

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
Geyer's milkvetch	*Astragalus geyeri var. geyeri*	An annual that blooms from May to August and is typically found on sandy flats, depressions within stabilized or mobile dunes, margins of alkaline sandy playas, and in sandy bottomed gullies. It is common in the northwestern section of the Great Basin of Nevada and there is potential habitat within the Proposed Project as Lassen County represents the western most extension of this species.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Cruciform evening-primrose	*Chylismia claviformis* ssp. *cruciformis*	An annual that blooms from May to July and grows in sandy or rocky slopes or washes in the Modoc Plateau. Known sites are north of the Proposed Project.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Dugway wild buckwheat	*Eriogonum nutans* var. *nutans*	An annual that blooms from May to September and grows in sand or gravel flats and slopes. It is known to occur in the northeastern part of Lassen County. No known occurrences in southeastern parts of Lassen County.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Bailey's Ivesia	*Ivesia baileyi* var. *baileyi*	A perennial that blooms from May to August and is found in volcanic crevices. There is no potential habitat for this species within the Proposed Project.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Sagebrush Loeflingia	*Loeflingia squarrosa* var. *artemisiarum*	An annual that blooms from April through May and is found on sandy, gravelly areas of sand dunes and sand flats in sagebrush scrub.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
MacDougal's Lomatium	*Lomatium foeniculaceum*	A perennial that blooms from April to July and is found in	2.2	The proposed project may affect but is not likely to

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
	var. *macdougalii*	rocky clayey soils in sagebrush communities. The project lease area does not have suitable soils to support this species.		adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Intermontane lupine	*Lupinus pusillus* var. *intermontanus*	An annual that blooms from May to June in open sandy areas.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Lance-leaved scurf-pea	*Ladeania lanceolata*	A perennial that blooms from April to August in sandy soils with a preference for disturbed soils.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Winged dock	*Rumex venosus*	A perennial that blooms in May and June in dry, sandy soils, preferably in disturbed areas. In California it is found only in the Honey Lake valley.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Currant-leaved desert mallow	*Sphaeralcea grossulariifolia* ssp. *grossulariifolia*	A perennial found in dry alkaline or volcanic soils. Known populations are north and northeast of the project area.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Western seablite	*Suaeda occidentalis*	An annual that blooms from July to September in dry, saline, or alkaline wetland soils. This species may occur regionally but are associated with habitat not located within the project lease area.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Many-flowered Thelypodium	*Thelypodium milleflorum*	A perennial that blooms April to June in sandy soils.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
				surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Hillman's Cleomella	*Cleomella hillmanii*	An annual that blooms from April to June in clay soils within the Chenopod scrub habitat community	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Kellogg's sand Verbena	*Tripterocalyx crux-maltae*	A perennial that blooms May to July in partially or fully stabilized sand dunes.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Nelson's evening primrose	*Eremothera minor*	An annual that blooms from April to July in the Chenopod scrub habitat	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Ochre-flowered buckwheat	*Eriogonum ochrocephalum*	A perennial that blooms May to June in volcanic or clay soils.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Paiute Lomatium	*Lomatium ravenii*	A perennial that blooms April to June in rocky, gravely, volcanic with underlying clay soils	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
American badger	*Taxidea taxus*	Badger has been known to occur in the western portions of the Basin and Range. CNDDB reported badger burrow in the vicinity	Special Status Species	The proposed project may affect but is not likely to adversely affect the special status species American badger. Burrow survey was conducted in February and April of 2021 and no active burrows found on project site.
Long-eared Owl	*Asio otus*	Project site does not provide adequate habitat for breeding. Project could provide foraging habitat.	Special Status Species	The proposed project may affect but is not likely to adversely affect the special status species Long-eared Owl.
Prairie falcon	*Falco mexicanus*	Project site does not provide adequate habitat for breeding. Project could provide foraging habitat. Project area is yearlong range.	Watch List	The proposed project may affect but is not likely to adversely affect the watch list species prairie falcon.

Notes:

CNPS Listing Definitions:

1A = Presumed extinct in California.

1B = Rare, threatened, or endangered in California and elsewhere.

2 = Rare in California but more common elsewhere.

2.1 = Seriously endangered in California

2.2 = Fairly endangered in California

2.3 = Not very endangered in California

1. Introduction

Dr. Charles Hooper, DO, CDR (RET) MC USN, is responding to the California Public Utility Commission (CPUC) to develop cost-effective energy storage projects totaling approximately 567 MW statewide. CPUC Resolution E-4909 adopted January 11, 2018 authorized public utilities in California to procure energy storage to address local deficiencies in the various sub-areas of the public grid system and ensure local reliability. The proposed Calneva BESS/PSES project would provide renewable energy and critically needed flexibility attributes needed to advance California's and Nevada's Renewable Portfolio Standard (RPS) goals, climate policies, and to enhance electrical grid reliability. To meet this demand, Dr. Hooper is planning to construct a battery electrical storage system (BESS) that would store up to 25 megawatts (MW) or 100 megawatt hours (MWh) of electricity for dispatch into the local grid via the existing adjacent PSREC 120 kV intertie line. The project will also construct 50 MW of solar photovoltaic power generation with the installation of Approximately 143,000 to 163,000 solar PV modules on a single axis track system on the 278 +/- acre site. The project will also include:

- Electrical inverters and transformers
- Battery energy storage system (BESS)
  - Thirty (30) battery storage enclosures (i.e., 25 MW of power) store up to 25 megawatts (MW) or 100 megawatt hours (MWh) of electricity for dispatch
  - BESS power inverters, transformers switches, MV switchgear, SCADA enclosure,
- On-site electrical substation
- Meteorological stations
- Remote monitoring system (SCADA)
- Site access roads and maintenance access roads
- Security fencing
- Gen-Tie line structures to interconnect with the PSREC 120kV intertie line south of the solar generation site and
- Gen-Tie Laydown Area

On behalf of Dr. Hooper, Sierra Geotech prepared this Biological Assessment (BA) to determine to what extent the proposed action may affect any of the federally threatened, endangered, proposed, candidate, or special-status species, critical habitat, or other species protected by the federal, state, or local plans and regulations that may occur in the project lease area or action area (the project lease area or action area is defined in detail in Section 3 below). The purpose of this BA is to review existing resource information; to summarize the results of the field surveys performed in the project lease area; to determine if species or their habitats addressed in this BA are likely to be adversely affected by construction, operation, or maintenance of the project; and to describe impact avoidance and minimization measures that would reduce or avoid potential adverse project effects to these species and their habitats. This BA has been prepared according to the legal requirements set forth under Section 7 of the federal Endangered Species Act (FESA) (16 U.S.C. 1536 [c], C.F.R. Sec. 402.12), and presents technical information upon which later determinations regarding project effects will be developed for compliance with the California Environmental Quality Act (CEQA).

Rare plant and wetland delineation surveys were conducted by Hafen Environmental (Botanists Jeanene Hafen, John Hafen, William Harnach, and Nancy Harnach) 2007, 2008, 2010, for the Plumas Sierra Rural Electric Cooperative (PSREC) inter-tie line which is a portion of the proposed project. Aspen Environmental conducted rare plant, and wetland delineation surveys for the Sierra Pacific Power Company, Alturas Transmission Line Project, which had several segments within the project action area in 1995. URS conducted rare plant, wetland delineation surveys for Tuscarora Gas Transmission Company, for the Tuscarora Gas Pipeline in 1994 which traverses the project lease area. In 2007 and 2010 wildlife field surveys were conducted by local biologist, Paul Hardy and Paul Arsenault both local Lassen County independent biologists for the PSREC inter-tie line which is a portion of the proposed project. Sierra Geotech, DBE, Inc., conducted a habitat assessment for special-status species for the project area in September of 2019, December of 2019 and February of 2021. Sierra Geotech biologists conducted reconnaissance-level surveys for avian, and mammalian species for the project lease area and action areas. These surveys are described in detail in Section 4 of this report.

Project Description

Project Location and Regional Context

The proposed Calneva BESS/PSES project lease area is located four (4) miles north of the Fort Sage Road and Calneva Road intersection on the eastside of Calneva Road, in Lassen County. The proposed project lease area is approximately 278 +/- acres in size within the parcels identified as Lassen County Assessor's Parcel Numbers (APNs) proposed project lease area north half is 137-170-12 (180 acres) and proposed project lease area south half is 137-170-13 (98 acres). Adjacent to the project lease area, are the following properties and associated land uses:

- North: A 412-acre vacant parcel, owned by the State of California, Calneva Lake, and another vacant parcel owned by the State of California of approximately 105 acres in size.
- South: Vacant open rangeland with two parcels that abut the southern boundary of the proposed project lease area, one parcel is 160 acres, and the other parcel is 128 acres in size.
- West: Is Calneva Road right-of-way and then vacant range land approximately six (6) miles to Herlong and the military installation Sierra Army Depot. Two privately owned parcels border the western half of the proposed project lease area one being 275.4 +/- acres in size and the other being 170.1 +/- acres in size.
- East: Is more vacant range lands and the California/Nevada state border. The entire project lease area for the proposed Calneva BESS/PSES project is vacant range land with a Union Pacific (Historical Western Union) railroad corridor which bisects the site in a general east/west direction and provides rail service to the Sierra Army Depot.

The Tuscarora natural gas pipeline runs through the entire project lease area. The Union Pacific railroad bisects the entire project lease area. The terrain is primarily flat (0-2 percent slopes) throughout the entire proposed project lease area with an approximate elevation above sea level (asl) on the northwest corner of the BESS/PSES project lease area at 4006 feet and then experiencing a very slight slope to the east/southeast toward the Nevada State border where the elevation is approximately 4,000 feet asl on the BESS/PSES project eastern boundary. The railroad tracks have an elevation of approximately 4012 feet asl. (See Figure 1: Project Setting, shows the surrounding land uses)



PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

N W E S

Project Setting

DATE:	02-16-2020	SCALE:	As Shown
BY:	AKM	FIGURE:	1

SIERRA GEOTECH

The climate in the project lease area is characterized as a semiarid region with dry hot summers, and cold winters and an average precipitation of ranging from six (6) inches to sixteen (16) inches. The Project lease area lies within a rain shadow created by the northern Sierra Nevada mountain range. Most of the precipitation falls in the winter, whereas the greatest demand for soil moisture occurs in the summer. For the project lease area, the availability of water or soil moisture is the critical factor that determines the broad distribution of vegetation types and associated wildlife species.

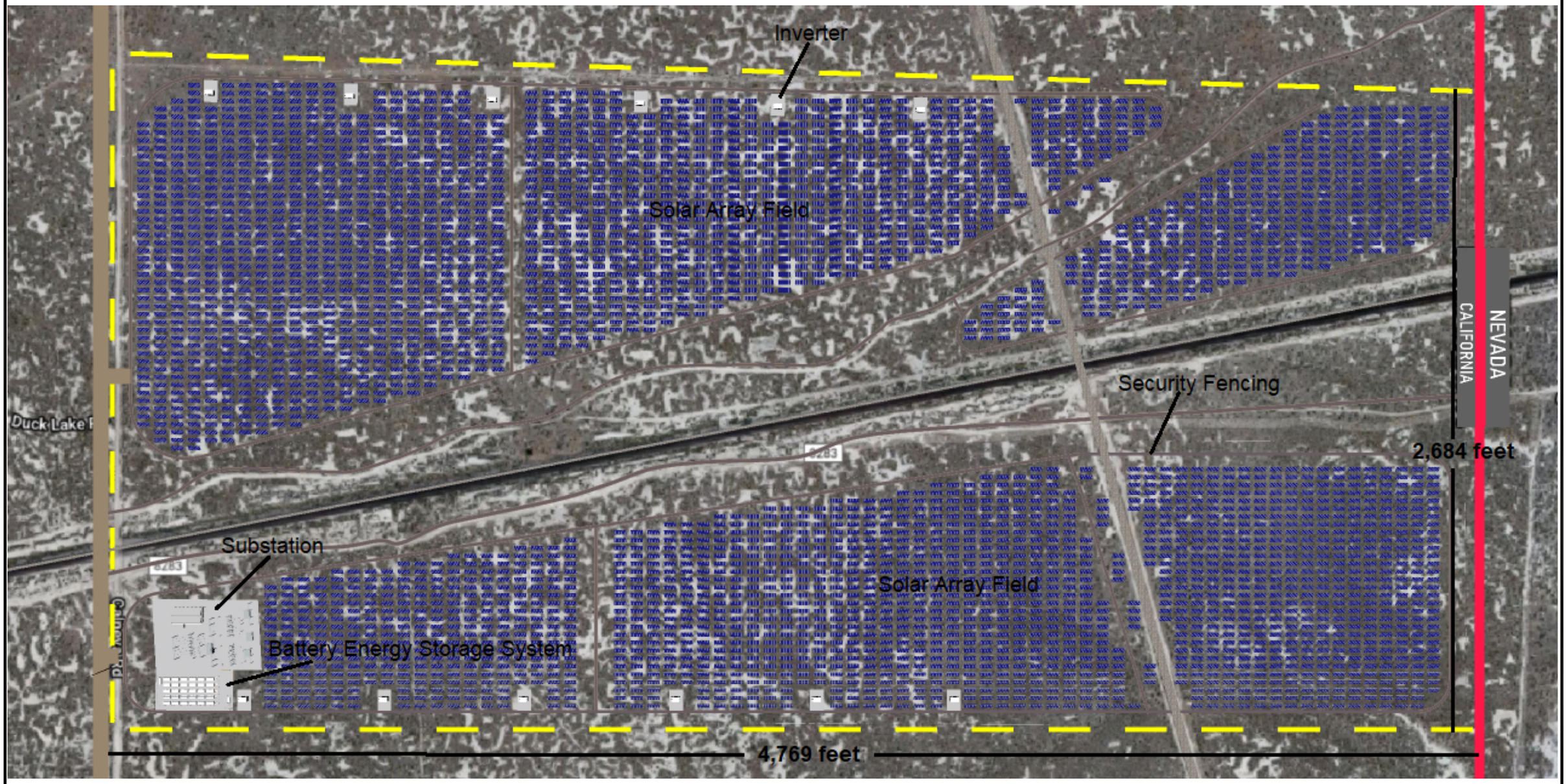
Project Components

The Calneva BESS/PSES project consists of a battery electrical storage system (BESS) that would store up to 25 megawatts (MW) or 100 megawatt hours (MWh) of electricity for dispatch into the local grid via the planned adjacent PSREC 120 kV inter-tie line between Herlong and Fort Sage. At complete buildout, the BESS would consist of several fully enclosed battery storage enclosures that would each house battery modules mounted in racks and associated electrical equipment. Each battery storage enclosure would have separation to allow for maintenance and inspections. The lease area for the Calneva BESS/PSES project would be fenced for security and to restrict access.

Calneva BESS/PSES project would comprise the following project components located within an approximate footprint of 278 acres:

- Approximately 143,000 to 163,000 solar PV modules
- A single axis track system
- Electrical inverters and transformers
- Battery energy storage system (BESS)
  - Thirty (30) battery storage enclosures (i.e., 25 MW of power) store up to 25 megawatts (MW) or 100 megawatt hours (MWh) of electricity for dispatch
  - BESS power inverters, transformers switches, MV switchgear, SCADA enclosure,
- On-site electrical substation
- Meteorological stations
- Remote monitoring system (SCADA)
- Site access roads and maintenance access roads
- Security fencing
- Gen-Tie line structures to interconnect with the PSREC 120kV transmission line south of the site and
- Gen-Tie Laydown Area

Conceptual Site Plan for Calneva BESS/PSES follows on next page. The components identified above are described in more detail below.



Scale: 1" = 475'

PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

N W E S

Conceptual Layout Plan

DATE: 02-16-2021	SCALE: As noted above (11"x17")
BY: AKM	FIGURE: 2

SIERRA GEOTECH

Solar PV Energy Generation System

The Calneva BESS/PSES project will produce 50 MW solar energy generating facility to be built over a ten (10) month period. Calneva BESS/PSES project lease area will house all structures, including solar panels, tracking/support structures, direct current ("DC") combiner boxes, inverters, and a PCS. Solar energy will be captured by an array of PV panels mounted to a single axis tracking system. It is anticipated the project lease area will install approximately 143,000 to 163,000 PV modules. The total number of PV panels would depend on the technology ultimately selected for Calneva BESS/PSES project during the final design and any setbacks for mitigation of environmental concerns. The high-efficiency, commercially available photovoltaic panels convert incoming sunlight to DC electrical energy. The panels are arranged in series to increase the DC system voltage to approximately 1,500 volts. These series chains of panels are typically called "strings" in industry terms and provide the basic building blocks of power conversion in the solar array. The strings are combined in the solar field through an above or below ground DC collection system and then further grouped together at the inverter stations, where the energy is converted to AC and then stepped up to an intermediate voltage, typically 34.5 kV. The chosen photovoltaic panel would be either crystalline silicon or thin film and would be well-suited for the desert environment due to their durability and reliability. The tracking systems will be supported by piers directly embedded into the ground. The systems will rotate slowly throughout the day at a range of +/- 60° facing east to west to stay perpendicular to the incoming solar rays so that production can be optimized.

Each tracker will hold approximately 70 to 90 panels (depending on final configuration), and at its highest rotated edge will have a maximum height of approximately 15 feet above grade depending on the dimensions of the chosen panel. The minimum clearance from the lower edge of the panel to ground level is anticipated to be approximately 12 to 24 inches, pending final design. The panel connection electrical system would be suspended under the PV panels and at main junctions would be placed underground and routed to the inverter stations. The inverters convert the DC power to AC power and AC output voltage is boosted to 34.5 kV through a medium-voltage step-up transformer. The inverter/medium-voltage transformer together are referred to as an inverter skid assembly.

From each such transformer, electricity will be conveyed via an underground collector circuit to the solar substation. The inverter stations will be up to 13 feet in height and perform three critical functions for the solar plant: (1) collect DC power in a central location; (2) convert the DC power into AC power; and (3) convert low-voltage AC power to medium-voltage AC power. The inverter stations are typically open-air and well suited for desert environments. The stations consist of DC collection equipment, utility scale inverters, and a low to medium voltage transformer. The output power from the inverter stations is then fed to the AC collection system via an above ground or below ground collection system. This AC collection system will deliver the electricity to the on-site substation, where the voltage will be stepped up to the interconnection voltage.

Gen-Tie Line and Routes

The Gen-Tie line final design will determine the conveyance of electricity from the project which will range between 120kV and 345 kV depending on the final plans of the PSREC intertie line. The final voltage, and route selection of the Gen-Tie line will be determined during the transmission interconnection approval process with the State of Nevada Public Utility Commission and Permit to Construct.

Gen-Tie Route Calneva Road

This route will utilize the public roadway known as Calneva. Lassen County requested Sierra Geotech investigate the right to use the roadway since the County declared in 1973, they would no longer maintain the right of way of Calneva Road. Sierra Geotech responded to Lassen County making the finding that Calneva Road was an expressly granted public right-of-way to Lassen County in the early 1900's. Calneva Road is depicted in the Condition of Title issued to Lassen County by Chicago Title Company on July 16, 2020, Item Number 5: "Easement rights of the public over and across those portions lying within Duck Lake Road and Calneva Road". Calneva Road from the early 1900's till May 29, 1973 was maintained by Lassen County as a public right-of-way. Lassen County has "maintained and controlled" a road within that Calneva right-of-way for approximately 73 years. On May 29, 1973 Lassen County Board of Supervisors passed a resolution stating the County would no longer provide maintenance for Calneva Road, however, Resolution 2355, did not change the status of Calneva Road as a public right-of-way.

Lassen County in adopting Resolution 2355 simply transferred routine maintenance obligations for the Calneva Road public easement to the servient tenement.

In accordance with California Case Law Schmidt v. Bank of America (2014) 223 Cal. App. 4th 1489, the California Court of Appeal ruled that a public right-of-way easement may be used for any infrastructure necessary for the adjoining parcels to the public right-of-way. The fact that Lassen County maintained and controlled Calneva Road with annual grading to remove ruts in the dirt road for 73 years establishes the grantors of the public right-of-way intent for public purposes and not private. In addition, for those 73 years Lassen County regulated use of the public right-of-way and prescribed an encroachment permit process for improvements or use of the public right-of-way. The requirement for an encroachment permit was dropped in 1973 by administrative application of the Lassen County Public Works Department in response to the Lassen County Board of Supervisors Resolution 2355. Calneva Road continues to benefit public interests providing public access connection between Desert Drive in the south and Moore Road in the north within the Honey Lake Valley of Lassen County. The Lassen County Board of Supervisors has never initiated a vacation of Calneva Road in accordance with the California Streets and Highways Code Sections 8320 through 8325 given up the public right-of-way, but rather merely terminated maintenance of Calneva Road in accordance with California Streets and Highways Code Section 954.6.

A public right-of-way is a form of easement, in that it grants use rights in a particular parcel of land to nonowners of the land. (Civ.Code, § 801, subd. (4); City of Manhattan Beach v. Superior Court (1996) 13 Cal. 4th 232, 240, 52 Cal. Rptr. 2d 82, 914 P.2d 160.) A private easement ordinarily vests those use rights in the owner of a particular parcel of neighboring property, the "dominant tenement." (Moylan v. Dykes (1986) 181 Cal. App. 3d 561, 568, 226 Cal. Rptr. 673.) Unlike a private easement, the use rights of a public right- of-way are vested equally in each and every member of the public. (In re Anderson (1933) 130 Cal. App. 395, 398-399, 19 P.2d 1027.) The city or county government ordinarily administers use of the right-of-way. (E.g., Sts. & Hy. Code, §§ 1450, 1460.)

The Supreme Court instructed to the contrary in Colegrove, holding that "`... this [residual] right of the owner may grow less and less as the public needs increase....'" (Colegrove, supra, 151 Cal. at p. 430, 90 P. 1053, quoting Allen v. Boston, supra, 159 Mass. 324, 34 N.E. 519.) The “modern" trend which began in California Courts with Montgomery in 1894 is to construe public rights-of-way to accommodate technological advancement in the conveyance of goods and people, an approach that has been adopted invariably by California courts in right-of-way decisions since Gurnsey.

The use of Calneva Road by Calnvea BESS/PSES project to convey electricity to market by a private energy company rather than a public utility, the Courts have cited no statutory or doctrinal basis for a per se exclusion of private users from above-ground overhead rights-of-way. On a fundamental level, every member of the public has an equal right in the use of a public right-of-way. (In re Anderson, supra, 130 Cal.App. at pp. 398-399, 19 P.2d 1027; People v. Henderson (1948) 85 Cal. App. 2d 653, 657, 194 P.2d 91.) Hooper status as a private corporation and property owner no more disqualifies it from access to the overhead portion of the Calneva Road right-of-way than it would justify excluding Hooper trucks from using the above-ground right-of-way.

Significantly, Streets and Highways Code section 1460, which grants to county governments the right to issue encroachment permits in county rights-of-way, makes no distinction between public agencies or utilities and other proposed users. Indeed, Streets and Highways Code section 1463, which implements section 1460, expressly anticipates that encroachment permits will be granted to private users. It notes that permits "issued to a public agency or a public utility" must contain a particular provision, while "all permits other than those issued to public agencies or a public utility" are subject to a somewhat different rule. (Sts. & Hy. Code, § 1463, italics added.) Consistent with this view, People v. Sweetser (1977) 72 Cal. App. 3d 278, 140 Cal. Rptr. 82 interpreted section 1450 as granting counties "the statutory authority to issue a written encroachment permit allowing any person, including the underlying landowner, to place fences or other structures or objects upon portions of a county highway easement." (Id. at p. 284, 140 Cal. Rptr. 82, citing Sts. & Hy. Code, §§ 1450, subds. (a)-(b) & 1460, subd. (b), italics added.)

The initial task of determining whether a proposed use of a county road right-of-way satisfies these criteria is vested by California statute in the county road commissioner. (See People v. Henderson, supra, *830 85 Cal.App.2d at p. 657, 194 P.2d 91.) Streets and Highways Code section 1460 grants to the road commissioner the authority to issue permits for the use of rights-of-way, including the making of any opening or excavation in the right-of-way and the placement of any encroachment. (Sts. & Hy. Code, § 1460, subds. (a) & (b).) The road commissioner's decision will be reversed only if it is found "to have been the result of capricious or arbitrary action or abuse of discretion." (People v. Henderson, at p. 657, 194 P.2d 91.) Again, in the case of Calneva Road the Lassen County Board of Supervisors, Resolution 2355, adopted May 29, 1973, merely removed the requirements for encroachment permits on this segment of roadway within Lassen County, but not the vacation of the public right-of-way or ability of a private energy company to use such right-of-way to convey electricity to market in the public interest and good.

The Calneva route would convey power generated by Calneva BESS/PSES facilities to the PSREC point of interconnect (POI) near the intersection of Calneva Road and Fort Sage Road approximately four (4) miles, utilizing an overhead Gen-Tie line. The Gen-Tie poles would be tubular steel structures approximately 60 to 95 feet tall placed approximately 200 feet to 900 feet apart along the Gen-Tie route (24 poles). A manual disconnect (air) switch would be located on the last pole of the Gen-Tie to provide means of manually isolating the Gen-Tie and solar facility from the PSREC 120kV intertie line between the Herlong and Fort Sage Substations.

The design characteristics of the Gen-tie are listed in Table 2, below.

Table 2. Typical Design Characteristics for a 345 kV Gen-Tie Line

Feature	120kV to 345 kV Characteristics
Type of Structure	Per SPPCo's/NVEnergy Design Specifications
Structure Height	60 to 95 feet
Span Length	Between 200 feet to 900 feet
Anticipated Number of Structures	Thirty (30)
Voltage	120 kV to 345 kV SPPCo's/NV Energy Design Specifications
Conductor Size	2 per Phase Bundle – 795 kcmil ACSR 1.06" diameter
Ground Clearance of Conductor	Minimum 30 feet
Pole Foundation Depth	19 to 24 feet
ADSS Fiber Optic Cable (Redundant Communication Path)	Strung above the 120 kV to345 kV conductors
OPGW	Strung above the 120 kV to 345 kV conductors

Gen-tie Interconnection / Point of Change of Ownership Pole (POCO)

It is anticipated Calneva BESS/PSES will construct a project electric substation which will connect to SPPCo's/NV Energy existing Fort Sage Substation via a 345 kV Gen-tie approximately six (6) miles from the Calneva BESS/PSES substation. The Calneva BESS/PSES's POCO will be located just outside of the Fort Sage Substation. The Gen-tie line will be constructed, operated, and maintained by Calneva BESS/PSES project and/or PSREC. The structures will be designed consistent SPPCo's/NV Energy's specifications and design standards and will have a 120 kV to 345 kV electric disconnect switch mounted on it. The size and color of the steel structures/poles will match existing structures/poles in and around the Ft Sage Substation. The Gen-tie will also provide a communication path via OPGW strung above the 120 kV to 345 kV conductor. We anticipated specific network upgrades at the Fort Sage Substation will include a new 120 kV or 345 kV terminal, two breakers, three switches, five CCVTs, three lighting arresters, and structures and associated bus work.

Calneva BESS/PSES Project Electrical Substation

The electrical substation is the central hub for the 34.5kV (AC) collection system and where the produced solar electricity voltage would be stepped up from 34.5kV to 120 kV or 345kV to match the transmission grid voltage at the point of interconnection (POI) with SPPCo/NV Energy. The proposed Calneva

BESS/PSES project substation would be located inside the Solar Field Area on the southwest corner. A new, on-site, access road would be constructed to serve the solar substation. The solar substation would cover an approximately two-acre area and would include the following major components:

- 34.5kV bus and associated switchgear and protection devices
- 345kV bus and associated switchgear and protection devices
- 125 Mega Volt-Ampere (MVA), 34.5/230kV Generator Step-up Transformer (GSU)
- 34.5kV capacitor bank
- Revenue meter and protection equipment
- Steel support and dead-end structures up to 95 feet in height
- Grounding grid
- Prefabricated modular control building (unoccupied)
- Perimeter chain link fence topped with 3 strands of barbed wire.

The substation equipment would range in height from 8 feet to 30 feet; the dead-end steel structure may be up to 90 feet tall. The substation area would be graded and compacted to an approximately flat and level grade. Precast and/or cast in place concrete pads would be used as foundations for substation equipment, and the remaining area would be graveled per industry standards. Electrical transformers, switchgear, and related substation facilities would be designed and constructed to transform medium-voltage power from the Calneva BESS/PSES project's collection system 34.5kV to the 120 kV to 345kV transmission grid voltages at SPPCo's/NV Energy's Fort Sage Substation. The substation GSU transformer would contain approximately 10,000 gallons of environmentally benign, vegetable based (FR3) insulating oil, and the transformer foundation would be designed to accommodate an accidental spill of transformer oil by the use of secondary containment. No polychlorinated biphenyl (PCB)-containing fluids would be used. A modular prefabricated control building would be installed in the substation, where metering, control, communications, protection equipment, and battery backup systems would be located.

Battery Storage System Components

Batteries

Individual Li-ion cells form the core of the battery storage system. Cells are assembled either in series or parallel connection in sealed battery modules. The cells would have an operating direct current (DC) voltage ranging from two to six volts, while the battery modules would have a DC voltage range between 40 to 60 volts. The battery modules would be installed in self-supporting racks electrically connected either in a series or parallel to each other. The operating rack-level DC voltage ranges between 700 and 1,500 volts. The individual battery racks are connected in series or parallel configuration to deliver the battery storage system energy and power rating.

Battery Storage System Enclosures and Controller

The battery storage system enclosure would house the batteries described above, as well as the battery storage system controller, ultimately delivering 100MWh to the utility grid over 4-6 hours for Calneva BESS/PSES project site. The battery storage system controller is a multi-level control system designed to provide a hierarchical system of controls for the battery modules, PCS, medium voltage system, and up to the point of connection with the electrical grid. The controllers ensure that the battery storage system effectively mimics conventional turbine generators when responding to grid emergency conditions. The battery storage system enclosure would also house required heating, ventilation, and air conditioning (HVAC) and fire protection systems.

Power Conversion System

The PCS consists of an inverter, protection equipment, DC and alternating current (AC) circuit breakers, filter equipment, equipment terminals, and connection cabling system. Electric energy is transferred from the existing power grid to the project batteries during a battery charging cycle and from the project batteries to the power grid during a battery discharge cycle. The PCS converts 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 and solar PV arrays to the grid. The energy conversion is enabled by a bi-directional inverter that connects the DC battery and solar PV array system to the AC electrical grid. The PCS AC operating voltage would typically be 480 volts AC nominal and the DC operating voltage would be between 700 and 1,500 volts with a power rating in excess of 500 kW.

AC Collection Transformers

The AC collection transformers are pad-mounted transformers that transforms the AC side output of the PCS to medium AC voltage in the range of 16 kV to 34.5 kV to increase the overall efficiency of the battery storage and solar PV system and to protect the PCS in the event of system electrical faults. One or more PCS units would be connected to the AC collection transformers.

Medium Voltage (MV) Switchgear

The MV switchgear for the battery storage system would connect the battery storage system to the existing AC power distribution system and provide the required level of protection during electrical faults in the system.

Meteorological (MET) Stations

Meteorological stations (MET Stations) are used to collect weather and solar radiation data. MET Station information would be used to optimize the energy production of the Calneva BESS/PSES project. Typical instrumentation on a MET Station includes sensors for ambient air temperature, relative humidity, wind speed and direction, barometric pressure, a rain gauge, and global horizontal and plane of array solar irradiance using pyranometers in a horizontal position and at an orientation consistent with the solar modules. A PV reference cell may also be installed at the MET station(s) to be used for performance optimization. MET Stations can have an instrument mast approximately 20 feet tall and would be located across the projects lease areas. Up to two MET Stations are anticipated to be installed for Calneva BESS/PSES project.

Battery Modules, Lithium-Ion Battery Technology, and Fire Protection

Each battery storage enclosure would be located within a metal frame storage enclosure, which will have insulation, air-conditioning, and fire suppression with separate enclosures for the electronic controls, inverters, and rectifiers. Due to the positive pressure required within each storage enclosure to ensure functionality of the fire suppression system, the enclosures would not be vented. Each storage enclosure would utilize a supply and return thermal management system; this system has a fresh air closed loop system. The mechanics of this type of pressure environment do not require venting. The primary storage components would consist of self-contained electrochemical battery systems using conventional storage technologies with proven safety and performance records. The battery storage enclosures are designed such that the periodic maintenance and replacement of underperforming battery components can be easily performed on an as needed basis without replacing the entire module.

The lithium-ion battery is a high-density battery that is rechargeable. Due to the energy density levels of lithium-ion batteries along with their charge and discharge profiles, these batteries are ideal and commonly used for a project of this size and proposed project lease area. These batteries will allow a safe and effective installation into an enclosure and be able to perform well under rigorous demand should the need arise.

The proposed Calneva BESS facilities could use a built-in fire protection system, utilizing suppression through cooling, isolation, and containment which is widely used in the industry. Each battery storage enclosure would include a gaseous fire suppressant agent (e.g., Stat-X® Aerosol Fire Suppression) and an automatic fire extinguishing system with sound and light alarms. Stat-X® fire suppression is an advanced aerosol technology that protects enclosed special hazards. Aerosols are an effective new alternative to traditional special hazard fire protection. Stat-X fire suppression is currently used worldwide in many critical applications. Stat-X fire suppression is an approved halon replacement and hydrofluorocarbon (HFC) alternative. Stat-X® is an environmentally friendly automatic fire suppression product line.

- US EPA Snap Listed for Normally Occupied and Unoccupied Spaces
- Insignificant Global Warming Potential
- Zero Atmospheric Life
- Zero Ozone Depletion Potential
- Non-toxic

The system would be designed in accordance with National Fire Protection Association (NFPA), as well as state and local safety standards including an automatic shut-down system for fans that keep the enclosure sealed when the fire extinguishing system is activated. The fire suppressant agent is released by a releasing panel that uses an aspirating smoke detection system and has a manual release. The aspirating smoke detection system provides for four levels of signaling before release of the fire suppressant agent. A disable switch would be provided for maintenance personnel to allow for work on the enclosures without accidental discharge. In addition, these BESS facilities will incorporate passive fire containment methods through engineering design of the cabinets and enclosures for battery storage, which further mitigates fire hazards associated with the BESS facilities.

Direct current electricity would be collected from the batteries via a battery management system (BMS) and conveyed to the inverters. Each battery module would be connected with a BMS to form a rack mountable module assembly. Multiple module assemblies are then combined into a rack, or battery-integrated cabinet (BIC) to optimize battery voltage and battery current. A number of series circuits are combined together to form an individual parallel circuit; parallel circuits are grouped together in individual BICs which are sized appropriately, and each BIC contains a rack-level BMS. The number of BICs would vary according to final project specifications and can be sized to accommodate electrical design. BICs combine multiple parallel circuits through a fused bus system to collect the energy into one set of direct current collection cables. The fuses within the BICs create another line of protection from overcurrent. These cables run from the BICs to the inverters, where they would terminate in the direct current side of the inverter.

The proposed BESS facilities would have a Supervisory Control and Data Acquisition (SCADA) system that would allow for remote monitoring and control of inverters and other project components. The SCADA system would be able to monitor project output and availability, and to run diagnostics on the equipment. Calnvea would also have a local overall plant control system (PCS) that would provide monitoring of the BESS facilities as well as control of the balance of facility systems. The microprocessor-based PCS would provide control, monitoring, alarm, and data storage functions for plant systems as well as communication with the project's SCADA system. Redundant capability would be provided for critical PCS components so that no single component failure would cause a plant outage. All field instruments and controls would be hardwired to local electrical panels. Local panels would be hard-wired to the plant PCS. Wireless technology would be considered as a potential alternative during final project design.

Solar Facility Monitoring System

A monitoring system is an essential part of a solar PV project. Automatic data acquisition and monitoring technology is utilized during the operational phase in order to maintain a high level of performance, reduce downtime and ensure rapid detection of faults or system/component failure. For Calneva PSES the monitoring would be done using a remote monitoring station that would likely be located in the solar power substation.

The monitoring system allows the actual yield of the proposed Calnvea BESS/PSES project to be monitored and compared with theoretical calculated yield on a real-time basis and if performance is not meeting expectations issues can be detected and performance optimized quickly before they have an appreciable effect on production. Without a reliable monitoring system, it could take months for a poorly performing system or element to be identified.

The key to a reliable monitoring and fault detection methodology is to have good simultaneous measurements of the solar irradiance, environmental conditions, and plant power output. This monitoring is achieved by incorporating one or more meteorological (MET) station(s) on site to measure the plane of

array irradiance, module temperature, and global horizontal irradiance, ambient air temperature, relative humidity, wind speed, and direction. Actual voltage and current would typically be monitored at the inverter, combiner box or string level, each offering more granularity than the previous.

Data from the MET Station(s), inverters, combiner boxes, meters, and transformers would be collected in data loggers and transmitted, in real time, to the remote monitoring station, typically via wireless or fiber optic link. A separate SCADA system would be installed at the proposed project's substation or BESS to monitor and control the required revenue metering and transmission system protection equipment. This system would be specified and monitored by the transmission provider (SPPCo/NVEnergy) and the CAISO.

Access Roads and Site Maintenance Roads

Solar Field Area Internal Roads

Three (3) types of roadways would be utilized for the Solar Field Area: a site entrance road, interior access/maintenance roads, and perimeter roads. The Calneva BESS/PSES project is bordered by Calneva Road on the western boundary of the project site and Calveda Way on the eastern boundary of the project site. The site entrance road for Calneva BESS/PSES would connect to Calneva Road which would be the primary point of access to the proposed project lease area. The Calneva BESS/PSES project lease area entrance roads, perimeter road, and central fire road would be 26 feet wide and constructed of compacted native soil and gravel per Sierra Geotech's specifications and approved engineering drawings. A security gate would be installed. The interior access/maintenance roads would be designed to meet Lassen and Washoe Counties requirements for emergency vehicles, which consists of in-situ soil, compacted to a minimum of 85 percent standard proctor and gravel.

Perimeter access roads would be located inside the Solar Field Area and adjacent to the perimeter fence surrounding the project lease areas and would also run north/south through the middle of the sites. These perimeter and center roads are provided for emergency vehicle response to allow them to readily access all areas of the projects lease areas during an emergency event.

The perimeter roads would be 26 feet wide and constructed of compacted native soil and gravel. Internal access roads would be provided to access critical equipment for ongoing operations and maintenance activities. These roadways would be 20 feet wide and constructed of compacted native soil and gravel. Site access roads (Calneva Road/Fort Sage Road) would provide adequate ingress and egress to and from the Calneva BESS/PSES project lease area for emergency vehicles.

Calneva BESS/PSES Construction Access Road

Construction access to the Calneva BESS/PSES project's Solar Field Area and BESS Area would be via Highway 395 to Doyle Grade Road, to Doyle Loop, to Hackstaff Road to Fort Sage Road to Calneva Road. All roads to the Calneva BESS/PSES project lease area are county public roadways and allow all weather travel with no weight limits, except Calneva Road segment from Fort Sage Road to the project lease area is an unpaved public roadway, measures approximately four (4) miles, and is under the jurisdiction of Lassen County. Portions of this segment of Calneva Road would be improved to allow pothole free and safe access for large trucks and heavy loads to facilitate delivery of equipment and materials to the Calneva Solar Field Area, and BESS Area. Proposed improvements would be limited to blading, adding road base material, and compacting, as needed. Proposed improvements would only occur where the existing road condition is deteriorated, such as areas that contain potholes, ruts, soft and unstable road surfaces, and/or corrugation (wash boarding). All road improvements would occur within the existing improved portion of the unpaved roadway and would not extend into undisturbed areas. Proposed improvements will not require an encroachment permit from Lassen County due to non-maintenance Resolution adopted by the Board of Supervisors in 1973. During the construction phase the contractor would water this segment of Calneva Road to prevent fugitive dust.

Calneva BESS/PSES Auxiliary Systems

Plant auxiliary systems (including lighting and cathodic protection systems) designed to protect and

support the project during its operational phase. During daylight hours, power for plant auxiliaries will be provided by the project's electrical generation. During non-daylight hours, the Calneva project will require small amounts of power to keep transformers energized, and for plant lighting and security. This auxiliary power would be provided by back-feed from the electrical grid. Auxiliary power will be stepped down to an appropriate voltage to support plant auxiliaries and will be connected to the station service power switchgear. A back-up emergency generator will be installed, but only operated in the event the electrical grid is down. Water for construction activities at Calneva BESS/PSES project will be provided by a connection to a Tahoe Meadows Water Agency ("TMWA") main located approximately 5.2 miles from the lease area near the Fort Sage Substation. Pursuant to an entering into an agreement with TMWA, water will be made available to Calneva BESS/PSES from TMWA's non-potable water supply. The water will be brought on-site using water trucks. Total water needs for construction dust control and compaction are estimated to be up to 100 acre-feet annually ("AFA") during construction.

Water use during facility operation would be for cleaning of the PV modules. It is anticipated that cleaning would occur once annually, if warranted, due to excessive soiling resulting in degrading performance. Module cleaning would use approximately 98,000 gallons of potable water per cycle, assuming approximately 160,000 PV modules and would be trucked to the lease area. Because the facilities would not be staffed, there would be no restrooms or need for a permanent water supply to the lease areas. Module cleaning requires water that is low in minerals and dissolved solids to prevent spotting and hazing on PV module surfaces to keep PV module efficiency at optimal level. PV Module cleaning water would be delivered to the site by truck. No PV module cleaning water would be stored on site.

Calneva BESS/PSES lighting system will provide O&M personnel with illumination for both normal and emergency conditions. Lighting will be designed to provide the minimum illumination needed to achieve safety and security objectives and will be downward facing and shielded to focus illumination on the desired areas only. There will be no lighting in the solar field, so light trespass on the surrounding properties will be minimal. In the event lighting at individual solar panels or other equipment is needed for night maintenance, portable lighting would be used. There will be lighting at the shared Substation, shared O&M Building, and site entrances to provide personnel with illumination for substation O&M under normal conditions and means of egress under emergency conditions.

Underground metal structures would have cathodic protection, as necessary, based on soil conditions, to avoid corrosion of metal surfaces. Fire protection systems would meet Washoe County fire standards, Doyle Fire District fire standards and California Department of Forestry and Fire Protection, Lassen-Modoc Unit, Susanville fire standards.

General Construction Methods

Site Disturbance

Solar Field Area

Permanent disturbance to the Solar Field Area would result from construction of internal roads, the substation, the BESS, equipment pads, PV tracker steel piles, and fencing. Temporary disturbance to the site would result from pile driving, trenching for electrical conductors, construction staging areas, and temporary access roads.

The proposed project design confines the solar arrays, BESS, substation, and internal access roads to a footprint of approximately 250 acres, for a total disturbance of approximately 90 percent. The remaining areas within the Solar Field Area would be left undeveloped. Undeveloped areas would include on-site drainages.

Only limited grading for internal access roads is expected to be required because of the low impact development (LID) approach and nearly flat terrain. The project site has a slope of less than five (5%) percent; thus, no grading would be required for PV power blocks. Project grading requirements are anticipated to be approximately eleven (11) to sixteen (16) acres, associated with roadways, substation,

battery energy storage container areas, and laydown areas, resulting in approximately 78,000 cubic yards of cut-and-fill and no cubic yards of export.

Interconnection Facilities
Permanent disturbance to the Interconnection Facilities area would result from the placement of Gen-Tie pole structure foundations, and road grading to maintain Calneva Road to meet roadway standards necessary for safe travel and construction. Temporary disturbance would result from pole construction work areas at each Gen-Tie pole sites along Calneva Road right of way.

Erosion Control
A Storm Water Pollution Prevention Plan (SWPPP) outlining the various Best Management Practices (BMPs) for minimizing erosion and runoff would be prepared prior to proposed project construction. Typical erosion control BMPs would be used. The site would be stabilized according to the SWPPP requirements. Existing vegetation would remain in place and be trimmed if it grew into interfering with the equipment.

Substation Construction
The substation would be constructed by a contractor selected by the Independent Power Merchant in accordance with its Engineering, Procurement, and Construction (EPC) contract specifications. The substation would occupy an area of approximately 2 acres and would be graded flat and level. Four to 6 inches of gravel would be installed on the entire area to keep down dust and mud and make for easier housekeeping. Precast or cast in place concrete foundations would be built for the substation equipment and structures.

Foundation would be drilled pier or spread footing. Foundation type and size would be determined during the detailed engineering phase. The substation would be enclosed with a security fence and would be within the Solar Field Area.

Gen-Tie Line Construction
The Gen-tie Line would be constructed by a contractor selected by the Independent Power Merchant in accordance with its Engineering, Procurement, and Construction (EPC) contract specifications. Gen-Tie Line construction would generally follow the sequence outlined below, but may vary depending on final engineering designs:

- Contractor mobilization of equipment and personnel
- Staging yard preparation
- Access road construction and site preparation
- Foundation construction and anchor installation
  - The Gen-Tie would typically consist of drilled pier reinforced concrete foundations. No guys or anchors would be installed on the Gen-Tie.
- Assembly and erection of tubular steel poles for the Gen-Tie Line
- Wire stringing and sagging
- Testing and commissioning
- Cleanup and restoration

Construction would require heavy equipment including, but not limited to, pick-up trucks, water trucks, haul trucks, bucket trucks, bulldozers, graders, compactors, backhoe, excavator, drill rig, concrete trucks, cranes, puller and tensioner, reel trailer, splice trailer, and air compressors. Helicopters may also be utilized to support wire stringing operations.

Battery Energy Storage System Construction
The BESS would be constructed by a contractor selected by the Independent Power Merchant in accordance with its EPC contract specifications. The BESS would occupy an area of approximately 2 to 3 acres and would be graded flat and level. Precast or cast in place concrete foundations would be built for the BESS equipment and container/structures. Foundation type and size would be determined during the

detailed engineering phase. The BESS would be enclosed with a security fence, within the Solar Field Area.

Tracker Modules Installation

The tracking system components would arrive on site, at an estimated rate of approximately 10 to 20 MW per month, to be assembled and installed at the site. PV modules would arrive on site and be placed in a staging area inside shipping containers. Modules would be distributed out to the blocks and put in place manually and secured to the tracker per vendor specifications and approved engineering plans. Each tracker would be populated with modules, wired in series, to create strings, and connected to a DC combiner box, which would deliver DC power to the block's inverter station.

Laydown Areas, Staging Areas, Work Areas, and Stringing Sites

The laydown area would be near the main site entrance at Calneva Road and would have the contractor site trailers/offices as well as fabrication areas, worker break area, sanitation and parking, material staging area, and storage (CONEX) boxes. This area would cover approximately 5 to 7 acres. Temporary power for the main laydown area would be provided by a temporary drop from the nearby PSREC system or from temporary mobile generators. Potable water for drinking and sanitation would be trucked in as needed. Secondary materials staging/laydown areas may be located closer to work areas and would be moved periodically as the site builds out.

The Gen-Tie and Service Line would have work areas around each structure location which may require grading and vegetation removal for various construction activities. Stringing sites would support required equipment to perform wire stringing and sagging operations.

Restoration

The permanent easement and temporary use areas will be restored. All construction material and debris will be removed and disposed of at appropriate permitted landfills. All work areas will be graded and restored to as close to preconstruction contours as is feasible. EPC contractor will prepare and implement a postconstruction erosion control and ROW restoration plan.

Construction Schedule

Construction of the Calneva BESS/PSES Project is scheduled to begin in Winter to Spring 2022, and may continue through Fall 2022, depending on interconnection approvals. If sensitive environmental resources such as nesting birds are encountered in preconstruction surveys or during construction, construction scheduling in those identified portions of the project may be modified to prevent impacts to sensitive species or sensitive habitat. Construction is expected to be conducted 10 hours per day, 6 days per week, depending on the schedule for the phases of construction.

2. Description of Project Lease Area or Action Area

The project lease area or action area includes the ROW of Calneva Road from Fort Sage Road to the BESS/PSES project lease area and the full extent of additional space that may be directly or indirectly affected by project construction. In addition, some area on the southwest corner of the 278-acre project lease area will be utilized as workspace areas necessary for laydown of materials, maneuvering of construction vehicles, and access to and from the ROW and the PSES field. It is not anticipated that direct or indirect effects resulting from project construction or operation will extend beyond this action area.

To delineate the project action area, local topography, hydrology, special-status species populations, and potential project effects were considered. The topography of the project area is relatively flat with a slope of less than five (5%) percent for all project action areas. There are no water features in the project area, nor jurisdictional wetlands.

Vegetation Communities and Habitat Types

Plant communities and habitat types were mapped on the project lease area. Preconstruction surveys and focused blooming season surveys may be required to identify the location of special-status species habitat within the project lease area or action area prior to construction and earth moving activities. Figure 3 shows the habitat characterization of the project lease area (*Holland's 36120 Desert sink scrub plant community, 11300 Disturbed Habitat, and CDFW Wildlife Habitat Relationship System-Alkali Desert Scrub*). Figure 3 shows the areas of alkali basins/flats/playas which are barren and void of all vegetation, and the Desert sink scrub plant community areas between the alkali basins/flats/playas which can support vegetation. The habitat characterization types that were identified in the project lease area are described in detail below, based on Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (1986) and the California Department of Fish and Game's *California Wildlife Habitat Relationship System* (2006).

Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California – Desert Sink Scrub and Disturbed Habitat

36120 Desert Sink Scrub is comprised primarily of woody and succulent shrub species from the Goosefoot Family, that persist for periods of two to five years, Desert Sink Scrub Communities are usually situated between Alkali Marsh and Saltbush Scrub Plant Communities. Soils that underly these communities are occasionally salt-encrusted, and highly alkaline. Shrub species common to this community type at the project lease area included: Big sagebrush (*Artemisia tridentata),* bud sagebrush (*Artemisia spinescens*), shadscale saltbush (*Atriplex confertifolia*), spiny hopsage (*Grayia spinosa*), black greasewood (*Sarcobatus vermiculatus*), and littleleaf horsebrush (*Tetradymia glabrata*).

11300 Disturbed Habitat consists mostly of bare dirt and is associated with access roads for the Union Pacific Railroad along the railroad tracks, disturbed areas from the construction and maintenance of the Tuscarora Natural Gas Transmission Pipeline, and several dirt roads for access to the project lease area that cross the project lease area.

CDFW California Wildlife Habitat Relationship System - Alkali Desert Scrub

Vegetation

Structure**--** Alkali Scrub plant assemblages (primarily chenopods) are generally subdivided into two phases: xerophytic and halophytic (Hunt, 1966, Twisselman, 1967, Vasek and Barbour, 1977, Turner, 1982a, b). The xerophytic phase (here, including Shadscale Scrub) consists of open stands of very low to moderately high (0.25-2.0 m; 0.8-6.6 ft) grayish, spinescent, leptophyllous to microphyllous subshrubs and shrubs, which are physiognomically uniform, widely spaced, occur on relatively dry soils, and exhibit low to moderate osmotic tolerance (Billings 1949, 1951, Küchler 1964, Knapp 1965, Johnson 1976, Thorne 1976, Vasek and Barbour 1977, Crosswhite and Crosswhite 1982, Fowler and Koch 1982). The halophytic phase consists of suffrutescent species which exhibit varying degrees of succulence, are

generally more closely spaced than the xerophytic phase, tolerate periodic flooding, and generally exhibit a high degree of osmotic tolerance (Flowers 1934, Hunt 1966, Twisselman 1967, Johnson 1976, Vasek and Barbour 1977).

Composition-- Some primary perennial plant species of the xerophytic phase include various species of shrubby saltbushes, especially allscale, desert holly, fourwing saltbush, Nuttall saltbush, big saltbush, Parry saltbush, shadscale, Torrey salt bush, and western Mojave saltbush (Cheatham and Haller 1975, Thorne 1976, Vasek and Barbour 1977). Other important shrubs include bud sagebrush, white bursage, cresotebush, Fremont dalea, Nevada ephedra, black greasewood, spiny hopsage, spiny menodora, rabbit-thorn, Thurber sandpaper-plant, winterfat, and Anderson wolfberry. Subshrubs common in the xerophytic phase include cheesebush, desert alyssum, desert prince's plume, alkali goldenbush, Cooper goldenbush, Shockley goldenhead, honeysweet, and common snakeweed. The diversity of cacti and other succulents in the Alkali Scrub is relatively low; however, cottontop cactus, hedgehog cactus, beavertail prickly pear, grizzly bear prickly pear, staghorn cholla, and redspined Sclerocactus may be common in certain areas. Forbs and grasses that characterize the xerophytic phase of the Alkali Scrub or are known only from this type of vegetation include Torrey blazingstar, kidney-leaved buckwheat, obtuse-leaved Cleomella, desert sunbonnet, Booth evening-primrose, browneyed evening-primrose, desert globe-mallow, Nevada goosefoot, Oxystylis, desert pepperweed, annual Psathyrotes, leaf-cover saltweed, Lemmon scurfpea, white-margined spurge, Nevada sumpweed, hairy wild cabbage, sand dropseed, galleta grass, Indian rice grass, and King eyelash grass (Beatley, 1976) (Bureau of Land Management, unpublished data on file; P. G. Rowlands, unpublished data). Trees are generally not present in the xerophytic phase of Alkali Scrub.

Some of the primary perennial shrub and subshrub species of the halophytic phase of Alkali Scrub include arrow-weed, black greasewood, alkali goldenbush; species of kochia, iodinebush, alkali rubber rabbitbrush; species of seablite, in particular, alkali blite, and Mojave seablite; and species of saltbush and saltcedar. Forbs and grasses are important constituents of the halophytic phase. Among the more notable are alkali heath, alkaliweed, weak arrowgrass, canaigre, common glasswort, salt heliotrope, western miterwort, various species of annual saltbushes, Cooper wirerush, yerba mansa, aparejo grass, alkali muhly, alkali sacaton, and saltgrass. Cacti are noticeably absent from this phase. Screwbean, western honey-mesquite, and saltcedar may occasionally form a sparse overstory. Munz and Keck (1959), Ornduff (1974), Cheatham and Haller (1975), Thorne (1976), and Vasek and Barbour (1977) list these and many other secondary associates.

Habitat Stages

Vegetation Changes-- 1.24:S-M. There are few, if any, undisputed examples of plant succession (as described by Odum 1971) occurring in deserts (Lathrop and Rowlands, 1982). The alkali scrub is a heterogeneous habitat whose component plant assemblages vary considerably in composition along gradients of moisture, salinity, and microtopography (Cannon 1908, Flowers 1934, Billings 1949, Marks 1950, Hunt 1966, Mitchell et al. 1966, Twisselman 1967, West and Ibrahim 1968, Vasek and Barbour 1977, Vasek and Lund 1980). However, a succession, of sorts, was observed by Vasek and Lund (1980) on the edge of Rabbit Dry Lake. Kochia was succeeded successively by Torrey saltbush, alkali goldenbush, and shadscale, with a concomitant accumulation and coalescence of earth mounds. Hunt (1966) described a plant zonation in Death Valley along a salinity gradient starting with iodinebush (tolerant to 6% salt) and continuing through Cooper wirerush, saltgrass, Mojave seablite, saltcedar, alkali sacaton, fourwing saltbush, arrow-weed, and western honey mesquite (tolerant to 2% salt). At soil salinities below 2 percent, a xerophytic alkali scrub of desert holly and allscale predominates and grades into creosote. Similar observations were made by Bradley (1970) around Saratoga Springs. These habitat stages may exist as any of structural classes 1.2-4:S-M.

In addressing long-term changes in shadscale communities, Holmgren and Hutchings (1972) (Was written as Hutchins in draft. I changed to Hutchings to match Hab Lit Cite.) stated that shadscale has become a much more important constituent of many cold desert communities than before exploitation of western rangelands. Shadscale increases as more desirable forage species are weakened. However, compositional change under protection or under grazing treatments favorable to range improvement is not linear over time and may require either man caused natural catastrophic events to be set in motion.

Duration of Stages**--** Fourwing saltbush appears to have a life span of around 20 years (Wallace and Romney 1972). Other species of shrubby saltbushes probably live about as long or within an order of magnitude. Spiny hopsage, often an associate species, was also found to have a similar life span (Wallace and Romney 1972). Two subshrubs, common snakeweed (West et al. 1979) and desert alyssum (Rowlands unpublished) live about 8-10 years. Indian ricegrass has an observed longevity of about 19 years (West et al. 1979). In cold desert communities, plants seem to be highly plastic with no reliable size-age relationship (West et al. 1979). However, general patterns may be inferred. Dominant shrub species of the Alkali Scrub may live for decades; overstory species, such as Joshua trees or mesquite, live for centuries; and pioneer subshrubs, except under continuous grazing pressure, do not persist for more than a decade. Recovery following severe disturbance in the Alkali Scrub, like other desert scrub types, requires decades and perhaps centuries, (Webb et al. 1982).

Biological Setting

Habitat**--** Alkali Scrub vegetation generally occurs at lower to middle elevations and interdigitates with a number of other arid and semiarid wildlife habitats. At lower elevations, Alkali Scrub may intermingle with Barren (BAR) salt flats and Desert Scrub (DSC); and in the southern part of its range, Palm Oasis (POS). At lower-middle elevation Alkali Scrub may interface with Joshua Tree (JST); and at upper middle elevations, with Juniper (JUN), Pinyon-Juniper (PJN), Sagebrush (SGB), Low Sagebrush (BSB), and Bitterbrush (BBR). Throughout its range, Desert Wash (DSW) and Desert Riparian (DRI) may occur within the Alkali Scrub. In the San Joaquin Valley, Alkali Scrub borders on Annual Grassland (AGS) habitat. In many locations, Alkali Scrub overlaps with Perennial Grassland (PGS).

Wildlife Considerations-- Characteristic species of the shadscale aspect of the xerophytic phase of Alkali Scrub include the pallid kangaroo mouse, chisel-toothed kangaroo rat, zebra-tailed lizard, and the San Emigdio blue butterfly, whose host plant is fourwing saltbush (Jaeger and Smith 1966, Pyle 1981). Characteristic species of other aspects of Alkali Scrub habitat are the Mojave ground squirrel, zebra-tailed lizard, and long-nosed leopard lizard.

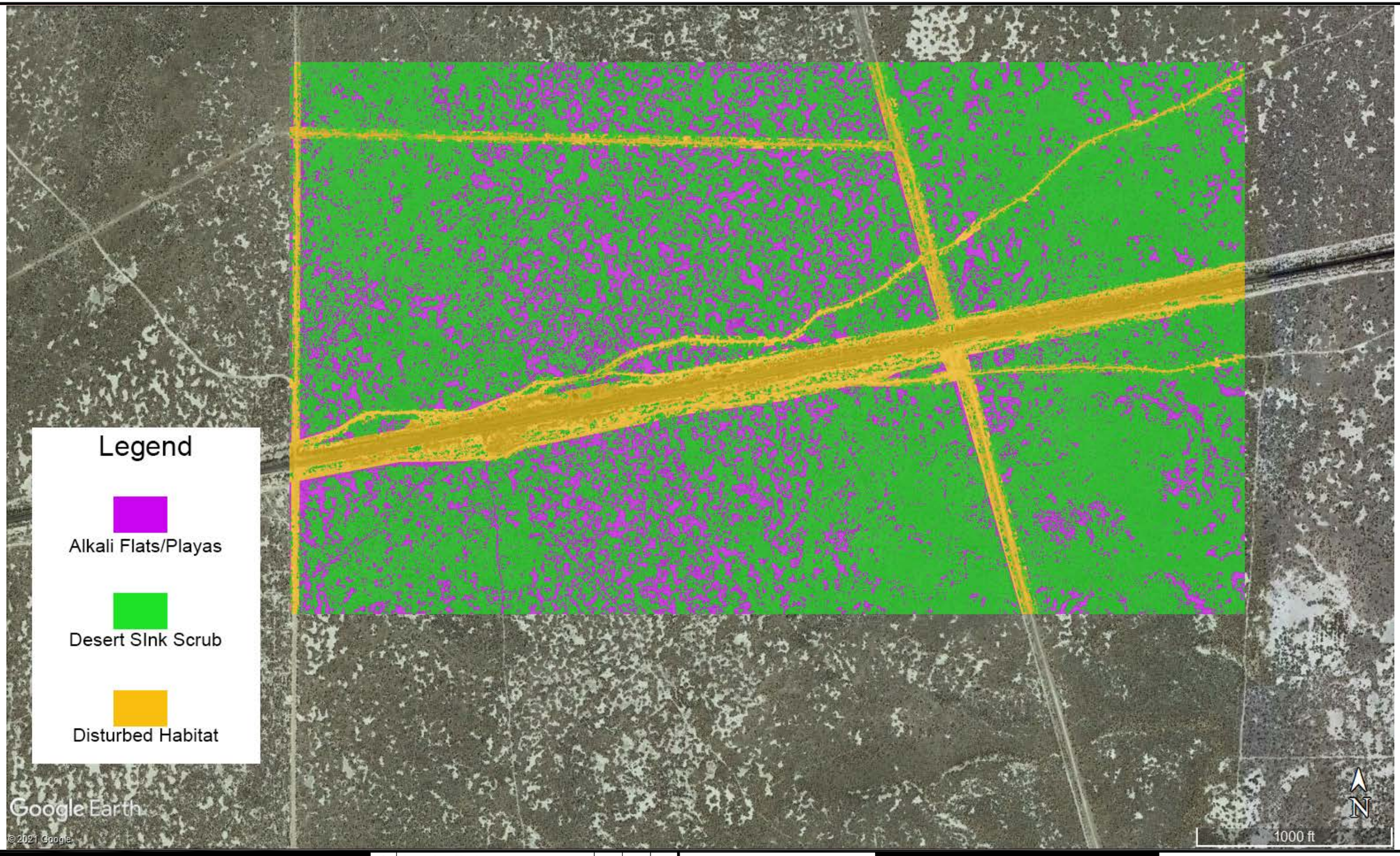
Physical Setting

Alkali Scrub types can generally be found surrounding the receding shores of large prehistoric lakes or alkali playas that mark the locations of dry lake beds (Fowler and Koch 1982). At sites where the halopytic phase predominates, the available groundwater is usually at or very close to the surface and is heavily mineralized (Turner 1982b). Hunt (1966) reported that soils in allscale stands (i.e., xerophytic phase) contained few salts, though the water table was as shallow as 5 m (16.4 ft), but permanent water was mostly much deeper. The soils under allscale communities are often very deep, tend to have high proportions of silt and clay, and have a much greater moisture holding capacity than soils of creosotebush communities (Schantz and Piemeisel 1924, Marks 1950, Vasek and Barbour 1977, Turner 1982b). Conversely, soils supporting desert holly are often very coarse and gravelly (Hunt 1966).

Climatic conditions associated with Alkali Scrub include generally low precipitation and relative humidity, high summer temperatures (mean July maxima, 30 to 47 C; or 86 to 117 F), rather cool winter temperatures (mean January minima, 8 to 5 C or 18 to 41 F), and very high levels of solar radiation all year round, especially during the summer. Precipitation ranges from around 42 to 230 mm (1.7 to 9.1 in) per year; depending upon location (Rowlands et al. 1982).

Distribution

Alkali Scrub vegetation occurs in California throughout the Mojave Desert, parts of the Colorado Desert, parts of northeastern California within the Great Basin, and in the southern San Joaquin Valley. Examples of the halophytic phase of alkali scrub are common in California deserts, but are scattered and usually associated with dry lakes and flood plains of rivers such as the Mojave, Colorado, and Amargosa. Alkali Scrub phases occur from below sea level in Death Valley to over 1800 m (5900 ft) in some Great Basin locations (Rowlands et al. 1982).



PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

N W E S

Habitat Characterization Map

DATE: 03-02-2021	SCALE: As Shown
BY: AKM	FIGURE: 3

SIERRA GEOTECH

Wetlands

Wetlands are lands that may be covered periodically, or permanently, with shallow water, and which include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, fens, and vernal pools. A search of the United States Fish and Wildlife Service's (USFWS) National Wetlands Inventory Map indicates the presence of previously classified wetlands in the project lease area identified as Palustrine, Unconsolidated Shore, Temporarily Flooded (PUSA). The PUSA mapped on the project lease area are alkali basins/flats/playas or interconnected basins. See Figure 5: National Wetlands Inventory Map.

Alkali Basins Flats or Playas – Interconnected Basins

The Desert sink scrub areas within the project lease area, borders on shallow, alkali basins/flats/playas where water has been known to collect intermittently. All the alkali basins/flats/playas within the project lease area are barren and unvegetated, they occur within a matrix of low mounds that support Desert sink scrub plant community. These features, alkali basins/flats/playas, and the Desert sink scrub plant community are underlain by Epot Soil series very-fine sandy loam and are alkali lacustrine soils. Water has been observed to puddle (reconnaissance survey December 2019) in the alkali basins/flats/playa areas of the project lease area. However, puddling is sporadic and unpredictable from one year to the next. The alkali basins/flats/playas on the lease area do not qualify as jurisdictional wetlands because of the lack of hydrophytic vegetation and lack of wetland hydrology and hydric soils. Wetland hydrology is not present due to low average annual precipitation and low frequency of rainfall during the growing season, and the alkali basins/flats/playas abilities to dry rapidly following a rainfall event. Alkali basins/flats/playas were included in the National Wetland Inventory in the past as potentially jurisdictional non-wetland waters of the United States based on the presence of visible ordinary high-water marks around the margins in the form of drift lines, and dramatic changes in vegetation in the past. (See Figure 5: National Wetlands Inventory Map.)

Figure 4: Typical Alkali Basin/Flat/Playa on Project Lease Area



Waters of the United States

A search of the United States Fish and Wildlife Service's (USFWS) National Wetlands Inventory Map indicates the presence of previously classified wetlands in the project vicinity. These maps indicate that the project area has historically been subject to seasonal, unconsolidated Palustrine wetlands, commonly referred to as alkali flats or playas. USFWS documents the characteristic vegetation and physiographic

features as “salt”. Additionally, Calneva lake, just north of the project lease area is identified as unconsolidated, seasonal Lacustrine feature with documented vegetation and physiographic features limited to “sand”. However, the current guidelines of EPA and Department of the Army, on the Navigable Waters Protection Rule, officially redefined the criteria by which the waters of the United States are classified and establish federal regulatory authority under the Clean Water Act. Under this adopted rule four clear categories of waters are federally regulated:

1) The territorial seas and traditional navigable waters,
2) Perennial and intermittent tributaries to those waters,
3) Certain lakes, ponds, and impoundments, and
4) Wetlands adjacent to jurisdictional waters

Under this framework, the historically recognized wetland features shown in the existing mapping within the project lease area no longer benefit from federal protection as they are not adjacent to anybody of jurisdictional water.

Waters of the State

The California State Water Resources Control Board (CSWRCB) has issued guidance for wetland protections at the state level in the form of the *2020 State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* which defines an area as a wetland if, under normal circumstances:

1) The area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;
2) The duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and
3) The area’s vegetation is dominated by hydrophytes or the area lacks vegetation.

The proposed project lease area fails to meet any of these conditions outlined above and is therefore not recognized as wetland by current state or federal policy, despite USFW’s documentation of historical alkali flats in the region. On site reconnaissance (December 2019 and February 2021) surveys during the wet season demonstrate the alkali basins/flats/playas do not qualify as wetlands (Do Not Retain Water during Rain Events), according to the current adopted criteria at both the federal and state level.

No Wetlands On the Proposed Project Site

In order to meet the Wetland criteria established by the State and the Federal Governments the water which is the basis of the wetland must be “continuous or recurrent” and sufficient to saturate the soil. A consultation of the dictionary confirms that for something to be “recurrent” it must occur at regular intervals, a detail which the federal wetland registry explicitly discounts in the case of the Alkali flats present on the proposed project site.

Sierra Geotech submitted to Lassen County in June of 2020 a soils survey and geotechnical report dated April 8, 2020, with boring logs, and laboratory testing results which analyzes the soils of the proposed project site. This soil report documents that the project site soils do not meet the first criteria of the California State Water Resources Control Board definition of a wetland. “(1) The site is underlain by silty to clean sands with interbedded layers of clayey sands, sandy clays and sandy silts to the maximum depth explored (24.5 feet below the ground surface). The near-surface soils are loose to medium dense and consist predominately of cohesionless sand. The entire proposed project site is made up of Epot-Ragtown Playas complex soils which are a well-drained class of soil with a very high runoff characteristic and saline within 40 inches of the surface. This soil is incapable of continuous or recurrent saturation of the upper substrate caused by groundwater.

The California State Water Resources Control Board first criteria of a wetland requires either groundwater or shallow surface water. Sierra Geotech borings documented groundwater was not encountered at any of the test locations (termination depth of 24.5 feet) within the proposed project site. Groundwater contour data from California Department of Water Resources (DWR) Groundwater Information Center GIS

database was researched but no data was available for the proposed project site. While groundwater was not encountered during Sierra Geotech's exploration it is estimated based on publicly available information that the ground water ranges in depths from 30 feet to greater than 60 feet below the ground surface.

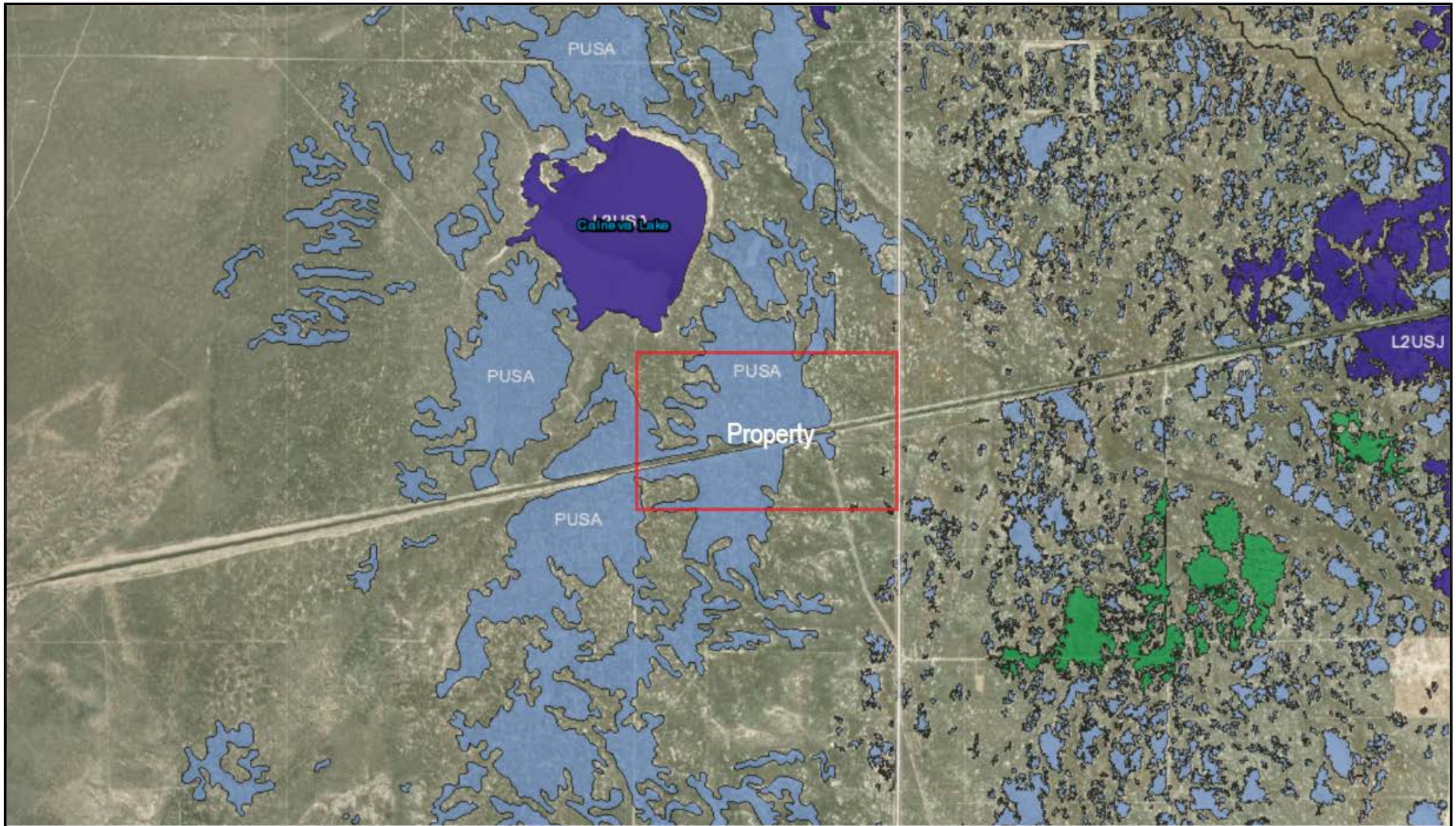
According to the California Department of Water Resources online GIS tool available at wdl.water.ca.gov, there are two (2) monitoring wells within the vicinity of the proposed project site. The recent groundwater level data and historical groundwater level data indicate the depth to ground water level as being steady throughout the year at approximately 30 feet below the existing ground surface (bgs). The monitoring wells IDs are 401555N1200189W001 and 401412N1200073W001. All this information and soil analysis documenting the absence of hydric soils that are saturated, flooded, or ponding long enough during the growing season to develop anaerobic conditions that supports the growth and regeneration of hydrophytic vegetation has been provided in the Initial Study and as an appendix to the Initial Study to Lassen County in June of 2020.

The second criteria of the California State Water Resources Control Board definition of a wetland states: *"(2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate".* There is no data available that establishes the proposed project site soils have anaerobic conditions in the upper substrate. The depletion of oxygen by soil microbes and the resulting anaerobiosis (without molecular oxygen or O2) promotes certain biogeochemical processes, such as the accumulation of organic matter and the reduction, translocation, or accumulation of iron and other reducible elements. These processes result in distinctive characteristics that persist in the soil during both wet and dry periods, making them particularly useful for identifying anaerobic conditions in the upper substrate of soils in the field (USDA Natural Resources Conservation Service 2006b).

Cracked soil throughout the proposed project site is present. The cause for cracking in the soils at the proposed project site is salinization, which is the precipitation of salts in the project site soils and is found mostly in desert soils such as the Epot-Ragtown Playas complex soils of the proposed project site. The most common salts are halite and gypsum, which can form either as clear crystals within soil cracks or as sand crystals that engulf the pre-existing soil matrix. Salts are easily dissolved by rain and so accumulate in regions where there is a marked excess of evaporation over precipitation such as in the Honey Lake Valley where the project site is located. There is a strong relationship between mean annual precipitation and the depth of leaching of salts in soils and appearance of cracks in the soil. Salinized soils are sparsely vegetated or lack vegetation.

The last and third criteria used by the California State Water Resources Control Board definition of a wetland states "*and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation*." The CDFW commentator assuming his cracked soil photo analysis was accurate concerning wetlands also jumped to the conclusion that lack of vegetation was also caused by saturated soil conditions associated with wetlands. Thus, the project soils by evidence of soil samples, and observations do not meet any of the three criteria established as the definition of wetland by the California State Water Resources Control Board.

Use of the California State Water Resources Control Board technical definition for wetland identification and delineation requires careful consideration of hydrology, substrate, and vegetation in every case and as provided by Sierra Geotech in the CEQA Initial Study and Technical Appendices to the Initial Study. In cases where the hydrology and substrate criteria are present, but vegetation is absent, an analysis must be conducted to determine if that absence is a natural consequence of the hydrologic and substrate conditions, and if it is not, if the expected vegetation would be predominately hydrophytic or not. The proposed project description, construction and operational characteristics descriptions, and analysis of how the project components will interreact with the alkali flats clearly makes the findings that impacts to the alkali flats will only be temporary.



PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	AKM		BLM

N W E S

National Wetland Inventory Map

DATE: 02-23-2021	SCALE: NTS
BY: AKM	FIGURE: 5

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3. Study Methods and Species Considered

Literature Review

Special-status species lists from the USFWS (USFWS, 2020 and 2020), National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) (NMFS, 2020), and California Natural Diversity Data Base (CNDDB) (CDFW, 2020), and California Native Plant Society (CNPS 2020) Inventory of Rare and Endangered Plants of California were referenced to compile a master list of special-status and sensitive species that could potentially occur in the project action area. Aerial photography and geographic information system (GIS) maps were then used to assess the potential for sensitive habitats in the project area. In order to encompass the full extent of the project action area, species lists were compiled for the Calneva Lake USGS 7.5-minute quadrangle.

Special-status species that were considered include all federally listed threatened and endangered species, candidates for listing, species proposed for listing, species delisted within the last five years, species of concern (NMFS). No federally listed, federal candidate, or state-listed plant species occur in the project lease area or action area. A special-status species was considered a potential inhabitant of the project action area if its known geographical distribution encompassed any of the Calneva Lake quad and its general habitat requirements (e.g., roosting, nesting, or foraging habitat; specific soil type; permanent water source) were present. A list of special-status species with the potential to occur was compiled, and the habitat requirements of each species were considered during reconnaissance field surveys and habitat assessments. The list of special-status plant species will be utilized to organize and implement blooming focused surveys in the 2021 blooming season. Figure 6 show the locations of CNDDB records near the project lease area or action area. Table 3 lists the special-status species identified in the literature review, their listing status, habitat association, and potential to occur in the project lease area or action area.

A total of eight (8) plant species classified by the CNPS as 2.2 = Fairly endangered in California and nine (9) plant species classified by the CNPS as 2.3 = Not very endangered in California were found in record searches for the Calneva Lake quad. Of these, seven (7) species listed below were ruled out from potentially occurring in the project lease area or action area because these areas are out of the species' known range, suitable habitat is absent from the project lease area or action area, and/or they were not found during reconnaissance plant surveys of the project lease area on previous projects carried out on the project lease area:

Table 3. Determinations for Federal, State, Listed Species or Special Status Species and Critical Habitat with Potential to Occur in Project Action Area

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
Geyer's milkvetch	*Astragalus geyeri var. geyeri*	An annual that blooms from May to August and is typically found on sandy flats, depressions within stabilized or mobile dunes, margins of alkaline sandy playas, and in sandy bottomed gullies. It is common in the northwestern section of the Great Basin of Nevada and there is potential habitat within the Proposed Project as Lassen County represents the western most extension of this species.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Cruciform evening-primrose	*Chylismia claviformis* ssp. *cruciformis*	An annual that blooms from May to July and grows in sandy or rocky slopes or washes in the Modoc	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
		Plateau. Known sites are north of the Proposed Project.		very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Dugway wild buckwheat	*Eriogonum nutans* var. *nutans*	An annual that blooms from May to September and grows in sand or gravel flats and slopes. It is known to occur in the northeastern part of Lassen County. No known occurrences in southeastern parts of Lassen County.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Bailey's Ivesia	*Ivesia baileyi* var. *baileyi*	A perennial that blooms from May to August and is found in volcanic crevices. There is no potential habitat for this species within the Proposed Project.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Sagebrush Loeflingia	*Loeflingia squarrosa* var. *artemisiarum*	An annual that blooms from April through May and is found on sandy, gravelly areas of sand dunes and sand flats in sagebrush scrub.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
MacDougal's Lomatium	*Lomatium foeniculaceum* var. *macdougalii*	A perennial that blooms from April to July and is found in rocky clayey soils in sagebrush communities typical of the Proposed Project.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Intermontane lupine	*Lupinus pusillus* var. *intermontanus*	An annual that blooms from May to June in open sandy areas.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
				very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Lance-leaved scurf-pea	*Ladeania lanceolata*	A perennial that blooms from April to August in sandy soils with a preference for disturbed soils.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Winged dock	*Rumex venosus*	A perennial that blooms in May and June in dry, sandy soils, preferably in disturbed areas. In California it is found only in the Honey Lake valley.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Currant-leaved desert mallow	*Sphaeralcea grossulariifolia* ssp. *grossulariifolia*	A perennial found in dry alkaline or volcanic soils. Known populations are north and northeast of the project area.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Western seablite	*Suaeda occidentalis*	An annual that blooms from July to September in dry, saline, or alkaline wetland soils. This species may occur regionally bur are associated with habitat not present within the project lease area.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Many-flowered Thelypodium	*Thelypodium milleflorum*	A perennial that blooms April to June in sandy soils.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
				endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Hillman's Cleomella	*Cleomella hillmanii*	An annual that blooms from April to June in clay soils within the Chenopod scrub habitat community	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Kellogg's sand verbena	*Tripterocalyx crux-maltae*	A perennial that blooms May to July in partially or fully stabilized sand dunes.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Nelson's evening primrose	*Eremothera minor*	An annual that blooms from April to July in the Chenopod scrub habitat	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Ochre-flowered buckwheat	*Eriogonum ochrocephalum*	A perennial that blooms May to June in volcanic or clay soils.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Paiute Lomatium	*Lomatium ravenii*	A perennial that blooms April to June in rocky, gravely, volcanic with underlying clay soils	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
				very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
American badger	*Taxidea taxus*	Badger has been known to occur in the western portions of the Basin and Range. CNDDB reported badger burrow in the vicinity.	Special Status Species	The proposed project may affect but is not likely to adversely affect the special status species American badger. Burrow survey was conducted in February and April of 2021 and no active burrows found on project site.
Long-eared Owl	*Asio otus*	Project site does not provide adequate habitat for breeding. Project could provide foraging habitat.	Special Status Species	The proposed project may affect but is not likely to adversely affect the special status species Long-eared Owl.
Prairie falcon	*Falco mexicanus*	Project site does not provide adequate habitat for breeding. Project could provide foraging habitat. Project area is yearlong range.	Watch List	The proposed project may affect but is not likely to adversely affect the watch list species prairie falcon.

Note:

CNPS Listing Definitions:
1A = Presumed extinct in California.
1B = Rare, threatened, or endangered in California and elsewhere.
2 = Rare in California but more common elsewhere.
2.1 = Seriously endangered in California
2.2 = Fairly endangered in California
2.3 = Not very endangered in California

Two (2) special-status wildlife species (or distinct populations of species) were found in record searches within the Calneva Lake quad (refer to Table 3) which included the American badger (*Taxidea taxus)* and the Long-eared Owl (*Asio otus).* One (1) watch list wildlife species was found in the record searches for the project action area known as the prairie falcon (*Falco mexicanus)*.

Consultation to Date

Donna Cobb of CDFW responded to a Lassen County request for early consultation for a California Environmental Quality Act (CEQA) Initial Study #2020-004 and Use Permit #2020-004 (Hooper) Assessor's Parcel Numbers 137-170-12 and 137-170-13, State Clearinghouse Number 2020100366 concerning biological resources and potential impacts for the Calneva BESS/PSES project action area. The letter included a list of species of primary concern to the CDFW, and other projects in the area that may potentially affect species or habitat under their jurisdiction (see Attachment B: November 13, 2020 CDFW Response Letter for a copy of the letter). Sierra staff discussed with Amy Henderson of the CDFW on Monday February 1, 2021 regarding the project and concerns of the CDFW in detail and second comment letter dated December 22, 2020 (See Attachment B: December 22, 2020 CDFW Comment Letter). At that meeting on February 1, 2021 clarifications were made regarding focused blooming surveys and requests from CDFW regarding edits and review of the Administrative Draft IS/MND

Biological Section for IS#2020-004 and UP#20200004 – HOOPER CDFW Letter dated December 22, 2020. Sierra staff had another follow up call with Amy Henderson on February 9, 2021 regarding special-status species potential to exist in the project action area, critical habitat designations, and sensitive natural communities.

Field Surveys

Preliminary site visits to the project area were conducted to identify sensitive resources in proximity to the project and consisted primarily of visually canvasing the vicinity from the vantage of all accessible roads adjacent to the project lease area or action area. After initial site visits, biological reconnaissance surveys were conducted on the project lease area in September 2019, December 2019, and February 2021 by Sierra staff who walked the project lease area on 50 foot transects.

Methodology of Surveys

Three reconnaissance biological field surveys of the Project site, including a general site survey, a species inventory, and a directed survey for sensitive plants and animals, was completed by Sierra staff (Greg Matuzak, Matthew Chansler, Brent Moore, CEP) on September 26, 2019, December 20, 2019, and February 26, 2021. All surveys were conducted between the hours of approximately 9:00 am till 3:00 pm. Weather conditions during the September 26, 2019 and February 26, 2021 surveys were conducive to biological field work, with clear skies, high temperatures for the day in the lower 60's and no significant wind. The December 20, 2019 field survey had a few rain showers, with clearing skies and mild wind during the visit.

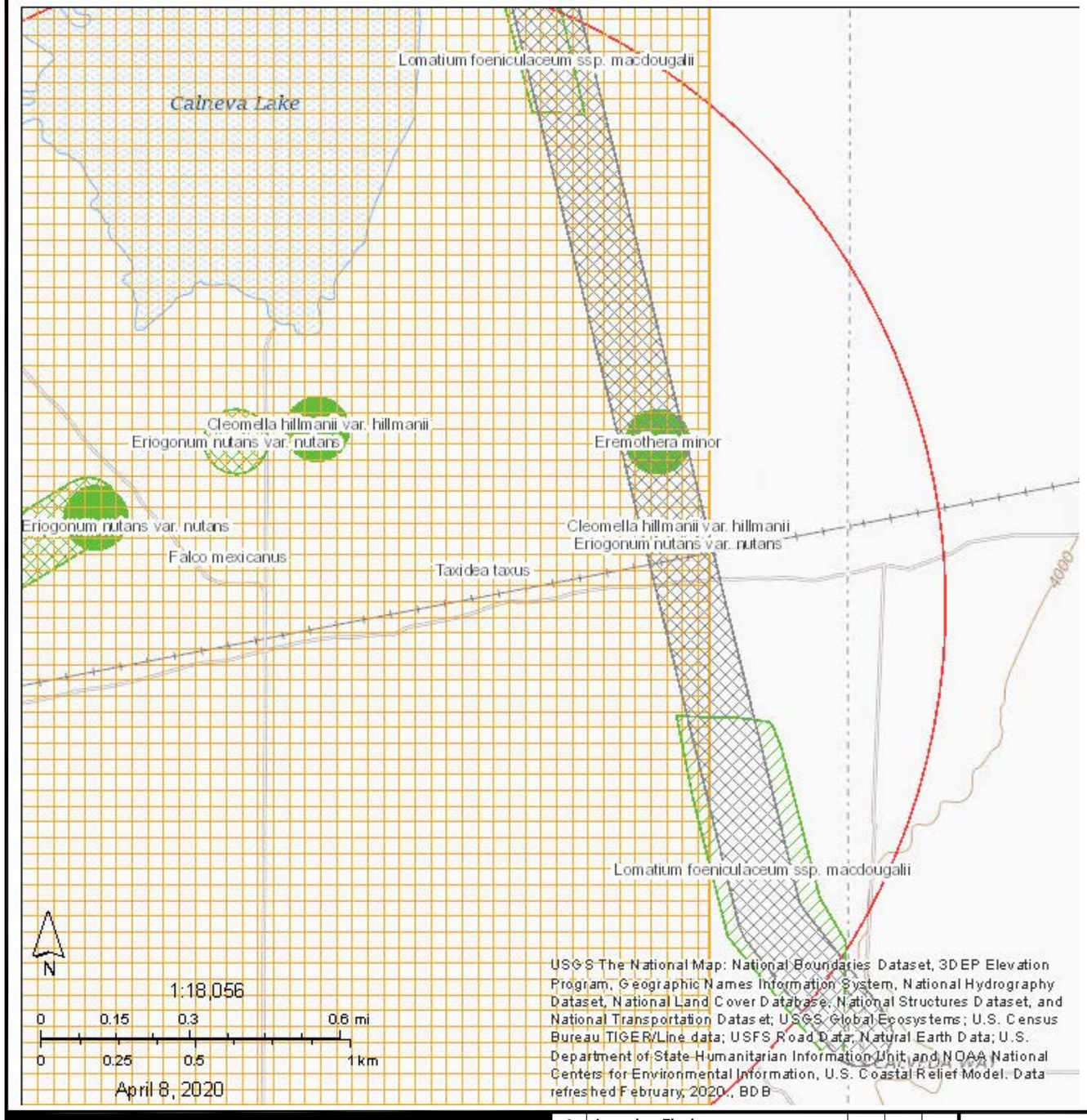
The entirety of the project lease area was meticulously canvased, and all plants, animals, and habitats were noted and identified in the field. Because of the season of the surveys and the methods used (visual and auditory identifications only), some of the plants and many of the cryptic or migratory animals, which might have been observed at other times or by using other techniques, were not detected. Animal activity was moderate, although some of the animal detections were based on characteristic signs of inhabitance, rather than a visual sighting of the specimens themselves.

To accurately determine whether special-status plants identified by USFWS and CDFW above actually occur on the Proposed Project Area, presence/absence surveys were conducted during the appropriate blooming periods for each special-status plant species. The methodology used for performing focused surveys followed the California Department of Fish and Wildlife's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*, dated March 20, 2018, and the CNPS revised June 2, 200,1 *Policy on Botanical Survey Guidelines of the California Native Plant Society (*Guidelines*)*. These Guidelines were utilized to implement the proper methods for performing plant surveys, considering the environmental impacts that may occur as a result of new Calneva BESS/PSES development, and developing the type of mitigation necessary to reduce project-related impacts to special-status plants. Final Report is attached as Attachment C: Special Status Plant Survey Report, to this Biological Assessment.

Two qualified botanists performed the presence/absence surveys on April 22, April 30, May 4, and May 15, 2021. The surveys were conducted during April and May and consisted of eight (8) person days of surveys, or approximately eighty (80) person-hours. Surveys were conducted during the peak blooming periods for special status species determined to have potential to occur in the Proposed Project Area. Surveys were floristic in nature. All plants observed were identified using The Jepson Manual (Hickman 1993) to the taxonomic level necessary to determine whether they were rare. The rare plant surveys were preceded by habitat mapping field studies in September 2019, December 2019, and February 2021, which covered the entire Proposed Project Area (see Biological Resources Assessment Report, Sierra Geotech, February 2021). This prior work allowed Sierra Geotech to identify habitats with potential to support the rare plant species which is where the focused surveys occurred in detail.

The botanists walked the extent of each plant community and habitat that was determined to be suitable for supporting the special-status plant species identified by USFW and CDFW, "*Special-Status Plant*

Species with potential to occur on the Calneva BESS/PSES Proposed Project Area on CNDDB and CNPS Database Search Results" above**.** The entire Proposed Project Area was walked with transects no more than 20 feet apart. Sierra Geotech botanists collected plant specimens of all species documented in the Proposed Project Area for identification.



California Natural Diversity Database (CNDDB) Commercial [ds85]

- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)
- Aquatic Comm. (80m)
- Aquatic Comm. (specific)
- Aquatic Comm. (non-specific)
- Aquatic Comm. (circular)
- Multiple (80m)
- Multiple (specific)
- Multiple (non-specific)
- Animal (non-specific)
- Animal (circular)
- Terrestrial Comm. (80m)
- Terrestrial Comm. (specific)
- Terrestrial Comm. (non-specific)
- Terrestrial Comm. (circular)
- Multiple (circular)
- Sensitive EO's (Commercial only)

Author: Sierra Geotech
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PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

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0	Issued as Final	SCV		BLM

N W E S

CNDDB Map

DATE:	04-09-2020	SCALE:	As Shown
BY:	AKM	FIGURE:	6

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4. Results of Surveys, Species Accounts and Status of Special-Status Species With Potential to occur in the Project Action Area

Flora and Fauna

The flora and fauna identified during the surveys is typical of the Basin and Range and Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California: 36120 Desert Sink Scrub and 11300 Disturbed Habitat; or the CDFW California Wildlife Habitat Relationship System for Alkali Desert Scrub. All the plants and animals associated with the project lease area are locally common, although one watch list status bird (Prairie falcon) was observed flying south of the project lease area during February 26, 2021 survey. Seven species of plants and six species of animals were detected during the field surveys of the project lease area. The plants observed are expected to represent at least 90-95 percent of the naturalized species occurring on the project lease area. The animals observed likely represent only about 25-50 percent of the total site fauna, as most of the animals (particularly invertebrates and nocturnal or burrowing species) are cryptic and difficult to detect.

Approximately 53% or 148 +/- acres of the project lease area is comprised of Alkali basins/flats/playas which are barren and lack any vegetation. Approximately 18% or 50 +/- acres of the project lease area is characterized as disturbed habitat. The disturbed habitat consists mostly of bare dirt and is associated with access roads, natural gas pipelines, and the railroad. The remaining areas of the project lease area which represents approximately 29% or 80 +/- acres is associated with the plant community known as Desert Sink Scrub which can support limited plant life.

Flora

The following plant species were observed on the focused special status plant surveys between the Alkali basins/flats/playas on slightly raised ground associated with the Desert Sink Scrub plant community. Percent estimates represent land area covered by each taxon, not quantity of individuals. Finally, estimates were made given current dry climate conditions; precipitation would increase the percent cover of fast-growing annual species such as downy brome, clasping pepperweed, and prickly Russian thistle.

- **Big sagebrush (*Artemisia tridentata*).** was most abundant in the southern portion of the Project Lease Site and comprised approximately 20% of the plant community.
- **Bud sagebrush (*Artemisia spinescens*).** was abundant and comprised approximately 15% of the plant community.
- **Shadscale saltbush (*Atriplex confertifolia*).** was very abundant and comprised approximately 20% of the plant community.
- **Downy brome (*Bromus tectorum*)** was observed at low density as dry culms throughout the Project Lease Site.
- **Great basin wild rye (Elymus cinereus)** was locally observed along a road within the Project Lease Site and comprised approximately 2% of the plant community.
- **Spiny hopsage (*Grayia spinosa*)** was uncommon and comprised approximately 5% of the plant community.
- **Prickly Russian thistle (*Kali tragus*)** was observed in the most disturbed places and comprised approximately 3% of the plant community.
- **Clasping pepperweed (Lepidium perfoliatum)** was observed at low density as dry stems throughout the Project Lease Site.
- **Black greasewood (Sarcobatus vermiculatus)** was very abundant and comprised approximately 25% of the plant community.
- **Littleleaf horsebrush (*Tetradymia glabrata*)** Littleleaf horsebrush was locally abundant and comprised approximately 10% of the plant community.

Almost no understory of vegetation was found within the Desert sink scrub plant community within the project lease area.

Fauna

The following species were observed on or just nearby the project lease area.

Loggerhead Shrike (Lanius ludovicianus)

The loggerhead shrike is a medium-sized songbird found throughout North America. They are most often seen perched on overhead wires, barbed-wire fences, and isolated shrubs along pastures, grasslands, and agricultural fields. Loggerhead shrikes occur in open landscapes characterized by widely spaced shrubs and low trees within a variety of plant associations, including arid shrublands, grasslands, savannahs, pasturelands, and farmlands. Trees and shrubs used for nesting generally share common characteristics of having dense foliage and can be bushy and thorny. Shrikes are unique among songbirds in that they prey upon large insects, small birds, amphibians, reptiles, and small rodents. Shrikes hunt from perches often returning to these perches to impale their prey on barbed wire and thorns. Shrikes use open habitats for foraging during both breeding and non-breeding seasons (Pruitt 2000; Humple 2008).

During the field surveys, loggerhead shrikes were more common on the northern portion of the project lease area north of the Union Pacific railroad tracks. During the most recent field survey February 26, 2021, a total of 8 loggerhead shrikes were observed. One nest was observed on the northwest corner of the project lease area; however, it was believed to be inactive.

Pronghorn Antelope (Antilocapra americana)

The most noticeable characteristic of pronghorn is also the source of their common name. Both males and females have a pair of short horns on the top of the head. The female's horns are small, usually only a bump. In contrast, the males' horns are around 10 to 12 inches long. They also have a unique shape, because unlike other ungulates, a pronghorn's horns point backward. The horns extend straight up and then curve toward the rump. At the front of the horn is a small notch or prong that points forward, hence the animal's name. Pronghorns have large eyes and fantastic vision. Pronghorns are about 4.5 feet long, three feet tall, and weigh between 90 and 150 pounds. Females tend to weigh less than the males.

During the February 26, 2021 field survey, a herd of approximately 18 pronghorns migrated through the area, immediately south (approximately 2,500 feet) of the project lease area.

Prairie falcon (Falco mexicanus)

The prairie falcon (Falco mexicanus) is a medium-large sized falcon of western North America. It is about the size of a peregrine falcon or a crow, with an average length of 40 cm (16 in), wingspan of approximately 1 meter (40 in), and average weight of 720 g (1.6 lb). the prairie falcon eats mostly small mammals, some small birds, and reptiles. The prairie falcon catches prey in air and on ground in open areas and usually nests in a scrape on a sheltered ledge of a cliff overlooking a large, open area. Sometimes nests on old raven or eagle stick nest on cliff, bluff, or rock outcrop. Aerial courtship display occurs near nest site. Southeast-facing nest site apparently preferred, but height and orientation secondary to nature and character of the ledge.

During the field survey on February 26, 2021 a prairie falcon was observed south of the project lease area approximately four (4) miles south in a flight mode of approximately 100 feet above the ground hunting. The project lease area does not provide adequate habitat for breeding. Project lease area could provide foraging habitat. Project area is yearlong range for the prairie falcon.

Black-tailed Jack Rabbit (Genus Lepus)

The black-tailed jack rabbit is 18 to 25 inches long and is colored buff peppered with black above, and white below. The tail has a black stripe above. The ears are long and brown with black tips. The antelope jack is approximately the same size, but colored gray above with the lower sides mostly white. The face, throat and ears are brownish, but there is no black tip on the ears. The black-tailed jack is by far the most common and is found all over California except in the mountainous areas at elevations above 12,000 feet.

During all three field surveys black-tailed jack rabbits were seen on each visit. Sierra staff observed between 1 and 3 jacks on each survey.

Wild Horse (Equus ferus)

Most wild horses living today are descendants of animals that were released or escaped from Spanish explorers, ranchers, miners, the U.S. Cavalry and Native Americans. These feral horses are untamed members of the domestic horse subspecies (*Equus ferus caballus*), not to be confused with the truly "wild" horse subspecies extant into modern times. Wild horses are diverse in their coloring, ranging from solid brown and black to colorful pintos and palominos. Most wild horses stand 13 to 15 hands high (52-60 inches) and weigh from 700 to 1,000 pounds.

The Bureau of Land Management manages and protects wild horses and burros on 26.9 million acres of public lands across 10 Western states as part of its mission to administer public lands for a variety of uses. The Wild Horse and Burro Program's goal is to manage healthy wild horses and burros on healthy public rangelands. Broadly, the law declares wild horses and burros to be "living symbols of the historic and pioneer spirit of the West" and stipulates that the BLM and the U.S. Forest Service have the responsibility to manage and protect herds in their respective jurisdictions within areas where wild horses and burros were found roaming in 1971.

During the February 26, 2021 field survey, a herd of approximately 30 wild horses were observed migrating from east to west approximately 1 mile southeast of the project lease area along the California/Nevada border.

Abandoned Burrows

The project lease area is suitable habitat for American badger which could occur within the project lease area; however, no burrows or dens of suitable size for American badger were observed during field surveys conducted by Sierra staff with the September 2019, December 2019, or February 2021 surveys. In addition, burrows were surveyed in April and May 2021 and all burrows found on site were abandoned burrows at time of Special Status Plant Surveys.

Sensitive Vegetation Communities

Vegetation communities (habitats) are generally considered "sensitive" if they; *(a)* are recognized by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service as being locally depleted; *(b)* are considered rare within the region by local experts, *(c)* are known to support sensitive animal or plant species, including Listed Species; and/or *(d)* they are known to serve as important wildlife corridors. These sensitive habitats are typically depleted throughout their known ranges or are localized and/or highly fragmented.

The vegetation on the project lease area is not sensitive and is not considered a significant biological resource for analysis purposes in this report.

Special-Status Plant Species

Seventeen (17) special status plant species were identified in preliminary research for this analysis from the CNPS list which occurred in Lassen County. Out of the seventeen listed special status plant species found in Lassen County only ten (10) plant species could find the project lease area suitable habitat. However, none of these ten species were found in protocol-level surveys within the project lease area conducted for the Tuscarora Natural Gas Pipeline in 1994. Potential effects to special-status plant species that may occur in the project action area, are discussed in Section 7 of this report.

Special-Status Wildlife Species

The following section contains descriptions of special-status wildlife species that may occur in the project action area. Critical habitat has been designated for many of these species but is not mentioned in the species descriptions below unless it occurs within the project action area.

American badgers (*Taxidea taxus*)

American badgers are listed as a special status species by CDFW. American badgers are heavy bodied, short-legged, grayish-colored mammals that have a white medial stripe from nose over the top of the head and down the back. Their feet are black with long front claws for burrowing. They are found in a variety of open, arid habitats, but are most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub. Principal habitat requirements for the species include sufficient prey base, friable soils, and relatively open, uncultivated ground. They are generally found in areas of low to moderate slope. American badgers are carnivorous and feed on fossorial rodents including ground squirrels, cottontail rabbits, jackrabbits, small rodents, and pocket gophers (Stephenson and Calcarone 1999; Laudenslayer and Parisi 2007).

During the wildlife survey for the PSREC Inter-tie Line located four (4) miles south of the project lease area in 2007 and 2010, one adult badger and an active badger burrow complex were recorded west of the Union Pacific Railroad, approximately 6 miles southwest of the project lease area. During the three surveys (September 2019, December 2019, and February 2021) no burrows or dens of suitable size for American badger were observed during field surveys conducted by Sierra staff.

Long-eared Owl (Asio otus)

The long-eared Owl is designated by CDFW as a species of special status. The long-eared owl is one of the most widely distributed and most numerous owl species in the world, and due to its very broad range and numbers it is considered a least concern species by the International Union for Conservation of Nature (IUCN). The long-eared owl is a medium-sized woodland owl. Long-eared owls nest in conifer, oak, riparian, piñon-juniper, and desert woodlands that are either open or are adjacent to grasslands, meadows, or shrublands (Marks et al. 1994). Key habitat components are some dense cover for nesting and roosting, suitable nest platforms, and open foraging areas. Long-eared owls nest mainly in old corvid (e.g., crow, raven) or hawk nests but also in old woodrat and squirrel nests, mistletoe brooms, and natural platforms of (or debris piles in) trees. Long-eared owls forage primarily at night by flying low over open ground, including grasslands, meadows, active or fallow agricultural lands, sagebrush scrub, and desert scrub. They feed almost exclusively on small mammals but opportunistically take other prey, such as small birds and rabbits (Hunting 2008).

In 2007, one active long-eared owl nest was documented along Long Valley Creek, approximately 600 feet upstream (southeast) of the Garnier Road bridge or approximately ten (10) miles from the project lease area. No long-eared owls were observed during the 2019's or 2021 surveys. The project lease area provides no suitable habitats for nesting and roosting. The project lease area only provides potential for foraging areas.

Prairie falcon (Falco mexicanus)

The prairie falcon (Falco mexicanus) is a medium-large sized falcon of western North America. It is about the size of a peregrine falcon or a crow, with an average length of 40 cm (16 in), wingspan of approximately 1 meter (40 in), and average weight of 720 g (1.6 lb). the prairie falcon eats mostly small mammals, some small birds, and reptiles. The prairie falcon catches prey in air and on ground in open areas and usually nests in a scrape on a sheltered ledge of a cliff overlooking a large, open area. Sometimes nests on old raven or eagle stick nest on cliff, bluff, or rock outcrop. Aerial courtship display occurs near nest site. Southeast-facing nest site apparently preferred, but height and orientation secondary to nature and character of the ledge.

The prairie falcon is primarily associated with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. The prairie falcon uses open terrain for foraging and nests in open terrain with canyons, cliffs, escarpments, and rock outcrops. This species typically builds nests in a scrape on a sheltered ledge of a cliff overlooking a large, open area. Diet consists mostly of small mammals, some small birds, and reptiles (CWHR 2020).

Historically, prairie falcons nested on Fort Sage Mountains (CNDDB 2020). In the past, one prairie falcon eyrie was documented in this area on a low cliff ledge approximately 6.2 mile south of the project lease area. This nest site appeared to have been active earlier in 2020, since the scrape was lined with down

feathers and eggshells were present. One prairie falcon was observed just north of Fort Sage Road and south of the project lease area in February 2021. The observed prairie falcon was in flight mode of approximately 100 feet above the ground hunting.

It is assumed prairie falcons commonly nest on or near Fort Sage Mountain based on the historical information, as well as the 2007 and 2010 survey results for Sierra Plumas Intertie Line, and the suitable nesting substrate for this species in this area. The project lease area does not provide adequate habitat for breeding. Project lease area could provide foraging habitat. Project lease area is yearlong range for the prairie falcon.

5. Regulatory Background

Federal Endangered Species Act

The FESA protects plants and wildlife that are listed as endangered or threatened by the USFWS and the NMFS. Section 9 of the FESA prohibits the take of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land, and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16USC1538). Under Section 7 of the FESA, federal agencies are required to consult with the USFWS and/or the NMFS if their actions, including permit approvals or funding, could adversely affect a listed plant or wildlife species or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS and/or the NMFS may issue an incidental take permit allowing take of the species that is incidental to another authorized activity, provided the action will not jeopardize the continued existence of the species. Section 10 of the FESA provides for issuance of incidental take permits to private parties, provided a habitat conservation plan (HCP) is developed.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties devised to protect migratory birds and any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits are in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the Fish and Game Code.

Federal Clean Water Act

The federal Clean Water Act's (CWA) purpose is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into waters of the United States without a permit from the USACE. The definition of waters of the United States includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency also has authority over wetlands and may override a USACE permit. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or Waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board.

California Environmental Quality Act

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into the regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant under CEQA such a case occurs when impacts result

in an adverse alteration of existing conditions, but do not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA directs agencies to consult with the California Department of Fish and Wildlife (CDFW) on projects or actions that could affect listed species, directs the CDFW to determine whether jeopardy would occur, and allows the CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA generally parallels the main provisions of FESA, but unlike its federal counterpart, CESA applies the "take" prohibitions to species proposed for listing (called candidates by the State). "Take" is defined in Section 86 of the California Fish and Game (CFG) Code as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Section 2080 of the CFG Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. CESA allows the CDFW to authorize exceptions to the state's prohibition against take of a listed species (except for designated fully protected species) if the take of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (CFG Code § 2081).

Fully Protected Species

The State of California first began to designate species as fully protected prior to the creation of CESA and FESA. Lists of fully protected species were initially developed to provide protection to those species that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under CESA and/or FESA. The regulations that implement the Fully Protected Species Statute (CFG Code Section 4700) provide that fully protected species may not be taken or possessed at any time. Senate Bill 618, amended in 2011, allows CDFW to issue permits authorizing the incidental take of fully protected species under CESA, as long as any take authorization is issued in conjunction with the approval of a Natural Community Conservation Plan that covers the fully protected species.

California Species of Concern

In addition to formal listing under FESA and CESA, some species receive additional consideration by the CDFW and lead agencies during the CEQA process. Species that may be considered for review are included on a list of species of special concern, developed by the CDFW. The list tracks species in California whose numbers, reproductive success, or habitat may be in decline.

California Fish and Game Code

Section 3503.5 of the CFG Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto". Disturbance activities that result in abandonment of an active bird-of-prey nest in areas adjacent to the disturbance may also be considered a violation of the CFG Code.

California Native Plant Protection Act and California Native Plant Society

The California Native Plant Protection Act of 1977 (CFG Code Sections 1900-1913) affords the California Fish and Game Commission the authority to designate native plants as endangered or rare and protects such endangered or rare plants from take. In addition, plants that are not State listed, but meet the standards for listing are also protected under CEQA (CEQA Guidelines, Section 15380). The California Native Plant Society (CNPS) maintains a list of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The definitions for each of the CNPS listings are below:

Plant Ranks

- List 1A: Plants presumed extinct in California.
- List 1B: Plants rare, threatened, or endangered in California and elsewhere.

- List 2A: Plants presumed extinct in California, but more numerous elsewhere.
- List 2B: Plants rare, threatened, or endangered in California, but more numerous elsewhere.
- List 3: Plants about which we need more information — A review list.

Threat Ranks
- 0.1: Plants are seriously endangered in California
- 0.2: Plants are fairly endangered in California
- 0.3: Plants are not very endangered in California

State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State

In accordance with the Porter-Cologne Water Quality Control Act 6 (Water Code, § 13000 et seq.), the Water Boards are authorized to regulate discharges of waste, which includes discharges of dredged or fill material, that may affect the quality of waters of the state. Waters of the state include some, but not all, features that are defined as wetlands, as well as other features, including the ocean, lakes, and rivers. These Procedures for the Discharges of Dredged or Fill Material to Waters of the State (Procedures) conform to Executive Order W-59-93, commonly referred to as California's "no net loss" policy for wetlands. In accordance with Executive Order W-59-93, the Procedures ensure that the California Water Boards' regulation of dredge or fill activities will be conducted in a manner "to ensure no overall net loss and long-term net gain in the quantity, quality, and permanence of wetlands acreage and values…"

Lassen County General Plan

The Lassen County General Plan wildlife segment establishes goals and policies that aim to protect and enhance the overall health of wildlife habitats and special resource areas to maintain healthy, abundant, and diverse wildlife populations with an ecosystem approach to habitat management which also supports multiple land uses and enhances opportunities for consumptive and non-consumptive uses of wildlife resources recognizing the economic, educational, recreational, and aesthetic benefits that said uses bring to the County.

Required Permits and Approvals

No biological resources permits are required for the proposed Calneva BESS/PSES project.

6. Effects Analysis

The following section describes impacts to habitat types, species, and critical habitat that may result from construction of the project. Temporary and permanent impacts are described for all habitats and species. Additionally, direct and indirect impacts are discussed for each species and critical habitat that may be affected by the project. These types of impacts are described below.

- **Temporary Impacts:** Construction of Calneva BESS/PSES and components of the project will require temporary disturbance of an approximate 250 acres or 90% percent of the site to install pilings. No grading and a low impact construction method will be implemented for 90% of the project lease area. Maintenance of Calneva Road and installation of the power poles within the Calneva right of way will require temporary disturbance to an approximate 40-foot-wide ROW. In certain areas, the ROW may be narrowed to avoid impacts to sensitive habitats and special-status species. In other areas, additional workspace needs may require that the ROW be expanded temporarily beyond the 40-foot widths.

Potential temporary construction impacts may include loss of foraging and/or nesting habitat, decreased habitat value, disturbance of nesting sites, or habitat fragmentation. However, the majority of these impacts will be temporary, as Calneva BESS/PSES plans to restore all disturbed habitats within the project lease area following construction. Temporary impacts resulting from construction activities will be reduced to less than significant levels with the implementation of the avoidance, minimization, and mitigation measures outlined in Section 8 of this report.

- **Permanent Impacts:** The Calneva BESS/PSES project consists of the construction of a electrical substation, battery energy storage system, access/maintenance roads and underground collection cables for electrical collection from the solar panels to the invertors. These project improvements will take approximately 16 acres or 5% of the project lease area. Permanent impacts that may result from project construction are only anticipated where the above-described project improvements (electrical substation, battery energy storage system, and access/maintenance roads) will permanently convert existing habitat.

Permanent impacts to special-status species may consist of loss of suitable foraging, nesting, roosting, breeding, aestivation, or hibernation habitat. However, permanent impacts will be reduced to less than significant levels by avoiding location of permanent structures in sensitive habitat to the maximum extent feasible, by final spatial relationships of the project components responding and reflecting special-status species geography on the project lease aera and properly restoring the project lease area and work areas, and by replacing sensitive habitat features as may be identified in focus blooming surveys through avoidance, restoration, and compensatory mitigation.

- **Direct Impacts:** Direct impacts are defined in the FESA as effects to species or their critical habitat that occur during the implementation of a project. These impacts are likely to result from construction of the project but are not likely to continue once construction is complete.

- **Indirect Impacts:** Indirect impacts are defined in the FESA as effects that occur to species or their critical habitat after implementation of the project is complete. These effects are caused by or result from project activities and are reasonably certain to occur.

Plant Communities and Habitat Types

Project impact is confined to acreages with habitat types as summarized in Table 4.

Table 4: Project Impact Acreages

Habitat Type	Temporary Impact Acreage	Permanent Impact Acreage
Disturbed Habitat	50	5
Desert Sink Scrub	80	11
Alkali Basins/Flats/Playas	148	0.5

Disturbed Habitat

Temporary Impacts

Construction of the project will temporarily impact approximately 50 acres of disturbed habitat (approximately 50 acres of existing dirt roads, natural gas pipelines, railroad right of way). Impacts may include the temporary loss of portions of disturbed areas was they are used for laydown areas. Following construction, a majority of disturbed habitat lands disturbed during installation of the project will be restored to its previous condition or better, including replanting desert sink scrub vegetation. However, some impacts will be permanent, as described below. Calneva BESS/PSES will restore the Calneva ROW as agreed upon with Lassen County following completion of construction activities. Additionally, Calneva BESS/PSES will implement the mitigation measures outlined in Section 8 to minimize potential temporary construction impacts to disturbed habitat.

Permanent Impacts

The construction of the five permanent structures, on disturbed habitat which will include portions of the electrical substation, battery energy storage system, and access/maintenance roads, weather monitoring stations, and maintenance of the permanent ROW on Calneva Road will permanently remove approximately 5 acres of disturbed habitat. Dirt access roads and Calneva Road will be permanently impacted where a 30-foot-wide permanent strip of the permanent ROW centered on electrical infrastructure facilities will be maintained by Calneva BESS/PSES to keep the area free of deep-rooted vegetation for safety purposes.

Desert Sink Scrub

Temporary Impacts

Construction of the project will temporarily impact approximately 69 acres of desert sink scrub habitat. Desert sink scrub will be developed with low impact methods. This area will have pilings driven into the ground to support the solar array axis. No clearing or grading of vegetation or the surface will be conducted in 69 acres of the desert sink scrub. Sensitive areas located in Desert sink scrub such as locations of special status species, or active burrows and nesting will be avoided, or impacts minimized using the mitigation measures outlined in Section 8 of this report.

Permanent Impacts

The construction of the Calneva BESS/PSES electrical substation, battery energy storage system, weather monitoring stations, and access/maintenance roads will permanently remove approximately 11 acres of desert sink scrub habitat. Additionally, Calneva BESS/PSES will implement the mitigation measures outlined in Section 8 to minimize permanent impacts to desert sink scrub habitat.

Alkali Basins/Flats/Playas

Temporary Impacts

Construction of the project will temporarily impact approximately 148 acres of alkali basins/flats/playas

habitat. This habitat type is barren and void of vegetation and does not provide habitat value to special-status plant or wildlife species, except for providing open areas for predators to forage and more success in hunting for species like the prairie falcon or long-eared owl. Alkali basins/flats/playas will be developed with low impact methods. This area will have pilings driven into the ground to support the solar array axis. No clearing or grading of basins/flats/playas will be conducted in the 148 acres of the alkali basins/flats/playas. Sensitive areas located in alkali basins/flats/playas such as locations active burrows and nesting will be avoided, or impacts minimized using the mitigation measures outlined in Section 8 of this report.

Permanent Impacts

Construction of the project will permanently impact approximately ½ acre of alkali basins/flats/playa habitat where the solar arrays pilings are placed and driven into the earth. No other permanent impacts to this habitat type are expected.

Special-status Plant Species

Focused surveys for special-status plant species were conducted on the Calneva BESS/PSES Proposed Project Area. Two qualified botanists performed the presence/absence surveys on April 22, April 30, May 4, and May 15, 2021. The surveys were conducted during April and May and consisted of eight (8) person days of surveys, or approximately eighty (80) person-hours. Surveys were conducted during the peak blooming periods for special status species determined to have potential to occur in the Proposed Project Area. Surveys were floristic in nature. No special status plant species were observed within the Proposed Project Area.

Suitable habitat exists on the Proposed Project Area for the following nine (9) special-status plant species known to occur in the vicinity: Geyer's milk-vetch (*Astragalus geyeri Gray var. geyeri*), Dugway wild buckwheat (*Eriogonum nutans var. nutans*), sagebrush Loeflingia (*Loeflingia squarrosa var. artemisiarum*), intermontane lupine (*Lupinus pusillus var. intermontanus*), lance-leaved scurf pea (*Ladeania lanceolata*), winged dock (*Rumex venosus*), currant-leaved desert mallow (*Sphaeralcea grossulariifolia ssp. grossulariifolia*), many-flowered Thelypodium (*Thelypodium milleflorum*), and Nelson's evening primrose (*Eremothera minor*). These plant species were not observed on the Proposed Project Area during the focused surveys (April 22, April 30, May 4, and May 15); nor were any other special-status plant species.

California Department of Fish and Wildlife (CDFW) requested that the following eight (8) species be targeted during the special status plant surveys since they have been identified within a twelve (12) mile radius of the Proposed Project Area, despite no suitable habitat to support the following special-status plant species being present on the Proposed Project Area: Cruciform evening-primrose (*Camissonia claviformis ssp. cruciformis*), Hillman's Cleomella (*Cleomella hillmanii*), Bailey's Ivesia (*Ivesia baileyi var. baileyi*), ochre-flowered buckwheat (*Eriogonum ochrocephalum*), MacDougal's Lomatium (*Lomatium foeniculaceum var.*), Paiute Lomatium (*Lomatium ravenii*), western seablite (*Suaeda occidentalis Wats*), Kellogg's sand verbena (*Tripterocalyx crux-maltae*), and. These plant species were not observed on the Proposed Project Area during the focused surveys (April 22, April 30, May 4, and May 15); nor were any other special- status plant species.

A protocol blooming survey was conducted in 1994 for the Tuscarora Natural Gas Pipeline on the project lease area and no special status plant species were found at that time. Because special-status plants were not found in protocol-level blooming surveys historically with other projects conducted (*Tuscarora Natural Gas Pipeline, Sierra Plumas Intertie Line, and Alturas Transmission Line*) within the Proposed Project Area and are not likely to have populated in the project lease area since the last focused survey (April and May 2021), temporary, permanent, direct, and indirect impacts to these special status species are not expected to result from the project.

Special-status Wildlife Species

American Badger

Temporary Impacts
Temporary construction impacts to the American badger could include loss of foraging or burrow habitat resulting from pile driving, and grading of the access roads, or den activity disruption resulting from construction noise that causes a loss of young, species harassment, or displacement.

Permanent Impacts
Permanent impacts to the American badger could include direct mortality or permanent loss of foraging or burrow habitat if the project lease area is not properly restored.

Direct Impacts
Direct effects resulting from solar array construction could include habitat destruction resulting in loss of cover or foraging opportunities, den activity disruption resulting from construction noise, displacement, or direct mortality.

Indirect Impacts
Indirect effects could include adverse habitat modification that results in loss of future foraging or burrow opportunities if the project lease area is not properly designed and restored.

Long-eared Owl

Temporary Impacts
Temporary construction impacts to the long-eared owl could include loss of foraging opportunities resulting from pile driving and grading of the access roads, foraging activities disruption resulting from construction noise and activities.

Permanent Impacts
Permanent impacts to the Long-eared owl could include loss of foraging opportunities if the solar arrays obstruct access to the ground during portions of the day if the project lease area is not properly designed and restored.

Direct Impacts
Direct impacts to the Long-eared owl could include loss of foraging opportunities resulting from clearing of the access roads and construction of the solar arrays, foraging activity disruption resulting from construction noise.

Indirect Impacts
Indirect impacts to the Long-eared owl could include adverse habitat modification that results in loss of future foraging opportunities if the project lease area is not properly designed and restored.

Prairie Falcon

Temporary Impacts
Temporary construction impacts to the Prairie falcon could include loss of foraging opportunities resulting from pile driving and grading of the access roads, foraging activities disruption resulting from construction noise and activities.

Permanent Impacts
Permanent impacts to the Prairie falcon could include loss of foraging opportunities if the solar arrays obstruct access to the ground during portions of the day if the project lease area is not properly designed and restored.

Direct Impacts
Direct impacts to the Prairie falcon could include loss of foraging opportunities resulting from clearing of the access roads and construction of the solar arrays, foraging activity disruption resulting from construction noise.

Indirect Impacts
Indirect impacts to the Prairie falcon could include adverse habitat modification that results in loss of future foraging opportunities if the project lease area is not properly designed and restored.

Loggerhead Shrike

Temporary Impacts
Temporary construction impacts to the loggerhead shrike could include loss of nesting or foraging opportunities resulting from driving of pilings for the solar array axis during construction or grading of the access roads, nesting activity disruption resulting from construction noise, or displacement.

Permanent Impacts
Permanent impacts to the loggerhead shrike could include loss of nesting or foraging opportunities if the solar array area is not properly restored, or if suitable nesting shrubs are removed during construction, or direct mortality.

Direct Impacts
Direct impacts to the loggerhead shrike could include loss of nesting or foraging opportunities resulting from pile driving, and grading of access roads, nesting activity disruption resulting from construction noise, or displacement.

Indirect Impacts
Indirect impacts to the loggerhead shrike could include adverse habitat modification that results in loss of future foraging or nesting opportunities if the project lease area is not properly designed and restored.

Operation and Maintenance
Operation and maintenance activities are not expected to have permanent impacts to sensitive habitats or special-status species, as all aboveground structures will be located in fenced yards within previously disturbed areas, alkali basins/flats/playas, or desert sink scrub, and will require minimal maintenance once construction is complete. Routine maintenance will consist of quarterly to annual patrolling (e.g., foot or vehicle), and use of water to clean the solar arrays, and will not require significant disturbance of habitat. Within the project lease area, construction and maintenance vehicles will remain on designated project access routes and existing surfaced roads. Calneva BESS/PSES will implement an ongoing worker education program to educate staff in recognizing and avoiding sensitive habitats in order to minimize impacts during maintenance and operation.

Interrelated and Interdependent Effects
This project activity is not interrelated with any other action, and there are no known interdependent effects.

Cumulative Effects
Cumulative effects include the effects of future state, Tribal, local, or private actions that are reasonably certain to occur in the southeast corner of the Honey Lake Valley considered in this BA. Future federal actions that are unrelated to the proposed action are not considered in this section because they will be subject to separate consultation pursuant to Section 7 of the FESA.

The project may contribute to the cumulative effects to special-status species and their habitats resulting from numerous developments and road expansions that are planned in the region. Planned developments in the area include the Fish Springs Solar Project, Rock Springs Solar Project, and Sierra

Plumas Rural Electric Cooperative Herlong to Fort Sage Intertie Line. In addition, road maintenance and improvements are planned for Calneva Road, and Rainbow Road between the Union Pacific railroad and Fort Sage Road. Gen-tie lines associated with Fish Springs and Rock Springs Solar project are planned for construction in 2022.

These new developments and road improvements are likely to permanently impact the habitats of special-status species, including rare plants and wildlife associated with local habitats found in the Basin and Range of northeastern California, raptors and other avian species that utilize alkali desert scrub, and alkali basins/flats/playas for foraging and roosting. These impacts may include take of special-status species, fragmentation or permanent loss of habitat, or reductions in the quality of habitat.

While the project may contribute to the cumulative effects resulting from new development and road expansion, most of the impacts from the project are temporary, as habitat will be restored to preconstruction conditions following the completion of construction activities. It is likely that many of the habitats temporarily impacted by project construction will be fully restored by the time construction begins for many of the new developments planned in the area.

Cumulative impacts will be minimized by constructing the Calneva BESS/PSES with low impact methodologies (no grading, grubbing only pile driving) access roads to follow existing roadways such that fragmentation of habitat will be minimized. To the extent possible, the project will be constructed in areas that have previously been disturbed, or within alkali basins/flats/playas that do not harbor special status species.

7. Impact Avoidance and Minimization Recommendations

The following mitigation measures will be implemented by Calneva BESS/PSES to avoid or minimize the potential impacts to biological resources that may result from project construction, operation, and maintenance. These mitigation measures have been grouped into two categories: general measures and species- or habitat-specific measures.

General mitigation measures apply to the entire project, and are organized into preconstruction, during construction, and postconstruction measures. General mitigation measures include worker education training, erosion control, ROW restoration, and seasonal construction-timing restrictions.

Specific measures include those that will be implemented for specific species or habitat types, and detail procedures that will be utilized such as special plant species-blooming focus surveys prior to construction, migratory and nesting bird surveys and monitoring, and special status species avoidance and minimization measures.

General Preconstruction

MM 1: Project Maps: Detailed construction maps showing location of sensitive environmental resources, construction sites and related features, environmental protection measures, and access routes will be provided to construction supervisors, and will be available to the construction crew members and environmental monitors prior to during construction activities.

MM 2: Worker Training: Calneva BESS/PSES contractor will provide a qualified biologist(s) to conduct environmental compliance training, including an endangered species/sensitive habitat education program for construction crews prior to the commencement of the project and during construction activities. Additional “tailgate” training will be conducted for new construction personnel as needed during construction. Sessions will include discussions of regulatory requirements, including the federal and California Endangered Species Acts, the CWA, California Department of Fish and Wildlife’s (CDFW) Fish and Game Code, and consequences of noncompliance with these acts and requirements. Training will also include identification of special-status species that are likely to occur in the project area and discussion of the values of sensitive habitats. Training will also brief construction crews on the blooming focus surveys results concerning special status plant species for the project lease area and the findings and mitigation requirements.

MM 3: Educational Brochure: As part of construction training, Calneva BESS/PSES will produce an educational brochure for crews working on the project. Color photos of threatened and endangered species, likely to occur in the area will be included, as well as a discussion of protective measures agreed to by Calneva BESS/PSES and the resource agencies.

MM 4: Exclusion Zone Fencing: Calneva BESS/PSES will mark the boundaries of environmentally sensitive exclusion zones and sensitive habitat features that are to be avoided (active burrows, active nests, special status plant species locations, etc.) before and during construction with highly visible flagging or fencing to prevent impacts from vehicles. All construction personnel will be required to conduct work activities within the defined area only.

MM 5: Vegetation Removal: Calneva BESS/PSES contractor will only remove vegetation within the approved work area. Low impact construction will be adhered to minimize removal of vegetation and restrict grading.

General Construction

MM 6: Work Area: Calneva BESS/PSES will confine all heavy equipment, vehicles, and construction work to approved roads and work areas. Solar array work areas will be limited to what is necessary for construction (Pile Driver). Where possible, construction vehicles will be kept out of the project areas with

the potential to support special-status species. Where these avoidance measures are not feasible, Calneva BESS/PSES will apply for and obtain the appropriate permits prior to construction from the Lahontan Regional Water Quality Control Board (LRWQCB), grading permit and will implement any additional avoidance or mitigation measures that are agreed upon during the grading permit process.

MM 7: Construction Monitoring: Calneva BESS/PSES will retain a qualified biologist(s) to be on-site during construction activities to perform pre-activity surveys just prior to construction in order to clear the work area of any special-status species, and to monitor compliance with mitigation measures.

MM 8: Workday Schedule: To the extent possible, Calneva BESS/PSES will conduct all construction activity during daylight hours only. Where it is deemed necessary and feasible, night lighting and monitors will be used for work that occurs after sundown.

MM 9: Vehicle Inspection: Calneva BESS/PSES will ensure that all construction personnel are instructed to visually check for wildlife beneath vehicles and equipment before moving or operating them.

MM 10: Speed Limit: Calneva BESS/PSES will enforce a speed limit of 15 miles per hour on private roads and the posted speed limit on public roads.

MM 11: Trench Ramping: At the conclusion of each day's trenching or excavating activities, the end of the trench will be ramped at an approximate 2 to 1 slope to allow any wildlife that enters the trench to escape. A biological monitor may approve the use of boards placed at an approximate 2 to 1 slope for site-specific, pre-approved locations where earthen escape ramps are not feasible.

MM 12: Sensitive Habitat Monitoring and Procedures if Listed Species are Found: In accordance with the FESA and CESA, Calneva BESS/PSES will retain a qualified biological monitor to inspect any construction activity in habitat that is to be avoided or preserved to ensure that no unauthorized or unnecessary take of listed species or destruction of their habitat occurs. Upon recommendation of the biological monitor, the Calneva BESS/PSES work supervisor will be responsible for avoiding and stopping all activities that may result in such take or destruction of habitat until appropriate corrective measures have been completed. Calneva BESS/PSES will be responsible for immediately reporting any unauthorized impacts to the USFWS and the CDFW.

MM 13: Trash Cleanup: Calneva BESS/PSES will properly contain and remove all trash and waste items generated by construction or crew activities.

MM 14: Prohibitions for Pets, Fire, Firearms: Calneva BESS/PSES will prohibit employees, contractors, and subcontractors from having pets, campfires, or firearms at the project site. Smoking will be limited to designated smoking areas only.

General Postconstruction

MM 15: Restoration: Calneva BESS/PSES will restore work areas to pre-existing contours and conditions upon completion of work. Restoration, including revegetation and soil stabilization, will be performed as outlined in the Restoration and Monitoring Plan described below.

MM 16: Project Lease Area Restoration Plan: Calneva BESS/PSES will prepare a Restoration and Monitoring Plan to address postconstruction revegetation, success criteria, and monitoring periods in natural areas. The intent of this plan will be to ensure that impacts are minimized and adequately mitigated to the satisfaction of the permitting agencies, property owners, and/or habitat managers. Restoration will result in restoration of temporarily disturbed areas to conditions similar to preconstruction conditions. The Restoration and Monitoring Plan to be developed by Calneva BESS/PSES for review with resource agencies will include, at a minimum, the following measures:

- At the completion of construction activities, the ROW will be graded to restore flow lines and natural topography.

- Ripping or disking will be performed to relieve compaction at identified locations as needed.
- Stockpiled topsoil will be re-spread, providing organic matter and a seed bank for restoration.
- At the completion of soil work, all areas disturbed by construction activities will be subject to implementation of permanent erosion control measures.
- Permanent erosion control measures could include spreading a combination of native grass and forb seed, fertilizer, compost, and mulch for soil protection.
- Seed mixes will be identified, for Desert sink scrub areas and existing disturbed habitat areas.

MM 17: Seed Mix and Success Criteria: In sensitive communities such as Desert sink scrub areas, Calneva's Restoration and Monitoring Plan will include the use of native seed or plantings and will specify native species lists and propagule types, quantities of material, and appropriate success criteria and monitoring requirements to be determined in discussion with the appropriate resource agencies with responsibility for those areas (e.g., Lassen County, CDFW, and/or LRWQCB).

MM 18: Erosion Control: Calneva BESS/PSES will install and maintain appropriate temporary erosion and sediment control measures until revegetation is successful as defined by the success criteria to be outlined in the Restoration and Monitoring Plan.

Special-status and Nesting Birds

MM 19: Bird Nest Surveys and Monitoring: Because construction will take place during the breeding and nesting season of avian species in the project area (typically February 1 through August 31), Calneva BESS/PSES will conduct nesting bird surveys prior to construction for avian species with potential to occur on-site, or where accessible, in areas adjacent to construction. Where nesting migratory birds are found in or near the project area, the birds and their nests will be evaluated by a qualified biologist. If nest disturbance is anticipated, the biologist will ensure adequate mitigation measures are implemented (MM 20).

MM 20: Nesting Birds: In accordance with the MBTA, if an active nest is observed in the project area during construction, Calneva BESS/PSES will stop work within the appropriate buffer for the species and contact the biological monitor immediately. Nest disturbance is dependent on a number of site-specific and activity-specific factors, including the sensitivity of the species, proximity to work activity, amount of noise or frequency of the work activity, and intervening topography, vegetation, structures, etc. Additional mitigation may be required to minimize disturbance of detected nesting activity, such as allowing nesting activity to conclude before continuing construction in an area, restricting certain types of construction practices/activities, creating screening devices to shield nest sites from construction activity, and establishing buffer areas around active nest sites. For inactive nests, measures could include removal and/or handling of nest materials, which will be conducted under the supervision of a qualified biologist.

American Badgers

MM 21: Burrowing American Badger Surveys: Calneva BESS/PSES will retain a qualified biologist to conduct burrowing American badger surveys and to identify any occupied burrows in all project action areas and buffer zones with suitable habitat. These surveys will be conducted not more than 30 days prior to initial ground-disturbing activities. If the survey results are negative (no badger dens observed), no additional work would be necessary. If the results are positive (badger dens observed), the qualified biologist shall install a game camera at the den(s) for three (3) days and three (3) nights to determine if the den is in use. If the game camera does not capture an individual entering/exiting the den, the den can be excavated by hand. If the camera captures badger use of the den, the qualified biologist shall install a one-way door in the den opening and continue use of the game camera. Once the camera captures the individual exiting the one-way door, the den can be excavated by hand.

MM 22: Burrow Avoidance: If occupied burrows are identified during surveys, Calneva BESS/PSES will maintain a buffer of approximately 160 feet from occupied burrows during the nonbreeding season of October through July, and approximately 250 feet during the breeding season of August through September. Occupied burrows will not be disturbed within these buffers during the breeding season, from

August through September, unless a qualified biologist has verified that the badgers have not begun mating, or the offspring from those burrows are foraging independently and capable of independent survival at a given date.

MM 23: American Badger Monitoring Plan: If relocation of burrows is required, Calneva BESS/PSES will prepare an American Badger Monitoring Plan, which will include mitigation success criteria and a timeline for submittal of annual reports to the CDFW. Annual reports will describe the number and locations of relocations, relocation procedures used, and the degree of success.

8. Conclusions and Determination Statements

Conclusion

Potential direct effects resulting from solar array and batter energy storage systems construction include species harassment, displacement, or mortality; habitat destruction; or impacted water quality resulting from accidental hazardous material spills, sedimentation, or altered hydrology. Potential indirect effects include loss or degradation of future habitat functionality or impacted water quality resulting from adverse habitat modification causing future sedimentation and/or altered hydrology.

Potential adverse impacts to these species and their habitats can be minimized or avoided if project conservation measures are implemented. Implementation of appropriate construction BMPs, restricting work to non-sensitive or designated areas, providing environmental awareness to the crew, careful handling of chemicals near waterways, use of non-invasive installation methods, and restoring the site appropriately are general measures that will minimize or avoid the negative effects that may be associated with construction of the project. Additional conservation measures that may avoid or minimize adverse effects to potentially occurring special-status species include avoiding sensitive temporal windows for wildlife, conducting appropriate preconstruction surveys for wildlife species in the project action area, checking for wildlife beneath vehicles and equipment in the project area, restricting construction activities to daylight hours where feasible, and having a qualified biologist on-site for construction monitoring, conducting blooming focused surveys for special status plant species, and pre-construction surveys. Implementation of these measures will greatly reduce the potential for significant impacts to special-status species and their habitats.

Determination statements

Per the FESA, biologists who surveyed the project area recommend the following determinations:

Special Status Plant Species: Special Status Plant Focused Surveys carried out in the blooming season of 2021 did not find any special status plant species on the proposed project area. The proposed project will not affect special status plant species.

Special Status Wildlife Species: Pending results from the 2021 Pre-construction Surveys, the proposed project may affect but is not likely to adversely affect the identified special status wildlife species with mitigation measures incorporated.

Watch List Wildlife Species: Pending results from the 2021 Pre-construction Surveys, the proposed project may affect but is not likely to adversely affect the identified Watch List wildlife species with mitigation measures incorporated.

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Attachment A: Photo Log Exhibits

September 26, 2019 Field Survey Photo Log



Photo 1: View east toward California/Nevada Border on UPRR.



Photo 2: View south down Calneva Road



Photo 3: View southeast across southern half of project lease area



Photo 4: View northeast from UPRR and Calneva Road looking at north section.



Photo 5: View north up Calneva Road from UPRR project lease area east of road.



Photo 6: View west from Tuscarora Natural Gas, Herlong Lateral Tap Valve Assembly, Disturbed habitat on project lease area.



Photo 7: View west southern portion of project lease area.

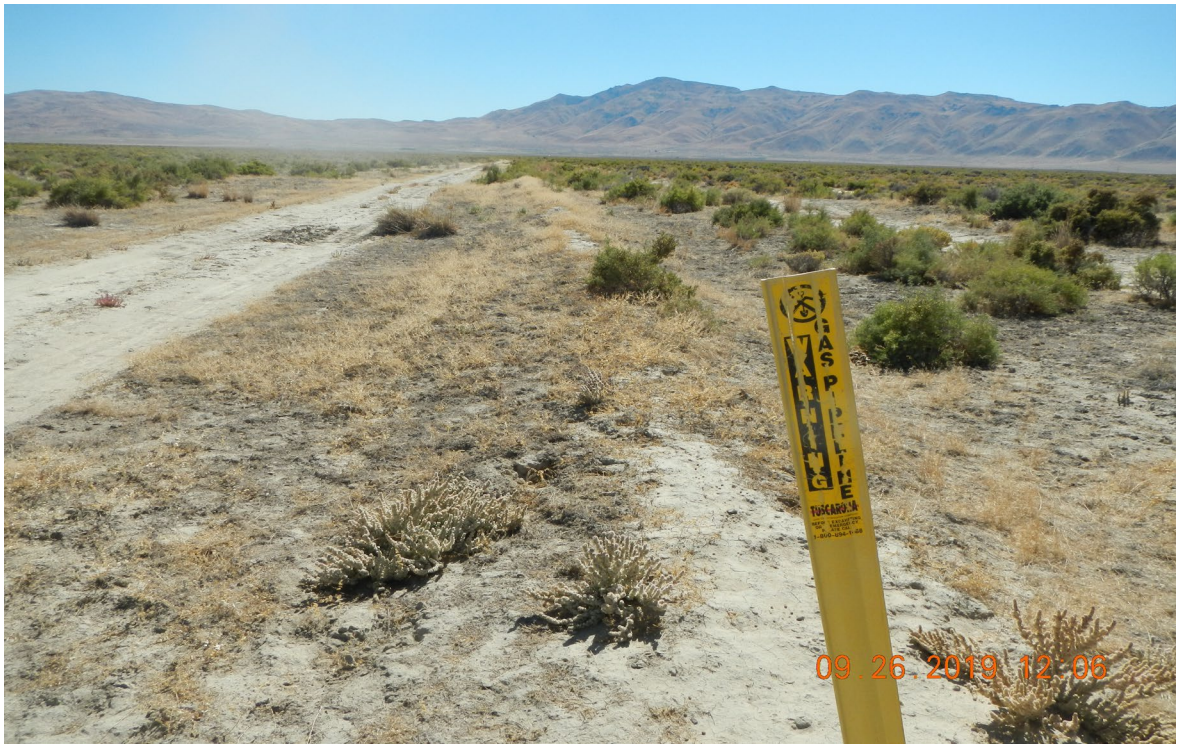


Photo 8: View south along Tuscarora Natural Gas Pipeline alignment in middle of project lease area.

December 20, 2019 Field Survey Photo Log



Photo 1: View southeast from UPRR and Calneva Road just after rain.



Photo 2: View northeast from UPRR and Calneva Road just after rain.



Photo 3: View east along UPRR access easement road south of tracks just after rain.



Photo 4: View south down Calneva Road just after rain with water collecting in low spots of road.



Photo 5: View southwest of UPRR on eastern border just after rain event.



Photo 6: View from southeast corner of property looking northwest just after rain event.

February 26, 2021 Field Survey Photo Log



Photo 1: Abandoned burrow on northwest corner of project lease area.



Photo 2: View east from northern portion of project lease area.



Photo 3: View east from north section of project lease area.



Photo 4: View north toward Calneva Lake in the distance from north section of project lease.



Photo 5: Middle of north section of project lease area view toward the northeast.



Photo 6: View east from middle north section of project lease area.



Photo 7: Wild Horses migrating south of the project lease area.



Photo 8: View of typical alkali basin/flat/playa five (5) days after rain event.



Photo 9: View east along UPRR easement access road on southern portion of project lease area near the middle looking toward border.



Photo 10: View north from north middle area of southern portion of project lease area.

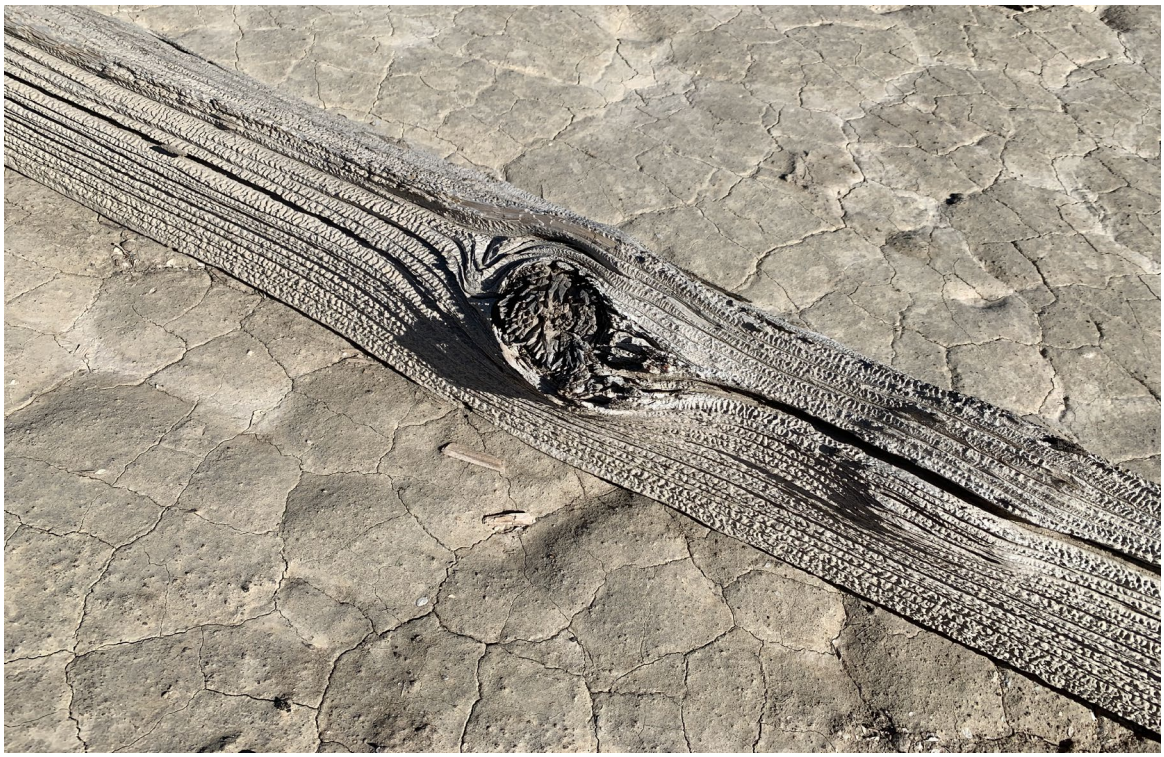


Photo 11: View of salt forming on fallen fence post on north section of project lease area.



Photo 12: View northeast from middle of north portion of project lease area.

Attachment B: CDFW Comment Letters

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Northern Region
601 Locust Street
Redding, CA 96001
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

RECEIVED
NOV 13 2020
LASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES

November 13, 2020

Stefano Richichi, Senior Planner
County of Lassen
Department of Planning and Building Services
707 Nevada Street, Suite 5
Susanville, CA 96130

Subject: Review of the Early Consultation for Initial Study #2020-004 and Use Permit #2020-004 (Hooper), Assessor Parcel Numbers 137-170-12 and 137-170-13, State Clearinghouse Number 2020100366, Lassen County

Dear Mr. Richichi:

The California Department of Fish and Wildlife (Department) has reviewed the Early Consultation dated October 20, 2020, for the above-referenced project (Project). As a trustee for the State's fish and wildlife resources, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and their habitat. As a responsible agency, the Department administers the California Endangered Species Act and other provisions of the Fish and Game Code that conserve the State's fish and wildlife public trust resources. The Department offers the following comments and recommendations on this Project in our role as a trustee and responsible agency pursuant to the California Environmental Quality Act (CEQA), California Public Resources Code §21000 et seq. The following are informal comments intended to assist the Lead Agency in making informed decisions early in the Project development and review process.

Project Description

The Project as proposed is "*to construct a 5O-megawatt photovoltaic solar array and a battery energy storage system (BESS) that would store 25 megawatts or 100 megawatt hours of electricity, along with related infrastructure. Such infrastructure would include a substation, a dead-end tower up to 90 feet tall, 24 130-foot tall steel gen-tie line poles to interconnect with the Plumas-Sierra Rural Electric 120-kV transmission line approximately 3 miles south of the project site, access roads, and perimeter fencing. The project has an approximate footprint of 278 acres, not including the proposed gen-tie lines.*"

The subject parcels are located approximately nine miles northeast of Herlong off Calneva Road, adjacent to the Nevada Border, Assessor Parcel Numbers 137-170-12 and 137-170-13.

Comments and Recommendations

The Department has the following recommendations and comments as they pertain to biological resources:

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Biological Resources

Biological Surveys

Since the Project is proposed in wildlife habitat, the Department will require a basic botanical, wildlife, and habitat assessment (conducted at the appropriate time of the year) to determine whether focused or protocol-level surveys are warranted. The Department recommends all plant and wildlife species identified in the California Natural Diversity Database (CNDDB) and other biological resource databases (U.S. Fish and Wildlife Service, California Native Plant Society, or other pertinent references) be analyzed for the potential to occur within the Project area.

A preliminary query of the CNDDB identified 18 special-status species known to occur within a five-mile radius of the Project including, but not limited to, the following:

Plants

- Lance-leaved scurf-pea (*Ladeania lanceolata*)(California Rare Plant Rank 2B.3)
- Many-flowered thelypodium (*Thelypodium milleflorum*)(California Rare Plant Rank 2B.2)
- Dugway wild buckwheat (*Eriogonum nutans* var. *nutans*)(California Rare Plant Rank 2B.3)
- Kellogg's sand-verbena (*Tripterocalyx crux-maltae*)(California Rare Plant Rank 2B.2)
- Hillman's cleomella (*Cleomella hillmanii* var. *hillmanii*)(California Rare Plant Rank 2B.2)
- Sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*)(California Rare Plant Rank 2B.2)
- Geyer's milk-vetch (*Astragalus geyeri* var. *geyeri*)(California Rare Plant Rank 2B.2)
- Western seablite (*Suaeda occidentalis*)(California Rare Plant Rank 2B.3)
- Intermontane lupine (*Lupinus pusillus* var. *intermontanus*)(California Rare Plant Rank 2B.3)
- Currant-leaved desert mallow (*Sphaeralcea grossulariifolia*)(California Rare Plant Rank 2B.3)
- Cruciform evening-primrose (*Chylismia claviformis* ssp. *cruciformis*)(California Rare Plant Rank 2B.3)
- Macdougal's lomatium (*Lomatium foeniculaceum* ssp. *macdougalii*)(California Rare Plant Rank 2B.2)
- Nelson's evening-primrose (*Eremothera minor*)(California Rare Plant Rank 2B.3)
- Winged dock (*Rumex venosus*)(California Rare Plant Rank 2B.3)
- Ochre-flowered buckwheat (*Eriogonum ochrocephalum* var. *ochrocephalum*)(California Rare Plant Rank 2B.2)
- Paiute lomatium (*Lomatium ravenii* var. *paiutense*)(California Rare Plant Rank 2B.3)

Wildlife

- Long-eared owl (*Asio otus*)(California Species of Special Concern)
- American badger (*Taxidea taxus*)(California Species of Special Concern)

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This list should not be considered comprehensive as additional special-status plant and animal species may occur within the Project vicinity. The CNDDB is a positive sighting database. It does not predict where something may be found. The Department maps occurrences only where we have documentation that the species was found at the site. There are many areas of the state where no surveys have been conducted and therefore there is nothing on the map. That does not mean that there are no special status species present. The next step is to conduct surveys to document what is present and submit the information on special status species to the Department and CNDDB.

Botanical Surveys

A thorough assessment of rare plants and rare natural communities should be conducted following the Department's March 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (https://www.wildlife.ca.gov/conservation/survey-protocols#377281280-plants). As stated in the Protocols, these surveys must be conducted by a qualified botanist during the appropriate time of year to identify species of concern and should include areas with both direct and indirect impacts. Impacts to special status species and sensitive natural communities found during surveys should be analyzed and specific mitigation should be required to reduce any impacts to less than significant.

Nesting Birds

If vegetation removal will be associated with the Project, these activities should be conducted outside of the bird nesting season (generally no work during February 1 – August 31) in order to avoid 'take' as defined and prohibited by Fish and Game Code sections 86, 3503, 3503.5, 3511, and 3513. If work must be conducted during the bird nesting season, a qualified ornithologist (someone who is able to identify Northern California/Great Basin birds, and who has experience in nest searching for passerines and raptors) should thoroughly survey the area no more than seven days prior to tree/vegetation removal to determine whether active nests (nests containing eggs or nestlings) are present. If active nests are found, appropriate buffers should be developed in consultation with the Department to avoid take. The qualified ornithologist should delineate the buffer zone with construction tape or pin flags that should remain in place until the young have fledged, as determined through additional monitoring. These surveys should occur within and surrounding all areas of the Project site in which Project activities take place, including construction and ground disturbance areas, staging areas, areas of fuel modification, ingress and egress routes, and utility routes, and be large enough to encompass areas subject to both direct and indirect Project impacts. Nesting survey results should also be sent to the Department at R1CEQARedding@wildlife.ca.gov, or at California Department of Fish and Wildlife, Attn: CEQA, 601 Locust Street, Redding, California 96001.

Habitat Assessment

American badger has numerous observations in the CNDDB within and adjacent to this Project. The Department recommends as part of the basic biological survey a burrow survey also be conducted to determine if habitat is present for the badger and/or other fossorial specialists.

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Survey Results

All surveys should be conducted prior to approval of the Project and survey results should be sent to the Department at the following address: Department of Fish and Wildlife, Attn: CEQA, 601 Locust Street, Redding, CA 96001 or submitted via email to R1CEQARedding@wildlife.ca.gov. If any special-status species are found during surveys, the Department requests that CNDDB forms be filled out online or sent to Sacramento and a copy of the form be sent or emailed to the Regional office at the above address. Instructions for providing data to the CNDDB can be found at: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data.

Mitigation

Avoidance and mitigation measures for impacts to special-status species and sensitive habitats, if found, should be proposed in subsequent environmental review to avoid any significant effects the Project would have on the species or its habitat. Examples of mitigation measures for special-status species and habitat include, but are not limited to, project modification to avoid the species and its habitat, enhancement of existing onsite habitat, offsite restoration or enhancement of habitat, or onsite/offsite preservation of habitat. Since appropriate botanical surveys were not conducted, it is unknown if those species are present, if they are impacted, or if the impact is significant to warrant mitigation.

If you have any questions, please contact Amy Henderson, Senior Environmental Scientist (Specialist), at (530) 598-7194, or by email at Amy.Henderson@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Curt Babcock
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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Northern Region
601 Locust Street
Redding, CA 96001
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

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DEC 22 2020
LASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES
received by email -SR

December 22, 2020

Stefano Richichi, Senior Planner
County of Lassen
Department of Planning and Building Services
707 Nevada Street, Suite 5
Susanville, CA 96130

SUBJECT: SCH#2020100366 RESPONSE TO DRAFT IS/MND BIOLOGICAL SECTION IS#2020-001 UP#2020004 – HOOPER

Dear Mr. Richichi:

The California Department of Fish and Wildlife (Department) has reviewed the information sent by Sierra Geotech, DBE, Inc. in response to the Department's November 13, 2020, early consultation letter. The Department has the following comments and recommendations:

General Surveys

In our previous letter, the Department requested a basic botanical, wildlife, and habitat assessment conducted at the appropriate time of year. According to the extracted Biological Resources portion of an Initial Study/Mitigated Negative Declaration (IS/MND), Sierra Geotech staff biologist conducted a field survey of the project area on January 7, 2020. The IS/MND stated, "*During the field survey, all biological communities were characterized, and the observed plant and wildlife species were recorded.*" No stand-alone biological report was provided containing these observations.

Initial surveys conducted outside the blooming period for plants or the time of year when most wildlife is active is fine to do in order to determine which, if any, focused surveys will need to be conducted at a later date. However, it appears that Sierra Geotech staff consider this one survey sufficient if pre-construction surveys are completed after Project approval but before construction commences. The Department strongly encourages surveys be conducted at the appropriate time of year prior to project approval and recommends providing a stand-alone biological report that includes a list of plant and wildlife species observed as well as a description of habitats found onsite.

Botanical Surveys

The IS/MND states, "*The Following 5 species were documented in the CNDDB within a 5-mile radius of the proposed project lease areas: (1) American badger (Taxidea taxus); (2) prairie falcon (Falco mexicanus); (3) Dugway wild buckwheat (Eriogonum nutans var. nutans); (4) Hillman's cleomella (Cleomella hillmanii var. hillmanii); and (5) Nelson's evening-primrose (Eremonthera minor). None of which are classified as threatened or endangered species at either the federal or state level.*" The Department submitted an early consultation comment letter with 16 special status plant species queried from the

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California Natural Diversity Database within a 5-mile radius of the Project area (see list below). The fact that these are not state or federally listed species does not preclude them from being analyzed under CEQA. The plants are listed as California Rare Plant Rank 2B.2 or 2B.3. California Rare Plant Ranks 1 or 2 meet the definition of rare or endangered under CEQA Guidelines section 15380, subdivisions (b) and (d). The list of plants and wildlife queried below should not be considered comprehensive as additional special status plant and animal species may occur within the Project vicinity. The CNDDB is a positive sighting database. It does not predict where something may be found. The Department maps occurrences only where we have documentation that the species was found at the site. There are many areas of the state where no surveys have been conducted and therefore there is nothing on the map. That does not mean that there are no special status species present. The next step is to conduct surveys to document what is present and submit the information on special status species to the Department and CNDDB.

Conducting surveys ahead of Project approval is critical in that it allows the Department, land use planning agencies, and project proponents to make educated land use decisions. It also allows for the project proponents ample time to redesign their project to avoid and/or minimize significant impacts, if neccesary. The special status plants provided in the list below have been shown to occur within a 5-mile radius of the Project area within a similar habitat as the Project area. Conducting botanical surveys two weeks prior to the start of construction does not allow the Department or the Lead Agency time to fully analyze potential significant impacts to special status species; therefore, the Department recommends a thorough assessment of rare plants and rare natural communities be conducted following the Department's March 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (https://www.wildlife.ca.gov/conservation/survey-protocols#377281280-plants). As stated in the Protocols, these surveys must be conducted by a qualified botanist during the appropriate time of year to identify species of concern and should include areas with both direct and indirect impacts. Impacts to special status species and sensitive natural communities found during surveys should be analyzed and specific mitigation would be required to reduce any impacts to less than significant.

The list of plants queried from the CNDDB known to occur within a five-mile radius of the Project including, but not limited to, the following:

Plants

- Lance-leaved scurf-pea (*Ladeania lanceolata*)(California Rare Plant Rank 2B.3)
- Many-flowered thelypodium (*Thelypodium milleflorum*)(California Rare Plant Rank 2B.2)
- Dugway wild buckwheat (*Eriogonum nutans* var. *nutans*)(California Rare Plant Rank 2B.3)
- Kellogg's sand-verbena (*Tripterocalyx crux-maltae*)(California Rare Plant Rank 2B.2)
- Hillman's cleomella (*Cleomella hillmanii* var. *hillmanii*)(California Rare Plant Rank 2B.2)
- Sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*)(California Rare Plant Rank 2B.2)

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- Geyer's milk-vetch (*Astragalus geyeri* var. *geyeri*)(California Rare Plant Rank 2B.2)
- Western seablite (*Suaeda occidentalis*)(California Rare Plant Rank 2B.3)
- Intermontane lupine (*Lupinus pusillus* var. *intermontanus*)(California Rare Plant Rank 2B.3)
- Currant-leaved desert mallow (*Sphaeralcea grossulariifolia*)(California Rare Plant Rank 2B.3)
- Cruciform evening-primrose (*Chylismia claviformis* ssp. *cruciformis*)(California Rare Plant Rank 2B.3)
- Macdougal's lomatium (*Lomatium foeniculaceum* ssp. *macdougalii*)(California Rare Plant Rank 2B.2)
- Nelson's evening-primrose (*Eremothera minor*)(California Rare Plant Rank 2B.3)
- Winged dock (*Rumex venosus*)(California Rare Plant Rank 2B.3)
- Ochre-flowered buckwheat (*Eriogonum ochrocephalum* var. *ochrocephalum*)(California Rare Plant Rank 2B.2)
- Paiute lomatium (*Lomatium ravenii* var. *paiutense*)(California Rare Plant Rank 2B.3)

Mitigation measure BIO-5 states that special status plant species surveys will be conducted approximately two weeks prior to the start of construction. It goes on to say that if special status plants are found, fencing will be used to delineate and exclude the plant species from disturbance. If avoidance of special status species cannot occur then additional measures would be implemented including preparation and implementation of a rare plant mitigation program, collecting seed of annual special status plant species and redistributing the seed in suitable habitat on the property in the fall following Project completion, and salvaging all perennial special status plant species and replanting in the fall with supplemental irrigation.

The BIO-5 measure is not a feasible mitigation measure for the following reasons. First, the fencing of the special status species needs a buffer to prevent indirect impacts to the plant population and none is proposed. Secondly, if avoidance of special status species cannot occur and the population is removed, a rare plant mitigation program would be prepared and implemented. This is an MND, not an Environmental Impact Report; therefore, the plan should be written and success criteria proposed for this plan prior to Project approval. Stating a plan will be prepared without success criteria is deferring the mitigation to a future date after the Project has been approved. Third, collecting seed of annual species and replanting them in suitable habitat on the property may not be appropriate depending on the species, site, and the level of disturbance. Solar arrays often change the drainage and sunlight patterns of areas making the area unusable for replanting. Therefore, it is important to know if special status species occur on the site, where they occur, how they can be avoided through redesign, and where there is appropriate habitat to mitigate onsite prior to approval of the Project. Finally, the Department generally considers salvage and relocation (translocation) to be an inappropriate way to compensate for permanent impacts to rare, threatened, endangered, and sensitive native plants (rare plants). Rare plant translocations for mitigation have a low success rate and the Department considers such efforts experimental, unless they have been demonstrated to be effective through long-term experimentation. Successful rare plant translocations require many years of habitat surveys, habitat modeling, site selection, seed collection, plant propagation, site preparation, monitoring, and remedial actions such as management of competing plants, supplemental watering, and

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supplemental planting. Success is not guaranteed, and even translocations that are initially successful may fail to persist over the long term.

Additionally, transplantation efforts do not replace intact ecosystems or maintain the entire range of genetic diversity at the impact site. The presence of rare plants often signifies the presence of biogeographically important sites with unusual soil, microclimate, or other conditions that are not easy to identify and difficult or impossible to duplicate. Loss of genetic material from rare plant translocation may also hinder introduced populations from withstanding changing environmental conditions over time. The most effective way to mitigate for permanent loss of rare plant habitat is therefore to protect and manage existing populations in their natural habitat.

Sensitive Natural Communities

The IS/MND states, "*During the field survey, all biological communities were characterized, and the observed plant and wildlife species were recorded.*" The IS/MND does not mention how the habitats were characterized or which vegetation classification was used. The Department strongly encourages the use of a *Manual of California Vegetation*. The IS/MND describes three types of vegetation: big sagebrush, greasewood scrub, and saltgrass flats. The descriptions, however, are generic and do not represent what is physically present on the ground within the Project area. For example, Acton encelia (*Encelia actoni*) occurs within big sagebrush scrub but does not occur in Lassen County. Greasewood (*Sarcobatus vermiculatus*) and salt grass (*Distichlis spicata*) are listed as occurring on site but if they occur together, that association is considered a Sensitive Natural Community. Further, the description of saltgrass flats in the IS/MND could be describing a wetland. The State Water Resources Control Board describes a wetland[1] as the following:

> *An area is a wetland if: (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation. The Procedures provide the same wetland delineation methods that are used by the Army Corps of Engineers.*

Waters of the State include more aquatic features than Waters of the U.S., which are defined by the federal government. The hydrology of some of the sagebrush areas has large swaths of these playas that "fill" with rainwater and are vital for groundwater recharge in an area that receives little water. A wetland delineation can typically determine if these "playa" areas do in fact hold water.

The Department recommends the descriptions of the vegetation communities be revised to reflect what is present onsite using a *Manual of California Vegetation*. Once the vegetation community is defined, Sensitive Natural Communities can be determined.

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1 https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/wrapp/dredge_and_fill_draft_procedures_fact_sheet_022519_update.pdf

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Sensitive Natural Communities can be found here: https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities. Impacts to Sensitive Natural Communities must be analyzed and addressed in the environmental review process (see CEQA Guidelines checklist, item IV-b). Because vegetation mapping was not conducted, neither the Department nor the Lead Agency can ascertain if there are Sensitive Natural Communities present onsite, precluding the Lead Agency from making an informed decision on the level of significance of this CEQA Guidelines checklist item. The IS/MND did not mention how much of each "vegetation type" existed on site and which communities, if any, would be impacted by Project activities. The Department recommends reevaluating the vegetation mapping performed on the site, identifying the natural communities on the project site, determining which, if any, are identified as sensitive, and determining the level of significance and mitigation based off that analysis. Specific mitigation would be required to reduce any impacts to less than significant.

Wildlife

Two special status species were identified in CNDDB within a 5-mile radius of the project and include, but are not limited to, the following:

- Long-eared owl (*Asio otus*)(California Species of Special Concern)
- American badger (*Taxidea taxus*)(California Species of Special Concern)

Long-eared owl (*Asio otus*)

Based on the breeding habitat of the long-eared owl, the Project does not appear to have adequate habitat. However, the Project does provide foraging habitat. Impacts to foraging habitat should be analyzed in the forthcoming environmental document.

American badger (*Taxidea taxus*)

According to the CNDDB, the American badger has been observed within and adjacent to this Project. The Department had recommended in its early consultation letter a burrow survey be conducted to determine if habitat is present for the badger and/or other fossorial specialists. The project applicant is proposing to conduct burrow surveys as preconstruction surveys approximately two weeks prior to the start of construction. The Department strongly encourages the burrow survey to be conducted prior to project approval in the event there are badgers and/or other fossorial specialists present, allowing for the redesign of the Project to avoid the dens. Impact significance cannot be determined when there is no data to analyze.

Badgers are sensitive to the effects of habitat fragmentation, they have a low reproductive rate, and a high rate of juvenile mortality. Badgers give birth to young underground in March or April. Litter sizes range from one to five with two being the average. The young are born blind and with little fur. Their eyes open at about four weeks, at which time the mother may move them from the natal den closer to hunting areas. Thereafter, the family can be moved almost nightly. The kits are weaned at about six to eight weeks and begin to emerge above ground on their own. Solid prey is brought back to the den by the

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mother, and eventually, young badgers begin to accompany her on hunts. At about three to four months old, young badgers disperse to live in their own burrows. Dispersal typically occurs between July and August. Therefore, mitigation measure BIO-4 needs additional seasonal restrictions so natal dens are not inadvertently filled in and young can disperse. The Department recommends adding in a sentence such as, "Installation of one-way doors shall only be implemented outside of the natal rearing period, typically March through May.

Nesting Bird Survey – BIO-3

This measure states that a qualified biologist shall conduct a nesting bird survey no more than two weeks prior to construction. The Department recommends two be changed to one (1) week prior to construction.

Survey Results

All surveys should be conducted prior to approval of the Project and survey results should be submitted via email to R1CEQARedding@wildlife.ca.gov. If any special-status species are found during surveys, the Department requests that CNDDB forms be filled out online or sent to Sacramento and a copy of the form be emailed to the Regional office at the above address. Instructions for providing data to the CNDDB can be found at: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data.

Mitigation

Avoidance and mitigation measures for impacts to special status species and sensitive habitats, if found, should be proposed in subsequent environmental review to avoid any significant effects the Project would have on the species or its habitat. Examples of mitigation measures for special status species and habitats include, but are not limited to, project modification to avoid the species and its habitat, enhancement of existing onsite habitat, offsite restoration or enhancement of habitat, or onsite/offsite preservation of habitat. Since appropriate botanical surveys were not conducted, it is unknown if those species are present, if they are impacted, or if the impact is significant to warrant mitigation.

If you have any questions, please contact Amy Henderson, Senior Environmental Scientist (Specialist), at (530) 598-7194, or by email at Amy.Henderson@wildlife.ca.gov.

Sincerely,

DocuSigned by:
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Habitat Conservation Program Manager

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Chron

Attachment C: Special Status Plant Survey Report

SIERRA GEOTECH

Special Status Plant Survey Report

for the

Calneva Battery Energy Storage System (BESS) and Photovoltaic Solar Energy System (PSES)

Lassen County, Calneva, California
May 2021



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SIERRA GEOTECH

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1. Summary

Focused surveys for special-status plant species were conducted on the Calneva BESS/PSES Proposed Project Area. Two qualified botanists performed the presence/absence surveys on April 22, April 30, May 4, and May 15, 2021. The surveys were conducted during April and May and consisted of eight (8) person days of surveys, or approximately eighty (80) person-hours. Surveys were conducted during the peak blooming periods for special status species determined to have potential to occur in the Proposed Project Area. Surveys were floristic in nature. No special status plant species were observed within the Proposed Project Area.

Suitable habitat exists on the Proposed Project Area for the following nine (9) special-status plant species known to occur in the vicinity: Geyer's milk-vetch (*Astragalus geyeri Gray var. geyeri*), Dugway wild buckwheat (*Eriogonum nutans var. nutans*), sagebrush Loeflingia (*Loeflingia squarrosa var. artemisiarum*), intermontane lupine (*Lupinus pusillus var. intermontanus*), lance-leaved scurf pea (*Ladeania lanceolata*), winged dock (*Rumex venosus*), currant-leaved desert mallow (*Sphaeralcea grossulariifolia ssp. grossulariifolia*), many-flowered Thelypodium (*Thelypodium milleflorum*), and Nelson's evening primrose (*Eremothera minor*). These plant species were not observed on the Proposed Project Area during the focused surveys (April 22, April 30, May 4, and May 15); nor were any other special-status plant species.

California Department of Fish and Wildlife (CDFW) requested that the following eight (8) species be targeted during the special status plant surveys since they have been identified within a twelve (12) mile radius of the Proposed Project Area, despite no suitable habitat to support the following special-status plant species being present on the Proposed Project Area: Cruciform evening-primrose (*Camissonia claviformis ssp. cruciformis*), Hillman's Cleomella (*Cleomella hillmanii*), Bailey's Ivesia (*Ivesia baileyi var. baileyi*), ochre-flowered buckwheat (*Eriogonum ochrocephalum*), MacDougal's Lomatium (*Lomatium foeniculaceum var.*), Paiute Lomatium (*Lomatium ravenii*), western seablite (*Suaeda occidentalis Wats*), Kellogg's sand verbena (*Tripterocalyx crux-maltae*), and. These plant species were not observed on the Proposed Project Area during the focused surveys (April 22, April 30, May 4, and May 15); nor were any other special- status plant species.

2. Introduction

PROJECT DESCRIPTION

The Proposed Project (Calneva BESS/PSES) will construct a battery electrical storage system (BESS) that would store up to 25 megawatts (MW) or 100 megawatt hours (MWh) of electricity for dispatch into the local grid via the existing adjacent PSREC 120 kV intertie line. The project will also construct 50 MW of solar photovoltaic power generation with the installation of Approximately 143,000 to 163,000 solar PV modules on a single axis track system on the 278 +/- acre Proposed Project Area. The project will also include:

- Electrical inverters and transformers
- Battery energy storage system (BESS)
  - Thirty (30) battery storage enclosures (i.e., 25 MW of power) store up to 25 megawatts (MW) or 100 megawatt hours (MWh) of electricity for dispatch
  - BESS power inverters, transformers switches, MV switchgear, SCADA enclosure,
- On-site electrical substation
- Meteorological stations
- Remote monitoring system (SCADA)
- Site access roads and maintenance access roads
- Security fencing
- Gen-Tie line structures to interconnect with the PSREC 120kV intertie line south of the solar generation site and
- Gen-Tie Laydown Area

PURPOSE OF SPECIAL STATUS PLANT SURVEY REPORT

The purpose of this Special Status Plant Survey Report is to describe the findings of focused plant surveys that were conducted at the Calneva BESS/PSES Proposed Project Area. Focused surveys were conducted to determine whether any special- status plant species are present on the Proposed Project Area that may pose development constraints to the proposed Calneva BESS/PSES project.

Special-status plants include those that are state- or federally listed as Rare, Threatened, or Endangered, proposed for state or federal listing as Threatened or Endangered, are federal Candidate species for listing, or are state and/or federal Species of Concern. In addition, plants included on Lists 1A, 1B, 2, 3, or 4 of the California Native Plant Society (CNPS) are also considered special status.

3. Environmental Setting

GENERAL SITE CHARACTERISTICS

The Calneva BESS/PSES Proposed Project Area is located four (4) miles north of the Fort Sage Road and Calneva Road intersection on the eastside of Calneva Road, in the southern end of the Honey Lake Valley, Lassen County. The Proposed Project Area is approximately 278 +/- acres in size within the parcels identified as Lassen County Assessor's Parcel Numbers (APNs) north half of Proposed Project Area is 137-170-12 (180 acres) and south half of the Proposed Project Area is 137-170-13 (98 acres). Adjacent to the Proposed Project Area, are the following properties and associated land uses: North: A 412-acre vacant open range parcel, owned by the State of California, Calneva Lake, and another vacant open range parcel owned by the State of California of approximately 105 acres in size. South: Vacant open rangeland with two parcels that abut the southern boundary of the Proposed Project Area, one parcel is 160 acres, and the other parcel is 128 acres in size; West: is Calneva Road public right-of-way and then vacant range land approximately six (6) miles to Herlong and the military installation Sierra Army Depot. Two privately owned vacant open range parcels border the western half of the Proposed Project Area one being 275.4 +/- acres in size and the other being 170.1 +/- acres in size; East: is more vacant open range lands and the California/Nevada state border. The entire Proposed Project Area for the proposed Calneva BESS/PSES project is vacant open range land with the Union Pacific (Historical Western Union) railroad corridor which bisects the site in a general east/west direction and provides rail service to the Sierra Army Depot. The Tuscarora natural gas pipeline runs through a portion of the northern half of the Proposed Project Area. The terrain is primarily flat (0-1 percent slopes) throughout the entire Proposed Project Area with an approximate elevation above sea level (asl) on the northwest corner of the BESS/PSES project at 4,006 feet asl, and then experiencing a very slight slope to the east/southeast toward the Nevada State border where the elevation is approximately 4,000 feet asl on the BESS/PSES project eastern boundary. The railroad tracks which bisect the Proposed Project Area in half has an elevation of approximately 4,012 feet asl. (See *Figure 3-1: Project Setting*, shows the surrounding land uses)



PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

N W E S

FIGURE: Project Setting

DATE:	05-18-2020	SCALE:	As Shown
BY:	AKM	FIGURE:	3-1

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PROJECT AREA SOIL TYPE (EPOT-RAGTOWN PLAYAS COMPLEX SOILS)

United States Department of Agriculture, Natural Resources and Conservation Service (USDA NRCS) soils survey designate the entire Proposed Project Area as Epot-Ragtown Playas complex soils. The Sierra Geotech DBA, Inc., geotechnical report dated April 8, 2020, with boring logs, and laboratory testing results which analyzes the soils of the Proposed Project Area provided soil data and indicators which confirmed the soils do not constitute wetland soils. The site is underlain by silty to clean sands with interbedded layers of clayey sands, sandy clays and sandy silts to the maximum depth explored (24.5 feet below the ground surface). The near-surface soils are loose to medium dense and consist predominately of cohesionless sand. The entire Proposed Project Area is made up of Epot-Ragtown Playas complex soils which are a *well-drained* class of soil with a very high runoff characteristic and saline within 40 inches. This soil is incapable of continuous or recurrent saturation of the upper substrate caused by groundwater.

The entire Proposed Project Area displays large amounts of cracking in the soils due to salinization, which is the precipitation of salts in the Proposed Project Area soils and is found mostly in desert soils such as the Epot-Ragtown Playas complex soils of the Proposed Project Area. The most common salts are halite and gypsum, which can form either as clear crystals within soil cracks or as sand crystals that engulf the pre-existing soil matrix. Salts are easily dissolved by rain and so accumulate in regions where there is a marked excess of evaporation over precipitation such as in the Honey Lake Valley where the Proposed Project Area is located. There is a strong relationship between mean annual precipitation and the depth of leaching of salts in soils and appearance of cracks in the soil. Salinized soils are sparsely vegetated or lack vegetation throughout the Proposed Project Area.

PLANT COMMUNITIES

There are only two primary vegetation plant communities observed on the Proposed Project Area. Figure 3-2 shows the plant communities characterization of the Proposed Project Area (*Holland's 36120 Desert sink scrub plant community, and 11300 Disturbed Habitat,*). Figure 3-2 shows the areas of alkali basins/flats/playas which are barren and void of all vegetation, and the Desert sink scrub plant community areas between the alkali basins/flats/playas which can support vegetation. The plant community's characterization types that were identified in the Proposed Project Area are described in detail below, based on Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (1986).

Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California – Desert Sink Scrub and Disturbed Habitat

36120 Desert Sink Scrub is comprised primarily of woody and succulent shrub species from the Goosefoot Family, that persist for periods of years. Desert Sink Scrub Communities are usually situated between Alkali Marsh and Saltbush Scrub Plant Communities. Soils that underly these communities are occasionally salt-encrusted, and highly alkaline. Shrub species common to this community type at the project lease area included: Big sagebrush (*Artemisia tridentata),* bud sagebrush (*Artemisia spinescens*), shadscale saltbush (*Atriplex confertifolia*), downy brome (*Bromus tectorum*), great basin wild-rye (*Elymus cinereus*), spiny hopsage (*Grayia spinosa*), prickly Russian thistle (*Kali tragus*), clasping pepperweed (*Lepidium perfoliatum*), black greasewood (*Sarcobatus vermiculatus*), littleleaf horsebrush (*Tetradymia glabrata*), and interconnected basins also known as alkali basins/flats/playas which are barren of vegetation.

11300 Disturbed Habitat consists mostly of bare dirt and is associated with access roads for the Union Pacific Railroad along the railroad tracks, disturbed areas from the construction and maintenance of the Tuscarora Natural Gas Transmission Pipeline, and several dirt roads for access to the Proposed Project Area that cross the Proposed Project Area.



PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

N W E S

Plant Communities Characterization

DATE:	05-18-2021	SCALE:	As Shown
BY:	AKM	FIGURE:	3-2

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PLANT SPECIES OBSERVED DURING FOCUSED SURVEYS

The following plant species were observed on the focused special status plant surveys between the Alkali basins/flats/playas on slightly raised ground associated with the Desert Sink Scrub plant community. Percent estimates represent land area covered by each taxon, not quantity of individuals. Finally, estimates were made given current dry climate conditions; precipitation would increase the percent cover of fast-growing annual species such as downy brome, clasping pepperweed, and prickly Russian thistle.

- **Big sagebrush (*Artemisia tridentata*).** was most abundant in the southern portion of the Proposed Project Area and comprised approximately 20% of the plant community.
- **Bud sagebrush (*Artemisia spinescens*).** was abundant and comprised approximately 15% of the plant community.
- **Shadscale saltbush (*Atriplex confertifolia*).** was very abundant and comprised approximately 20% of the plant community.
- **Downy brome (*Bromus tectorum*)** was observed at low density as dry culms throughout the Project Lease Site.
- **Great basin wild rye (Elymus cinereus)** was locally observed along a road within the Proposed Project Area and comprised approximately 2% of the plant community.
- **Spiny hopsage (*Grayia spinosa*)** was uncommon and comprised approximately 5% of the plant community.
- **Prickly Russian thistle (*Kali tragus*)** was observed in the most disturbed places and comprised approximately 3% of the plant community.
- **Clasping pepperweed (Lepidium perfoliatum)** was observed at low density as dry stems throughout the Proposed Project Area.
- **Black greasewood (Sarcobatus vermiculatus)** was very abundant and comprised approximately 25% of the plant community.
- **Littleleaf horsebrush (*Tetradymia glabrata*)** Littleleaf horsebrush was locally abundant and comprised approximately 10% of the plant community.

Almost no understory of vegetation was found within the Desert sink scrub plant community within the Proposed Project Area.

SIERRA GEOTECH

SPECIAL-STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR ON THE CALNEVA BESS/PSES PROPOSED PROJECT AREA BASED ON CNDDB AND CNPS DATABASE SEARCH RESULTS

Astragalus geyeri* Gray var. *geyeri
Geyer's milk-vetch
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California
Habitat: Present on Proposed Project Area





Geyer's milk-vetch is an annual herb in the Fabaceae or Leguminosae Family are commonly known as the legume, pea, or bean family, of flowering plants. The Genus is *Astragalus* and Parent is *Astragalus geyeri*. These plants are easily recognized by their fruit and their compound, stipulate leaves. This plant is endemic to the Chenopod scrub and Great Basin scrub plant associations. This annual blooms from May to August and is typically found on sandy flats, depressions within stabilized or mobile dunes, margins of alkaline sandy playas, and in sandy bottomed gullies. It is common in the northwestern section of the Great Basin of Nevada and there is potential habitat within the Proposed Project Area as Lassen County represents the western most extension of this species.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Geyer's milk-vetch northwest of Calneva Lake and the proposed project.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Camissonia claviformis* ssp. *cruciformis
Cruciform evening-primrose
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: ***Not*** Present on Proposed Project Area



Cruciform evening-primrose is an annual herb in the Onagraceae Family which is an evening primrose family.

This plant is endemic to the Chenopod scrub and Great Basin scrub plant associations and is found mostly in clay soils. This annual blooms from May to July and grows in clay soils or rocky slopes or washes in the Modoc Plateau. The Proposed Project Area does not contain suitable habitat of rocky slopes nor clay soils to support this species.



The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Cruciform evening-primrose northwest of Calneva Lake and the proposed project.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

***Eriogonum nutans* var. *n*utans**
Dugway wild buckwheat
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: Present on Proposed Project Area



Dugway wild buckwheat is an annual herb in the Polygonaceae Family of flowering plants known informally as the knotweed family or smartweed—buckwheat family in the United States. This plant is endemic to the Chenopod scrub and Great Basin scrub plant associations and is found mostly in sandy or gravelly soils. The plant blooms from May to September and grows in sand or gravel flats and slopes.



The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Dugway wild buckwheat northwest of Calneva Lake and the proposed project.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Ivesia baileyi* var. *baileyi
Bailey's ivesia
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: ***Not*** Present on Proposed Project Area





Bailey's ivesia is a perennial herb in the Rosaceae Family of medium size family of flowering plants. This plant is endemic to the Lower montane coniferous forest and Great Basin scrub plant associations and is found mostly in volcanic and rocky soils. This perennial plant blooms from May to August and is found in volcanic crevices. There is no potential habitat for this species within the Proposed Project Area.

The species has been known to occupy some portions of the Doyle (602D) 4012011 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2071 of Calflora Survey located Bailey's ivesia, 6 miles southwest of the Proposed Project area which is off the map to the north.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2071

Loeflingia squarrosa* var. *artemisiarum
Sagebrush loeflingia
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California
Habitat: Present on Proposed Project Area





Sagebrush loeflingia is an annual herb in the Caryophyllaceae Family. Caryophyllaceae, commonly called the pink family or carnation family, is a family of flowering plants. It is included in the dicotyledon order Caryophyllales in the APG III system, alongside 33 other families, including Amaranthaceae, Cactaceae, and Polygonaceae. It is a large family, with 81 genera and about 2,625 known species. This plant is endemic to the Desert dunes, Great Basin scrub, and Sonoran Desert scrub plant associations and is found mostly in sandy soils. This annual plant blooms from April through May and is found on sandy, gravelly areas of sand dunes and sand flats in sagebrush scrub.

The species has been known to occupy some portions of the Doyle (602D) 4012011 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2071 of

Calflora Survey located Sagebrush loeflingia 6 miles southwest of the Proposed Project Area which is off the map to the north.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2071

***Lomatium foeniculaceum* var.**
MacDougal's lomatium
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California
Habitat: ***Not*** Present on Proposed Project Area





MacDougal's lomatium is a perennial herb in the Apiaceae Family. Apiaceae or Umbelliferae is a family of mostly aromatic flowering plants named after the type genus Apium and commonly known as the celery, carrot or parsley family, or simply as umbellifers. This plant is endemic to the Chenopod scrub, Great Basin scrub, Lower montane coniferous forest, Pinyon and juniper woodland plant associations and is found mostly in volcanic soils. This perennial plant blooms from April to July and is found in rocky clayey soils in sagebrush communities. The Proposed Project Area does not have suitable soils to support this species.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located MacDougal's lomatium northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Lupinus pusillus* var. *intermontanus
Intermontane lupine
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: Present on Proposed Project Area





Intermontane lupine is an annual herb in the Fabaceae Family. This plant is endemic to Great Basin scrub plant associations and suited to sandy soils. An annual that blooms from May to June in open sandy areas.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Intermontane lupine northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Ladeania lanceolata
Lance-leaved scurf-pea
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: Present on Proposed Project Area



Lance-leaved scurf-pea is a perennial rhizomatous herb in the Fabaceae Family. This plant is endemic to the Great Basin scrub plant associations and suited to sandy soils. This perennial blooms from April to August in sandy soils with a preference for disturbed soils. The Proposed Project Area has limited disturbed areas associated with access dirt roads only.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On May 11, 2004, cch: JEPS109942 was observed by Dean W. Taylor, Consortium of California Herbaria, Calflora Survey located Lance-leaved scurf-pea at the south end of Calneva Lakebed and just ¼ mile north of the Proposed Project Area.

http://www.rareplants.cnps.org/detail/2026.html

Rumex venosus
Winged dock
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: Present on Proposed Project Area



Winged dock is a perennial herb in the Polygonaceae family of flowering plants known informally as the knotweed family or smartweed—buckwheat family in the United States. This plant is endemic to the Great Basin scrub plant associations and is found mostly in sandy soils. This perennial blooms in May and June in dry, sandy soils, preferably in disturbed areas. In California it is found only in the Honey Lake valley. The Proposed Project Site has limited disturbed areas associated with access dirt roads only.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Winged dock several miles northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Sphaeralcea grossulariifolia* ssp. *grossulariifolia
Currant-leaved desert mallow
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: Present on Proposed Project Area



Currant-leaved desert mallow is a perennial herb in the Malvaceae family. Malvaceae, or the mallows, is a family of flowering plants estimated to contain 244 genera with 4225 known species. This plant is endemic to the Chenopod scrub and Great Basin scrub plant associations and is found mostly in volcanic soils. This perennial blooms between the months of May and August and found in dry alkaline or volcanic soils.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located currant-leaved desert mallow several miles northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

***Suaeda occidentalis* Wats**
Western seablite
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: ***Not*** Present on Proposed Project Area



Western seablite is an annual herb in the Chenopodiaceae family. The Chenopodioideae are a subfamily of the flowering plant family Amaranthaceae in the APG III system, which is largely based on molecular phylogeny, but were included - together with other subfamilies - in family Chenopodiaceae in the Cronquist system. This plant is endemic to the Great Basin scrub plant association and is found mostly in alkaline and mesic soils. This annual blooms from July to September in dry, saline, or alkaline wetland soils. This species may occur regionally but are associated with habitat (alkaline wetland soils) not present within the Proposed Project Area.

The species has been known to occupy some portions of the Doyle (602D) 4012011 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2071 of Calflora Survey located Western seablite 6 miles southwest of the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2071

Thelypodium milleflorum
Many-flowered thelypodium
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California
Habitat: Present on Proposed Project Area



Many-flowered Thelypodium is a perennial herb in the Brassicaceae Family. The Brassicaceae are a medium sized flowering plant commonly known as the mustards, the crucifers, or the cabbage family. This plant is endemic to the Chenopod scrub and Great Basin scrub plant associations and is found mostly in sandy soils. This perennial blooms April to June in sandy soils.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn

2068 of Calflora Survey located Many-flowered Thelypodium northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Cleomella hillmanii
Hillman's cleomella
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California
Habitat: ***Not*** Present on Proposed Project Area



Hillman's Cleomella is an annual herb in the Cleomaceae Family. The Cleomaceae are a small family of flowering plants in the order Brassicales, comprising about 300 species in 10 genera, or about 150 species in 17 genera. This plant is endemic to the Chenopod scrub and Great Basin scrub plant associations and is found mostly in clay soils. This annual blooms from April to June in clay soils which are not found on the Proposed Project Area.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Hillman's cleomella several miles northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Tripterocalyx crux-maltae
Kellogg's sand verbena
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California
Habitat: ***Not*** Present on Proposed Project Area



Kellogg's sand verbena is a perennial herb in the Nyctaginaceae family. The Nyctaginaceae family has a unique fruit type, called an "anthocarp" and many genera have large pollen grains. This plant is endemic to the Great Basin scrub plant association and is found mostly in fully or partially stabilized sand dunes. This perennial blooms May to July in partially or fully stabilized sand dunes. The Proposed Project Area contains no partially or fully stabilized sand dunes.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Kellogg's sand verbena several miles northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Eremothera minor
Nelson's evening primrose
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: Present on Proposed Project Area



Nelson's evening primrose is an annual herb in the Onagraceae family. The Onagraceae are a family of flowering plants known as the willowherb family or evening primrose family. This plant is endemic to the Chenopod scrub and Great Basin scrub plant associations and is found mostly in sandy soils. This annual blooms from April to July.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Nelson's evening primrose several miles northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Eriogonum ochrocephalum
Ochre-flowered buckwheat
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California
Habitat: ***Not*** Present on Proposed Project Area



Ochre-flowered buckwheat is a perennial herb in the Polygonaceae family. The Polygonaceae are a family of flowering plants known informally as the knotweed family or smartweed—buckwheat family in the United States. This plant is endemic to the Great Basin scrub and Pinyon and juniper woodland plant associations and is found mostly in volcanic and clay soils. This perennial blooms May to June in volcanic or clay soils which are not found in the Proposed Project Area.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Ochre-flowered buckwheat several miles northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Lomatium ravenii
Paiute lomatium
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: ***Not*** Present on Proposed Project Area



Paiute lomatium is a perennial herb in the Apiaceae family. The Apiaceae are a family of mostly aromatic flowering plants named after the type genus Apium and commonly known as the celery, carrot or parsley family, or simply as umbellifers. This plant is endemic to the Great Basin scrub, plant association and is found mostly in rocky, gravely, volcanic with underlying clay soils. This perennial blooms April to June in rocky, gravely, volcanic with underlying clay soils which are not found in the Proposed Project Area.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Paiute Lomatium several miles northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

4. Special-Status Plants Focused Survey Methodology

DATA BASE SEARCTH

Before conducting the special-status plant focused surveys, information on the known distributions of threatened, endangered, and other special-status plants that may occur in the Proposed Project Area and nearby vicinity (up to twelve 12 miles) was collected from several sources and reviewed. The sources included the California Department of Fish and Wildlife's (CDFW's) California Natural Diversity Database (CNDDB) (2021), the Jepson Manual, Vascular Plants of California 2nd Edition (Baldwin et al. 2012), the California Native Plant Society's (CNPS's) Inventory of Rare, Threatened, and Endangered Plants of California (2021), Calphotos, Cal Berkeley Photo Database (2021) and Calflora (2021), and the Michigan

State University Herbarium (2021). The collected information was used to direct the efforts and timing of focused special-status plant surveys on the Proposed Project Area.

Our assessment of the potential for special-status plant species to occur on the Proposed Project Area is based on the proximity of the Proposed Project Area to recorded occurrences, on-site vegetation and habitat characteristics, topography, elevation, soils, surrounding land uses, previous documentation of biological resources on site, and known habitat preferences and geographic ranges of special-status plant species known to occur in the region. The results of this assessment form the basis for the species listed in Section 3 above. In addition, we reviewed past rare plant and wetland delineation surveys which were conducted by Hafen Environmental (Botanists Jeanene Hafen, John Hafen, William Harnach, and Nancy Harnach) 2007, 2008, 2010, for the Plumas Sierra Rural Electric Cooperative (PSREC) inter-tie line which is a portion of the Proposed Project Area. We reviewed the Aspen Environmental rare plant, and wetland delineation surveys for the Sierra Pacific Power Company, Alturas Transmission Line Project, which had several segments within the Proposed Project Area in 1995. We also reviewed URS's rare plant, wetland delineation surveys for Tuscarora Gas Transmission Company, for the Tuscarora Gas Pipeline in 1994 which traverses the Proposed Project Area.

PRESENCE/ABSENCE SPECIAL STATUS PLANT SURVEYS

To accurately determine whether special-status plants identified in Section 3 above actually occur on the Proposed Project Area, presence/absence surveys were conducted during the appropriate blooming periods for each special-status plant species. The methodology used for performing focused surveys followed the California Department of Fish and Wildlife's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*, dated March 20, 2018, and the CNPS revised June 2, 200,1 *Policy on Botanical Survey Guidelines of the California Native Plant Society (*Guidelines*)*. These Guidelines were utilized to implement the proper methods for performing plant surveys, considering the environmental impacts that may occur as a result of new Calneva BESS/PSES development, and developing the type of mitigation necessary to reduce project-related impacts to special-status plants.

Two qualified botanists performed the presence/absence surveys on April 22, April 30, May 4, and May 15, 2021. The surveys were conducted during April and May and consisted of eight (8) person days of surveys, or approximately eighty (80) person-hours. Surveys were conducted during the peak blooming periods for special status species determined to have potential to occur in the Proposed Project Area. Surveys were floristic in nature. All plants observed were identified using The Jepson Manual (Hickman 1993) to the taxonomic level necessary to determine whether they were rare. The rare plant surveys were preceded by habitat mapping field studies in September 2019, December 2019, and February 2021which covered the entire Proposed Project Area (see Biological Resources Assessment Report, Sierra Geotech, May 2021). This prior work allowed Sierra Geotech to identify habitats with potential to support the rare plant species which is where the focused surveys occurred in detail.

The botanists walked the extent of each plant community and habitat that was determined to be suitable for supporting the special-status plant species shown in Section 3: Environmental Setting, subsection "*Special-Status Plant Species with potential to occur on the Calneva BESS/PSES Proposed Project Area on CNDDB and CNPS Database Search Results*" above**.** The entire Proposed Project Area was walked with transects no more than 20 feet apart. Sierra Geotech botanists collected plant specimens of all species documented in the Proposed Project Area for identification.

5. Results

DATABASE SEARCH RESULTS FOR SPECIAL-STATUS PLANT SPECIES

Section 3: Environmental Setting, subsection "*Special-Status Plant Species with potential to occur on the Calneva BESS/PSES Proposed Project Area on CNDDB and CNPS Database Search Results*" includes all special-status plant species identified as occurring in the project region based on a review of the

CNDDB and CNPS databases and the results of focused surveys during the appropriate blooming periods for those with potential to occur on site.

PRESENCE/ABSENCE PLANT SURVEY RESULTS

No special-status plants were observed on the Proposed Project Area during the focused surveys which were conducted during the appropriate blooming periods.

The common species observed on the Proposed Project Area are listed in Section 3: Environmental Setting, subsection "*Plant Species Observed During Focused Surveys*". The vascular plant nomenclature used in Section 3: Environmental Setting, subsection "*Plant Species Observed During Focused Surveys*" follows "The Jepson Manual" and the World Wide Web internet site: http://ucjeps.berkeley.edu.

6. Conclusion

No special-status plant species were observed on the Proposed Project Area. Since both 2021 presence/absence plant surveys were performed during the appropriate blooming period for all of the potentially occurring special-status plant species known to occur in the region (within twelve (12) miles of the Proposed Project Area), and because the extent of the site was traversed by foot in appropriate habitats for supporting special-status plant species; and the site was geotagged with digital /images of the plant life on site; and plant specimens collected for identification; no special-status plant species are expected to occur on the Proposed Project Area.

7. References

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ATTACHMENT 7

SIERRA GEOTECH

Preliminary Report of Geotechnical Investigation

TYPE OF SERVICES	Preliminary Geotechnical Engineering Services
PROJECT NAME	Calneva Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project (Calneva BESS/PSES)
LOCATION	NE Corner of Calneva Rd & County Route 8283 Calneva, CA APN: 137-170-12-11 & 13-11
SIERRA GEOTECH PROJECT NO.	RL2020-037
DATE DOCUMENT ISSUED	April 8, 2020

Preliminary Report of Geotechnical Investigation

TYPE OF SERVICES	Preliminary Geotechnical Engineering Services
PROJECT NAME	Calneva Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project (Calneva BESS/PSES)
LOCATION	NE Corner of Calneva Rd & County Route 8283 CalNeva, CA APN: 137-170-12-11 & 13-11
SIERRA GEOTECH PROJECT NO.	RL2020-037
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SIERRA GEOTECH

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SIERRA GEOTECH

1. INTRODUCTION

1.1. CALNEVA BESS/PSES PROJECT

This report presents the results of a geotechnical investigation undertaken for Calneva Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project (Calneva BESS/PSES) near CalNeva, CA. Dr. Charles Hooper, DO, CDR (RET) MC USN, the landowner, is proposing to develop a BESS/PSES facility on approximately 278 acres +/- acres on Lassen County Assessor's Parcel Numbers (APNs) 137-170-12, (180 acres) and 137-170-13, (98 acres) located immediately east of Calneva Road and four (4) miles north of the intersection at Calneva Road and Fort Sage Road in Lassen County, California, within the area of Lassen County known as Calneva (*See Figure 1: Vicinity Map*). The Calneva BESS/PSES Project would be a nominal 50-megawatt (MW) solar photovoltaic (PV) power facility, related substation, with an integrated battery energy storage system (BESS). The BESS would store 25 megawatts (MW) or 100 MW hours of electricity, to provide renewable energy and critically needed flexibility attributes needed to advance California's and Nevada's Renewable Portfolio Standard (RPS) goals, climate policies, and to enhance electrical grid reliability (*see Figure 2: Project Site Boundaries*).

1.2. SIERRA GEOTECH SCOPE OF WORK

Our geotechnical scope of work consisted of the following items:

1) Review of existing information including readily available geologic maps, literature, and geotechnical reports,
2) Obtaining a permit from the Lassen County Environmental Compliance Division,
3) Engaging a drilling contractor,
4) Preparing a health and safety plan for the on-site activities,
5) Conducting a site reconnaissance and locating the proposed soil boring locations in the field,
6) Notifying Underground Service Alert (USA) prior to commencing exploration activities to identify any public utility alignments that may conflict with the proposed boring locations,
7) Advancing fourteen (14) borings within the footprint of the proposed structure, using a truck-mounted, hollow stem auger/mud rotary drill rig,
8) Laboratory testing of select samples from the exploration to evaluate the engineering properties of the encountered subsurface soils, and
9) Preparing a geotechnical report discussing the following topics:

    - Site description and local geology
    - Geologic maps
    - Exploration plan
    - Description of exploration activities and laboratory testing
    - Summary of observed subsurface conditions
    - Description of relevant site seismic conditions
    - Pavement recommendations
    - Foundation recommendations
    - Subgrade preparation recommendations

- Seismic site class determination

Please note, a site-specific seismic hazard study for the development of design ground motion time histories and development of site response spectra has not been performed. As such, the site-specific seismic hazard study will be provided as a separate report at a later date.

2. GENERAL GEOLOGY

2.1. REGIONAL GEOLOGY

Sierra Army Depot is located in the Honey Lake Valley which is a transition area between the Sierra Nevada geologic province to the south and west, the Basin and Range geologic province to the east, and the Modoc Plateau to the north. The Sierra Nevada mountains were formed by large intrusions of molten granitic rock during Mesozoic time. Subsequent faulting during Tertiary time raised the mountain range to its present position. The Diamond Mountains, on the southwestern side of the basin, are a northern extension of the Sierra Nevada Mountains. The Basin and Range Province was formed by numerous north-south trending normal faults which formed the horst and graben morphology of most of Nevada. Most of the displacement on these faults occurred during Tertiary time, although earthquake activity continues to the present in much of the Basin and Range Province. The Modoc Plateau is characterized by Tertiary to Quaternary age volcanic rocks exhibiting volcanic landforms such as shield volcanoes, caves, vents, and extensive flat lying lava flows (flood basalts). The mountain ranges in eastern California and western Nevada are primarily composed of Mesozoic or Early Tertiary intrusive and Tertiary to Quaternary age volcanic rocks. The intervening basins consist of deep accumulations of Early Cenozoic to Quaternary age sediments. Many of the Basins, such as Honey Lake, are closed with no external drainage outlets resulting in playa lakes and lacustrine (lake) deposits in the basin floor, commonly with a high percentage of volcanic ash and diatoms; and shore deposits of sand near the edges of the former lake.

During the Pleistocene Epoch, the ancestral Lake Lahontan covered all of the Honey Lake Valley, as well as much of the western Basin and Range province. Virtually all of the Honey Lake basin was covered by water until about 12,500 years ago. With the beginning of the recent Epoch, the climate of the region gradually became more arid. Lake Lahontan slowly dried up until today only a few remnants are left, such as Honey Lake and Pyramid and Walker Lakes in Nevada. Fault scarps that offset the former floor of this lake or the shorelines thus are likely to have formed during Holocene (post 11,000 year before present) time. Deposits that overlie or are incised into Lake Lahontan deposits arc similarly Holocene in age.

2.2. SITE GEOLOGY

A preview of geologic map (Preliminary Geologic Map of Susanville 30' × 60' Quadrangle, California, *Figure 3: Geologic Map*) shows the majority of the 279-acre site to be underlain by sand sheet and sand bar deposits, fluvial and lacustrine fan-delta deposits of Long Valley Creek (Pleistocene Epoch). These deposits generally consist of arkosic sand, gravel, and silt. Majority of the site is underlain by Holocene age eolian, fluvial, and lacustrine deposits consisting of sand, silt, and clay mainly derived from reworking Lake Lahontan sediments. The total depth of

sediments in the Honey Lake Valley is probably on the order of thousands of feet and generally consists of sand, silt, and clay.

2.3. CURRENT SITE CONDITIONS

The site is presently undeveloped. The project is bordered by undeveloped land to the east, north and south, CalNeva Road to the West. No graded roads extend into the site. An unimproved road has been graded around the west, north and south sides of the site. A railroad track traverses east to west bifurcating the site (Union Pacific Winnemucca Subdivision (4487490)). Vegetation consists of a medium to tall cover of native desert brush and grasses (*See Figure 4: Site Photo*). The terrain is primarily flat (0-2 percent slopes) throughout the entire proposed project lease area with an approximate elevation above sea level (asl) on the northwest corner of the BESS/PSES project lease area at 4006 feet and then experiencing a very slight slope to the east/southeast toward the Nevada State border where the elevation is approximately 4,000 feet asl on the BESS/PSES project eastern boundary. The railroad tracks which bisect the proposed project lease area in half has an elevation of approximately 4012 feet asl. The ground surface slopes to the north and northeast. Drainage on the site consists of overland flow. Access to the project site is provided by CalNeva Rd.

3. GEOTECHNICAL EXPLORATION

3.1. GENERAL

Our geotechnical exploration consisted of advancing fourteen (14) borings. *Figure 5: Boreholes Location Map* shows the locations of borings. The geotechnical exploration was undertaken on February 5, 2020, and February 6, 2020. Prior to undertaking borings, Underground Service Alert was notified to identify underground utilities at all test locations. In addition, every test location was also cleared before drilling using geophysical instruments. No utilities were encountered at our drill sites. Drilling and soil sampling were performed under the field supervision of our geotechnical engineering professionals, including a field technician and principal-in-charge.

3.2. BORINGS

Borings were advanced in general accordance with ASTM D6151 (Standard Practice for Using Hollow-Stem Augers (HSA) for Geotechnical Exploration and Soil Sampling). Disturbed bulk samples and Standard Penetration Test (SPT) samples were obtained from soil borings. Bulk samples of near-surface soils were obtained from select locations for compaction testing. SPT samples were obtained continuously down to 24.5 feet. Samples were collected in general accordance with ASTM D1586 (Standard Test Method for Penetration Test and Split-Barrel Sampling of Soils). Samples were classified in the field using the Unified Soil Classification System, in accordance with ASTM D2488 (Standard Practice for Description and Identification of Soils [Visual-Manual Method]). Soil samples were removed from the samplers, placed in appropriate containers, and transported in accordance with ASTM D4220 (Standard Practice for Preserving and Transporting Soil Samples). Field classifications were confirmed or modified based on results of laboratory testing for presentation on the boring logs in Appendix B. Following the completion of drilling and sampling; the borings were backfilled with neat cement grout in

accordance with the County of Lassen Environmental Management Department (EMD) requirements. The list of borings is presented in Table 1.

Table 1: Summary of borings

Boring ID	Station*	Offset*	Top of Boring (Elevation in feet)#	Depth (in feet)	Bottom of Boring (Elevation in feet)
SG-101	5+55.6'	-504.2'	4006.0	24.5	3981.5
SG-102	9+79.3'	1219.5'	4005.5	24.5	3981.0
SG-103	16+38.0'	-662.1'	4005.1	24.5	3980.6
SG-104	25+40.2'	-912.4'	4004.5	24.5	3980.0
SG-105	32+77.7'	-771.2'	4004.0	24.5	3979.5
SG-106	37+87.2'	-633.0'	4001.1	24.5	3976.6
SG-107	44+31.5'	-626.9'	4000.6	24.5	3976.1
SG-201	1+64.2'	282.5'	4005.5	24.5	3981.0
SG-202	7+39.1'	509.9'	4005.0	24.5	3980.5
SG-203	15+99.6'	376.9'	4004.5	24.5	3980.0
SG-204	23+37.3'	743.8'	4004.2	24.5	3979.7
SG-205	30+06.3'	479.4'	4003.6	24.5	3979.1
SG-206	37+01.8'	572.0'	4002.5	24.5	3978.0
SG-207	41+53.5'	1041.9'	4001.0	24.5	3976.5

*See Figure 5 for Project Baseline Stations and Offsets

- Elevations are approximate. Not surveyed.

4. RESULTS OF GEOTECHNICAL EXPLORATION

4.1. SUBSURFACE SOIL CONDITIONS

The following summarizes the results of our field exploration. For a more detailed description of subsurface conditions at the locations explored, please see the boring logs and laboratory test results.

The site is underlain by silty to clean sands with interbedded layers of clayey sands, sandy clays and sandy silts to the maximum depth explored (24.5 feet below the ground surface). The near-surface soils appear to be loose to medium dense and consist predominately of cohesionless sand. Standard Penetration Test "N" values generally range from 4 to 16 blows per foot of

penetration. Below approximately 19 feet, the soils become medium dense to dense, with "N" values generally between 22 to 36 blows per foot of penetration.

The laboratory test results indicate that the site soils are generally classified as SM, SP, ML, and SC materials according to the Unified Soil Classification System. The percentage of fines material (passing the No. 200 sieve) was generally 20 percent or less. Plasticity Index values were also generally less than 20 percent.

4.2. GROUNDWATER

Groundwater was not encountered at any of our test locations (termination depth of 24.5 feet). Groundwater contour data from California Department of Water Resources (DWR) Groundwater Information Center GIS database was researched but no data was available for the site. While groundwater was not encountered during our exploration it is estimated based on publicly available information that the ground water ranges in depths from 30 to greater than 60 feet below the ground surface.

According to the California Department of Water Resources online GIS tool available at wdl.water.ca.gov, there are two (2) monitoring wells within the vicinity of the project site. The recent groundwater level data and historical groundwater level data indicate the depth to ground water level as being fairly steady throughout the year at approximately 25 to 30 feet below the existing ground surface (bgs). The monitoring well IDs are 401555N1200189W001 and 401412N1200073W001.

4.3. LABORATORY TESTING

As part of Sierra's scope of work, laboratory tests were undertaken on select soil samples, including natural moisture content, Atterberg limits and particle size distribution. The results of laboratory testing are presented in *Appendix D*.

4.4. FIELD MEASUREMENTS OF SOIL RESISTIVITY

Field Measurements of soil resistivity were performed in general accordance with ASTM Test Method G-57, and IEEE Standard 81, using the Wenner Four- Electrode Method. The soil resistivity testing was performed near the center of the test locations identified on the exploration plan for this project. The Wenner arrangement (equal electrode spacing) was used with the "a" spacing incrementally increasing. The "a" spacing is generally considered to be the depth of influence of the test.

A total of ten (10) in-situ electrical resistivity tests were performed at the project site with "a" spacings of 1, 1.5, 2, 3, 5, 7, 10, 15, 20, 30, 50, 70, and 100 feet. Test results are presented in the table below:

Table 2: Apparent Resistivity Measurements

Apparent Resistivity (Ohm-cm)									
Spacing (ft)	**ER-1**	**ER-2**	**ER-3**	**ER-4**	**ER-5**	**ER-6**	**ER-7**	**ER-8**	**ER-9**
1	8,625	41,589	38,637	22,455	33,725	28,832	7,912	25,274	39,650
1.5	8,223	40,355	37,445	21,883	30,779	26,540	7,639	22,860	36,984
2	7,835	38,474	35,823	21,255	28,452	24,585	7,490	20,120	36,315
3	7,567	37,021	34,196	20,647	27,412	22,664	7,342	18,754	33,541
5	7,402	34,180	32,616	20,119	25,963	21,204	7,147	16,579	30,054
7	7,078	32,561	30,981	19,597	24,827	19,007	7,003	14,136	28,006
10	6,883	29,568	30,017	18,978	22,128	18,222	6,888	10,881	26,994
15	6,714	26,283	29,021	18,195	19,990	15,385	6,705	10,079	24,562
20	6,526	25,739	28,167	17,597	17,037	14,266	6,596	8,589	21,687
30	6,357	22,548	27,254	16,989	15,417	11,993	6,468	6,103	20,832
50	5,940	20,149	26,329	16,377	12,231	8,879	6,202	4,467	18,899
70	5,444	2,100	24,980	15,707	8,972	5,754	5,920	2,242	15,993
100	5,310	272	23,557	14,976	5,912	3,924	5,639	718	15,477

4.5. LAB MEASUREMENTS OF CORROSIVITY

The table below lists the results of laboratory soluble sulfate, soluble chloride, electrical resistivity, and pH testing.

Table 3: Corrosivity Measurements

Boring	Sample Depth (feet)	Soil Description	Soluble Sulfate (ppm)	Soluble Chloride (ppm)	Electrical Resistivity (Ω-cm)	pH
SG-3	2.5	SM	206	138	671	8.11
SG-5	2.5	SM	16	39	16,528	7.79
SG-9	2.5	SM	31	39	13,986	7.93

5. GEOLOGIC HAZARDS

5.1. FAULTING AND SURFACE FAULT RUPTURE

The site is in a seismically active area. The estimated distance from the site to nearby mapped active faults is presented in the table below. A map showing earthquake epicenters and major active faults is presented in *Figure 6: Earthquake Epicenters & Major Active Faults*. The site is located within mapped Alquist-Priolo Earthquake Fault Zones. *See Figure 7: Alquist-Priolo Earthquake Fault Zones.*

Table 4: Faults in Site Vicinity

Fault	Maximum Moment Magnitude
Warm Springs Valley	7.2
Fort Sage	6.6
Honey Lake	6.9
Peterson Mountain	7.0
W. Warm Springs Valley	6.9
Pyramid Lake	7.3
Freds Mountain	7.0
Smoke Creek Desert	7.0
Mohawk Valley	7.3
Spanish Springs Valley	6.9
Dog Valley	7.0
Foothills (Melones)	6.5
Spanish Springs Peak	6.6
Eastern Reno Basin	6.9
Olinghouse	7.1
Sierra Nevada Frontal	7.5

5.2. SEISMICITY

The site is located in UBC Seismic Zone 3. Based on preliminary information, the site Class is D but this is subject to change following design-level geotechnical investigation.

5.3. LIQUEFACTION AND DYNAMIC SETTLEMENT

Liquefaction is the transformation of a deposit of soil from a solid-state to a liquefied state as a consequence of increased pore pressure and reduced effective stress. Often, this transformation results from the cyclic loading of an earthquake and the soil acquire “mobility” sufficient to permit both horizontal and vertical movements. Soils that are most susceptible to liquefaction are clean, loose, saturated (below groundwater), and uniformly graded sands. The vast majority of liquefaction hazards are associated with sandy soils and silty soils of low plasticity. Cohesive soils are generally not considered susceptible to soil liquefaction, although they can be subject to cyclic softening if they are soft enough, and if the seismic event is relatively high. The site is located within mapped Alquist-Priolo Earthquake Fault Zones but the area has not been evaluated for Liquefaction or Landslides by California Geological Survey (CGS). Our preliminary analysis indicates the liquefaction risk being low due to soils getting denser with depth and ground water table potentially being as deep as 60 feet below the ground surface.

5.4. LIQUEFACTION INDUCED LATERAL SPREADING

Liquefaction induced lateral spreading can occur in areas of sloping ground, or towards a free face. Since the topography at the site is relatively flat and Calneva Lake located north of the project site is a playa and is considered not to influence lateral spreading at the project site, the potential for liquefaction induced lateral spreading is considered low.

5.5. EXPANSIVE SOILS

The near-surface soils (upper approximate 10 feet) have low expansion potential. Accordingly, mitigation for expansive soils is not considered necessary at this project site.

6. CONCLUSION

Based on our field exploration, laboratory testing, and engineering analyses, it is our opinion that the subject property is suitable for the proposed development from a geotechnical engineering and engineering geology viewpoint; however, there are existing geotechnical conditions associated with the site that warrant mitigation and/or consideration during the planning stages.

A key seismic hazard for the project is ground shaking caused by regionally active faults during a seismic event. Any structures are likely to experience ground shaking during their design life. It should be noted that there are no habitable structures planned as part of this proposed development. Preliminary geotechnical recommendations presented in this report are intended to reduce the seismic risk to an “acceptable level,” which means a level of mitigation that provides reasonable protection of the public safety, though it does not necessarily ensure continued structural integrity and functionality of the project (14 CCR 3721 (a)).

A design level geotechnical investigation is required once the design of the facility progresses to detailed design level.

SIERRA GEOTECH

7. PRELIMINARY RECOMMENDATIONS

7.1. SITE STRIPPING

Surface vegetation and topsoil should be stripped to a sufficient depth to remove all material greater than 3 percent organic content by weight. Based on our site observations, surficial stripping should extend about 3 to 12 inches below existing grade but a final geotechnical investigation is required to confirm this depth.

7.2. SHRUB REMOVAL

Shrubs should have the root balls and any roots greater than ½-inch diameter removed completely. Mature trees are not present at the site. Grade depressions resulting from root ball removal should be cleaned of loose material and backfilled in accordance with the recommendations in the “Compaction” section of this report.

7.3. EXISTING UTILITIES

No utility lines are known to exist within the proposed development except for fiber optic line and natural gas lines. However, these utilities will remain intact.

7.4. REMOVAL OF EXISTING FILLS

Our geotechnical investigation did not encounter any fills. However, fills may be present in other areas that have not been explored by us. All existing fills, if encountered, should be completely removed from within the footprint of proposed slabs-on-grade and driveway areas and to a lateral distance of at least 2 feet beyond the edge of the improvements.

7.5. TEMPORARY CUT AND FILL SLOPES

The contractor is responsible for maintaining all temporary slopes and providing temporary shoring where required. Temporary shoring, bracing, and cuts/fills should be performed in accordance with the strictest government safety standards. On a preliminary basis, the upper 10 feet at the site may be classified as OSHA Soil Type B materials. Sierra Geotech representative should be retained to confirm the preliminary site classification.

7.6. SUBGRADE PREPARATION

After site clearing and demolition is complete, and prior to backfilling any excavations resulting from fill removal or demolition, the excavation subgrade and subgrade within areas to receive additional site fills, slabs-on-grade and/or pavements should be scarified to a depth of 12 inches, moisture conditioned, and compacted.

7.7. COMPACTION REQUIREMENTS

All fills, and subgrade areas where fill, slabs-on-grade, and pavements are planned, should be placed in loose lifts 8 inches thick or less and compacted in accordance with ASTM D1557 (latest version) requirements as shown in the table below. In general, clayey soils should be compacted with sheepsfoot equipment and sandy/gravelly soils with vibratory equipment; open- graded materials such as crushed rock should be placed in lifts no thicker than 18 inches and consolidated in place with vibratory equipment. Each lift of fill and all subgrade should be firm and unyielding under construction equipment loading in addition to meeting the compaction requirements to be approved. The contractor (with input from a Sierra Geotech representative) should evaluate the in-situ moisture conditions, as the use of vibratory equipment on soils with high moistures can cause unstable conditions.

7.8. TRENCH BACKFILL

Utility lines constructed within public right-of-way should be trenched, bedded and shaded, and backfilled in accordance with the local or governing jurisdictional requirements. Utility lines in private improvement areas should be constructed in accordance with the following requirements unless superseded by other governing requirements. All utility lines should be bedded and shaded to at least 6 inches over the top of the lines with crushed rock (⅜-inch-diameter or greater) or well-graded sand and gravel materials conforming to the pipe manufacturer's requirements. Open-graded shading materials should be consolidated in place with vibratory equipment and well-graded materials should be compacted to at least 90 percent relative compaction with vibratory equipment prior to placing subsequent backfill materials. General backfill over shading materials may consist of on-site native materials provided they meet the geotechnical requirements, and are moisture conditioned and compacted in accordance with the requirements.

7.9. FLEXIBLE UTILITY CONNECTIONS

Our preliminary geotechnical evaluation indicates flexible utility connections are not required. However, this must be evaluated during design-level geotechnical investigation (Final Geotechnical Investigation) phase.

7.10. PERMANENT CUT AND FILL SLOPES

No permanent cut slopes and fill slopes in soil are anticipated.

7.11. PLAN REVIEW AND CONSTRUCTION MONITORING

A Sierra Geotech representative should be on site during grading and foundation construction. Field modifications to the planned construction may be required based on encountered field conditions.

7.12. SITE DRAINAGE

Surface runoff should not be allowed to pond. Ponding should also not be allowed on or adjacent to pavements or concrete flatwork. Surface drainage should be directed towards suitable drainage facilities such as lined v-ditches or drain inlets. All v-ditches and drain inlets should be sized to accommodate the design storm events.

Ponding should not be allowed adjacent to sub-station foundations, slabs-on-grade, or pavements. Hardscape surfaces should slope at least 1 percent towards suitable discharge facilities.

7.13. PERMANENT EROSION CONTROL MEASURES

Grading will require periodic maintenance after construction to reduce the potential for erosion and sloughing. At a minimum all slopes should be vegetated by hydroseeding or other landscape ground cover. The establishment of vegetation will help reduce runoff velocities, allow some infiltration and transpiration, trap sediment within runoff, and protect the soil from raindrop impact. Depending on the exposed material type and the slope inclination, more aggressive erosion control measures may be needed to protect slopes for one or more winter seasons while vegetation is establishing. For slopes with inclinations of 2:1 (horizontal:vertical) or greater (none planned at this time), erosion control may consist of jute netting, straw matting, or erosion control blankets used in combination with hydroseeding. Both construction and post-construction Storm Water Pollution Prevention Plans (SWPPPs) should be prepared for the project-specific requirements. We recommend that final grading plans be provided for our review.

7.14. FOUNDATIONS

7.14.1 GEN-TIE-LINE

The Gen-Tie poles would be tubular steel structures approximately 130 feet tall placed approximately 800 feet to 900 feet apart along the Gen-Tie route (24 poles). In our opinion, the proposed gen-tie-line may be supported on cast-in-place drilled pier foundations provided the recommendations in this report are followed and a design-level geotechnical investigation is conducted once the design progresses to detailed design phase.

7.14.2 SOLAR ARRAYS

The solar arrays for this project can be founded on a steel racking system supported on driven steel piles.

7.14.3 MECHANICAL AND ELECTRICL EQUIPMENT

Mechanical and electrical equipment for the proposed substation can be supported on reinforced concrete mat slab foundations. Ancillary lightly loaded structures can be supported on shallow spread footing foundations.

7.15. LOOSE SURFICIAL SOILS

Loose surficial soils are present at various locations to depths of 2 to 4 feet below existing grade. All loose, surficial soils within the footprint of the proposed shallow foundations (spread footings and mat foundations), must be excavated, moisture conditioned and recompacted to at least 95% of the maximum dry density in accordance with ASTM D1557.

7.16. CONSTRUCTION CONSIDERATIONS

The excavation of all drilled shafts should be observed by a Sierra Geotech representative to confirm the soil profile, verify that the piers extend the minimum depth into suitable materials and that the piers are constructed in accordance with our recommendations and project requirements. The drilled shafts should be straight, dry, and relatively free of loose material before reinforcing steel is installed and concrete is placed. If ground water is encountered and cannot be removed from the excavations prior to concrete placement, drilling slurry or casing may be required to stabilize the shaft and the concrete should be placed using a tremie pipe, keeping the tremie pipe below the surface of the concrete to avoid entrapment of water or drilling slurry in the concrete.

7.17. PAVEMENTS

An R-value of 50 is recommended for designing pavement structural sections depending on traffic index value. Subgrade soils are likely to be prone to frost action during the winter and saturation during the wet spring months. The primary impact of frost action and subgrade saturation is the loss of subgrade and aggregate base strength. By preventing accumulation of excess moisture in the subgrade soils, pavement life can be increased. Subdrainage in the form of trench drains would be beneficial in low lying areas.

8. LIMITATIONS

The opinions, conclusions, and recommendations presented in this report have been formulated in accordance with accepted geotechnical engineering practices that exist in the Bay Area & Northern California at the time this report was prepared. No warranty expressed or implied is made or should be inferred. The preliminary recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Sierra Geotech should be notified so that supplemental recommendations can be provided. This report is issued with the understanding that it is the responsibility of the Owner, or of his representative, to ensure that the information and preliminary recommendations contained herein are brought to the attention of the architect, and structural engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

The findings of this report are valid as of the date of this report. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or

the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside Sierra Geotech's control. Therefore, this report is subject to review and should not be relied upon after a period of five years or when the California Building Code changes, which is typically every three years, whichever comes first.

Sierra Geotech should be retained to provide testing and observation services during construction to provide continuity of geotechnical interpretation and to check that the recommendations presented for geotechnical aspects of site development are incorporated during site grading and construction of improvements. If another geotechnical firm is selected to perform the testing and observation services during construction operations, that firm should prepare a letter indicating their intent to assume the responsibilities of project geotechnical engineer of record. In addition, that firm should provide revised recommendations concerning the geotechnical aspects of the proposed development, or a written acknowledgment of their concurrence with the recommendations presented in Sierra Geotech's report. That firm should also perform additional analyses deemed necessary to assume the role of Geotechnical Engineer of Record. If we are not retained for inspection during construction, we cannot assume any responsibility for any potential claims that may arise during or after construction. All recommendations in this report are contingent upon Sierra Geotech, providing observation and testing of earthworks and foundation construction.

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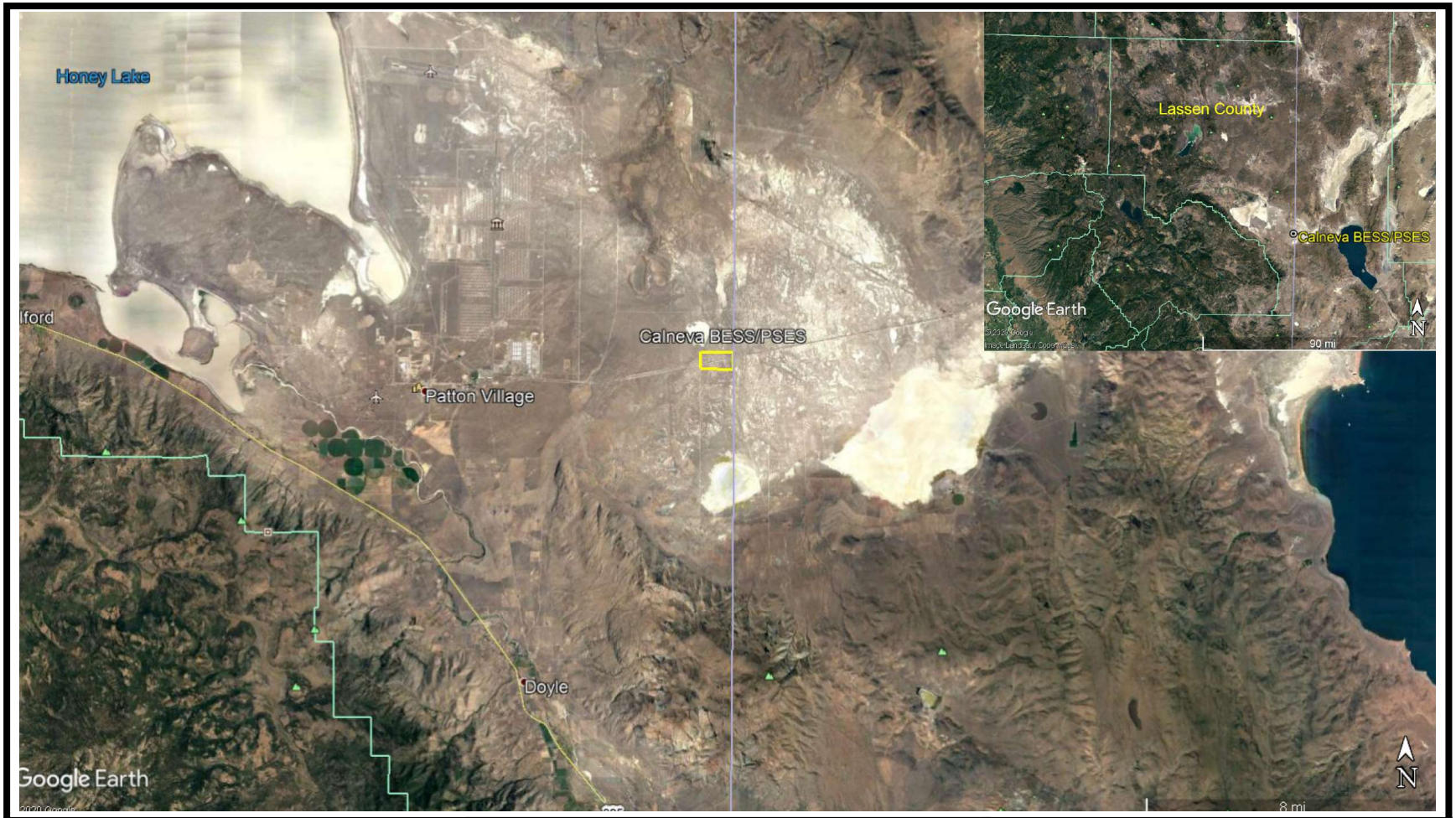
FIGURES

Figure 1: Vicinity Map
Figure 2: Project Site Boundaries
Figure 3: Geologic Map
Figure 4: Site Photo
Figure 5: Boreholes Location Map
Figure 6: Earthquake Epicenters & Major Active Faults
Figure 7: Alquist-Priolo Earthquake Fault Zones

APPENDICES

Appendix D: Conceptual drawings
Appendix E: Geotechnical logs of borings
Appendix F: Results of Laboratory Testing

Figures



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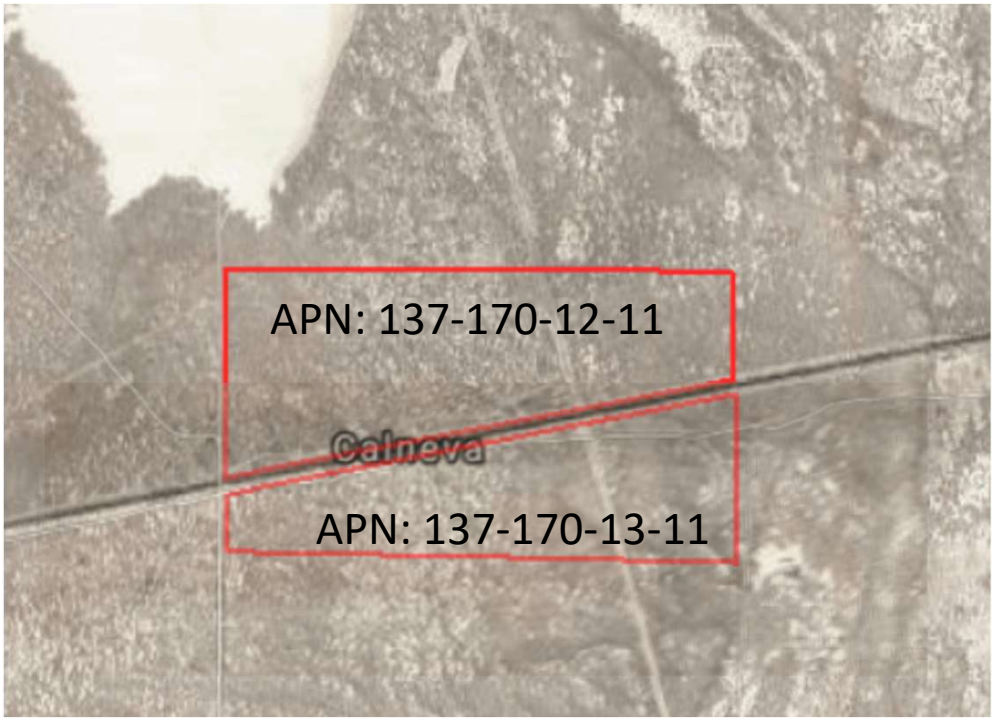
Vicinity Map

Calneva Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project (Calneva BESS/PSES)

Project Number
RL2020-037

Figure Number
1

Date Prepared
04-21-2020



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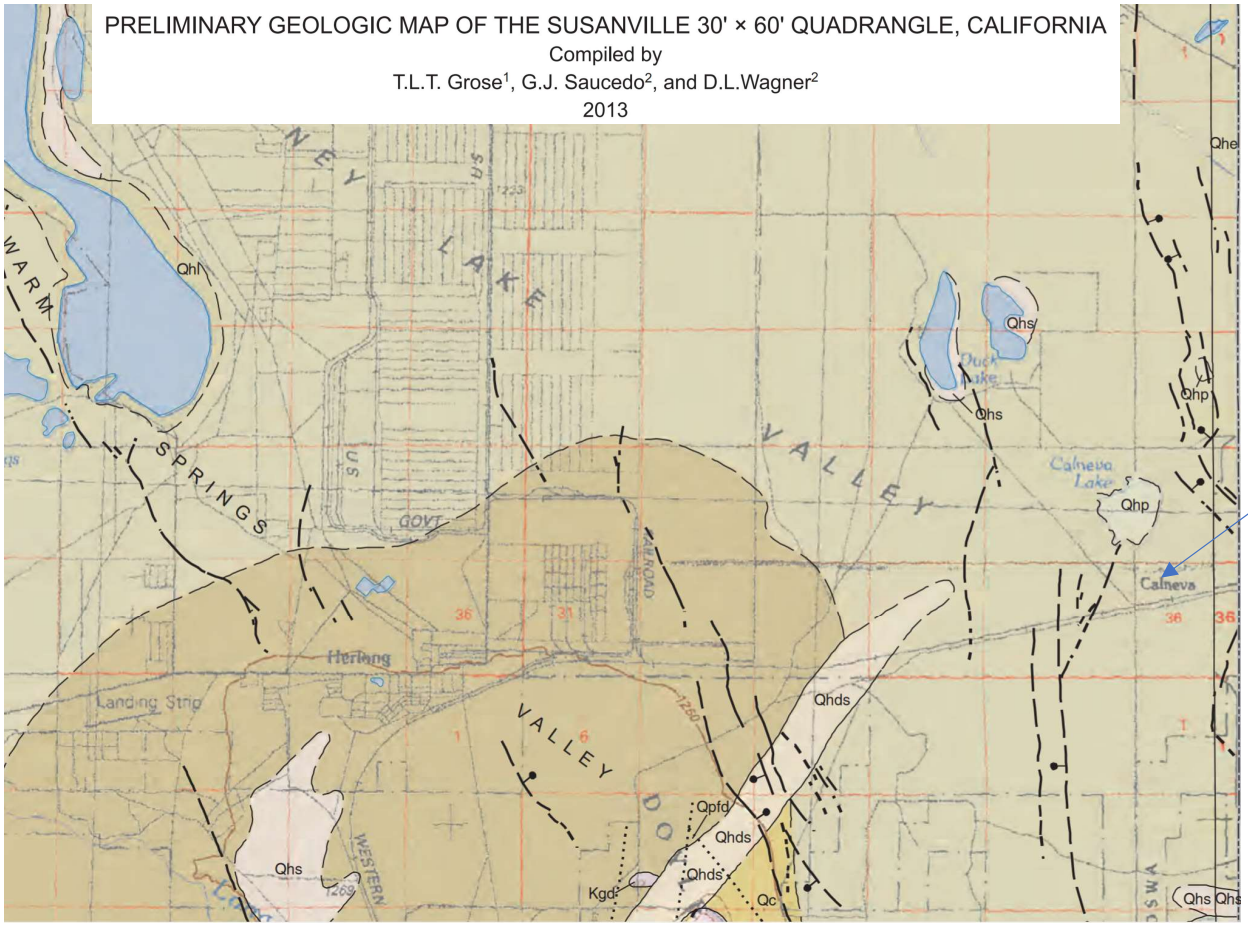
Project Site Boundaries

Calneva Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project (Calneva BESS/PSES)

Project Number
RL2020-037

Figure Number
2

Date Prepared
04-21-2020



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Geologic Map

Calneva Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project (Calneva BESS/PSES)

Project Number
RL2020-037

Figure Number
3

Date Prepared
04-21-2020



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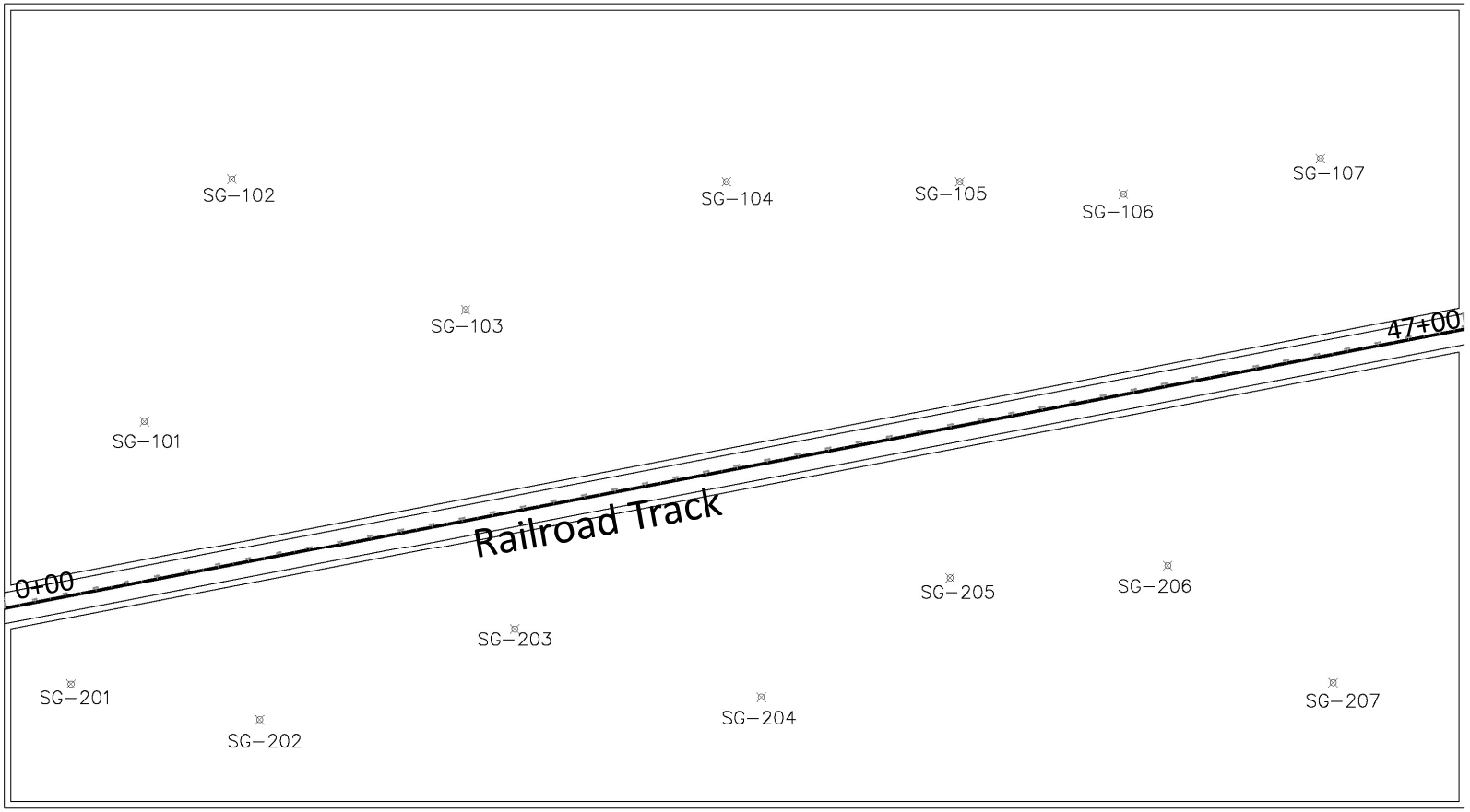
Site Photo

Calneva Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project (Calneva BESS/PSES)

Project Number
RL2020-037

Figure Number
4

Date Prepared
04-21-2020



Project Baseline begins (Sta. 0+00) at the intersection of the railroad track and western boundary of the property.
See Geotechnical Report for stations and offsets of all boreholes.

SIERRA GEOTECH

Boreholes Location Map

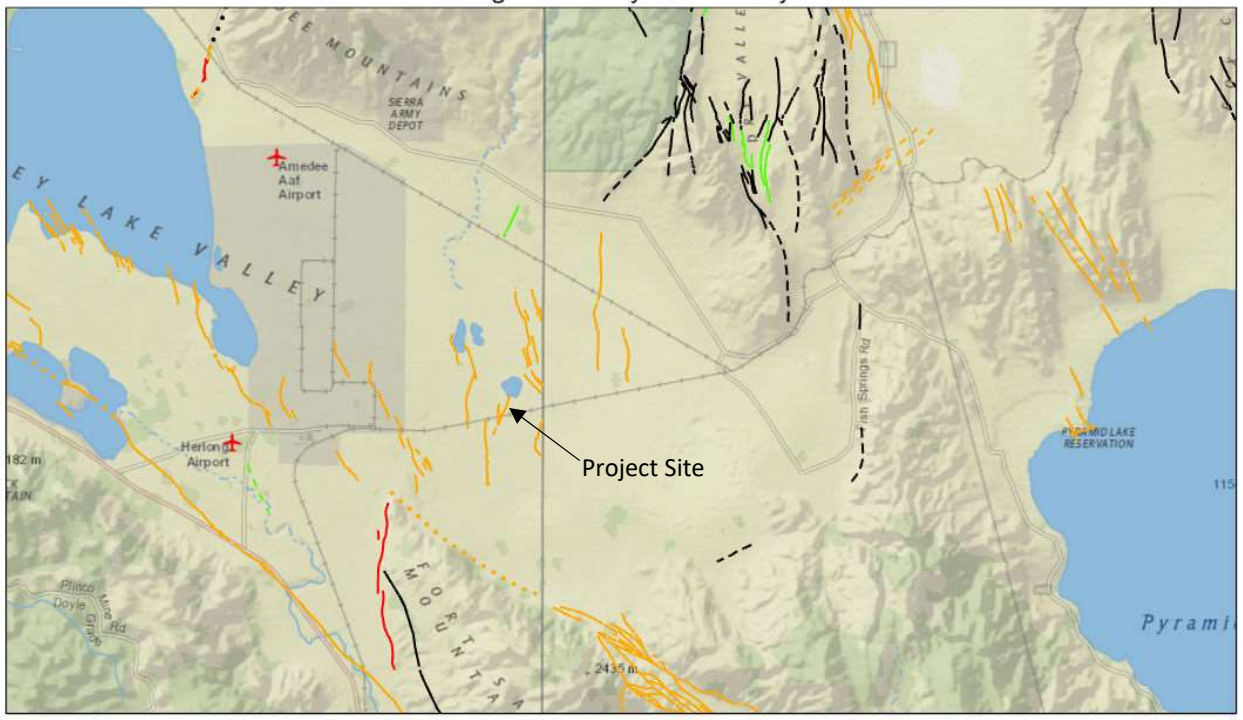
Calneva Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project (Calneva BESS/PSES)

Project Number
RL2020-037

Figure Number
5

Date Prepared
04-21-2020

U.S. Geological Survey Quaternary Faults



4/19/2020, 11:44:40 AM

Fault Areas

- Historic (< 150 years)
- Latest Quaternary (< 15,000 years)
- Late Quaternary (< 130,000 years)
- Middle and Late Quaternary (< 750,000 years)
- Undifferentiated Quaternary (< 1.6 million years)

Quaternary Faults Database

- Historic (< 150 years), well constrained location

1:288,895

0 1.75 3.5 7 mi

0 3 6 12 km

USGS, National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

USGS

National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp. | USGS |

SIERRA GEOTECH

Faults Map

Calneva Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project (Calneva BESS/PSES)

Project Number

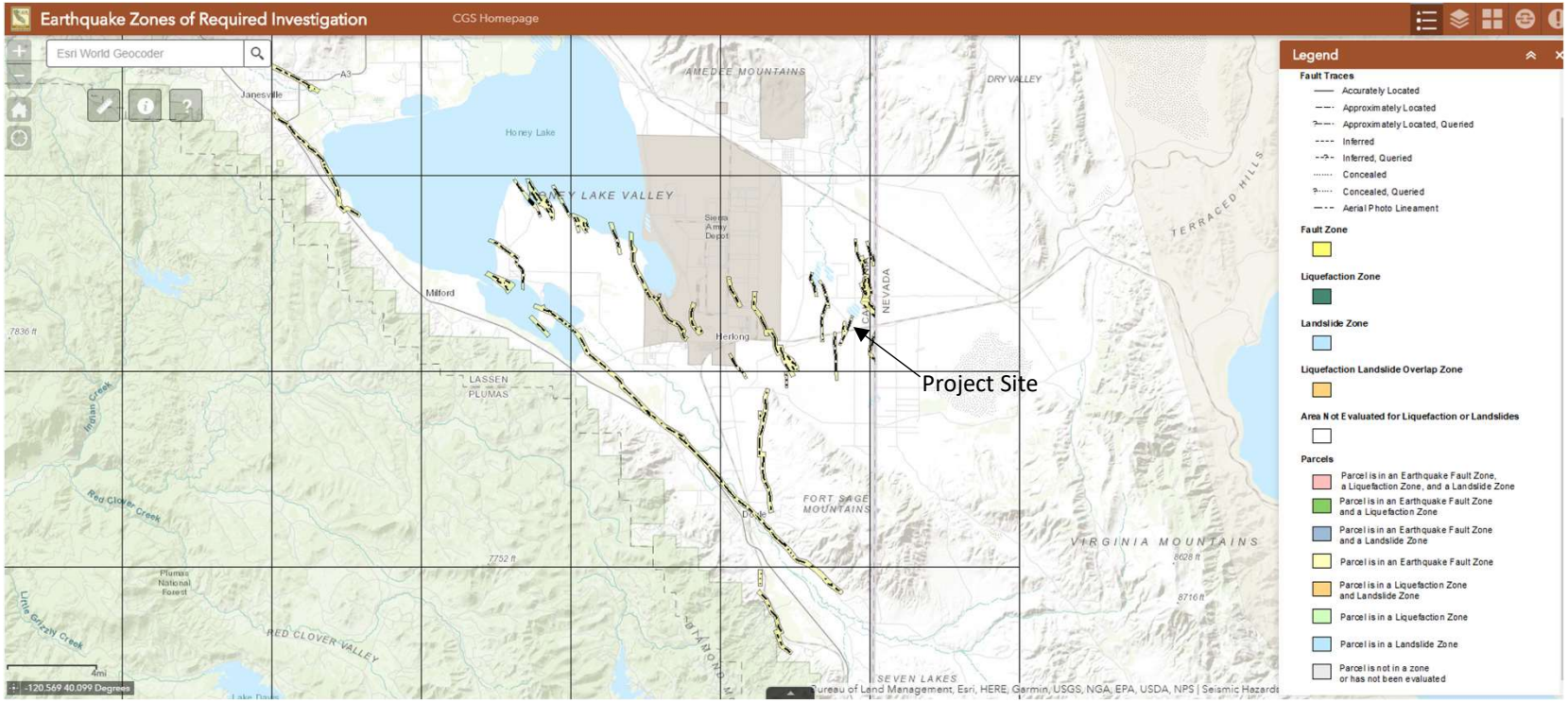
RL2020-037

Figure Number

6

Date Prepared

04-21-2020



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Alquist Priolo Earthquake Zone Map

Calneva Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project (Calneva BESS/PSES)

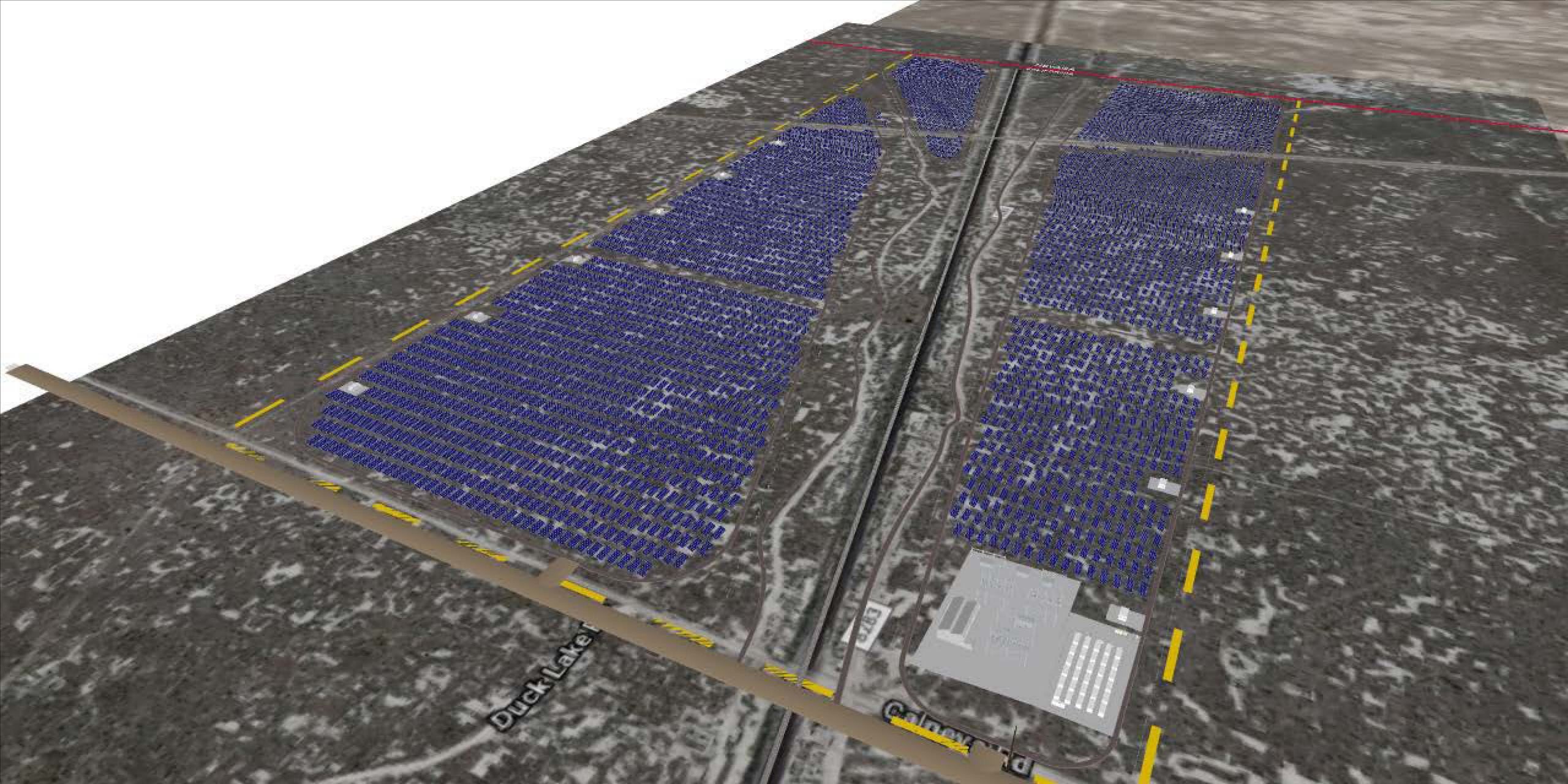
Project Number
RL2020-037

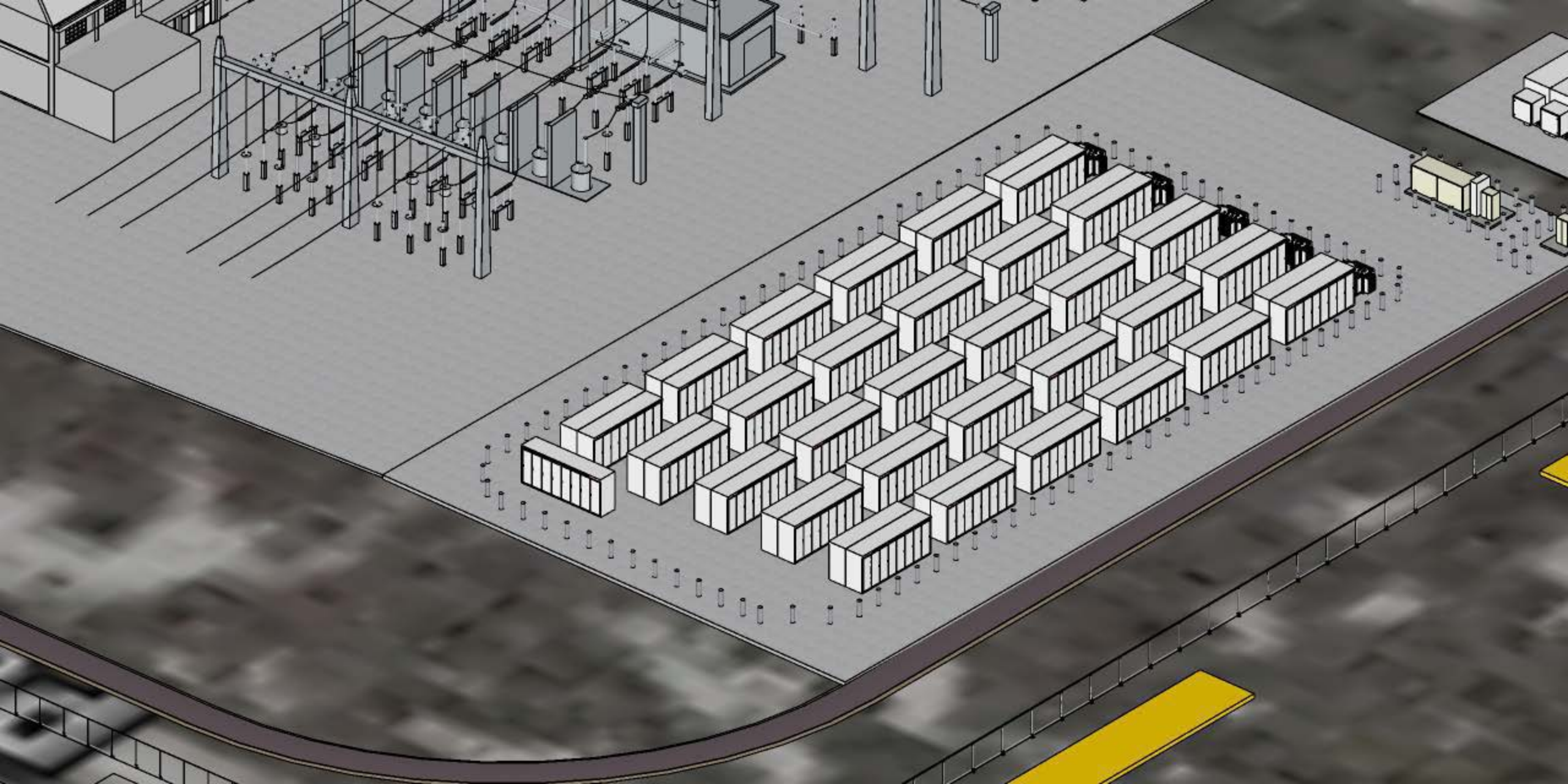
Figure Number
7

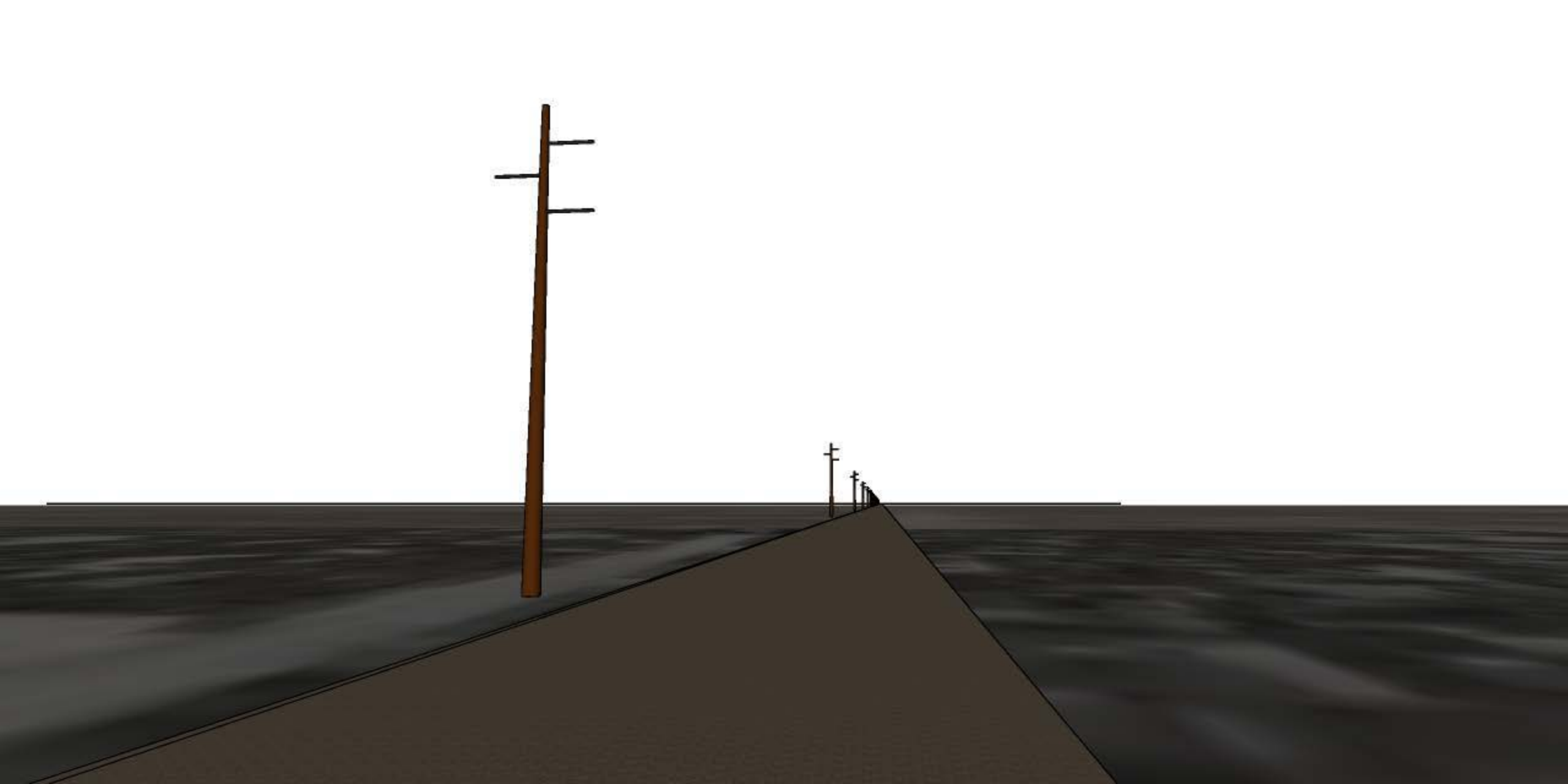
Date Prepared
04-21-2020

Appendix A : Conceptual Drawings


NEVADA
CALIFORNIA
Duck Lake


Duck Lake





Appendix B - Logs of Borings

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BOREHOLE LOG

Project Number	RL2020-037			Location	5+55.46', 504.2' Left		
Project Name	CalNeva PSES/BESS			Boring No.	SG-101	Total Depth	24.5
County	Lassen			Surface Elevation	4006		
Address	CalNeva Road			Date Started	2/5/2020	Completed	2/6/2020
Supervisor	SV	Driller	Toby	Depth of Water	Not Encountered	Date/Time	2/6/2020
Logged By	SV/CC			Hammer Eff.	80%	Provided By	Taber

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4006	0	Top soil - organics	SPT-1	0-1.5	5,5,5	
			SPT-2	1.5-3	6,6,6,	
4005.5	0.5		SPT-3	3-4.5	6,7,8	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	8,9,8	
			SPT-5	6-7.5	8,9,10	
			SPT-6	7.5-9	8,12,10	
			SPT-7	9-10.5	8,13,11	
			SPT-8	10.5-12	12,9,14	
			SPT-9	12-13.5	10,10,14	
			SPT-10	13.5-15	8,9,15	
4001.5	4.5		SPT-11	15-16.5	10,12,13	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-12	16.5-18	12,13,13	
			SPT-13	18-19.5	12,14,13	
			SPT-14	19.5-21	12,14,14	
			SPT-15	21-22.5	12,14,15	
			SPT-16	22.5-24	14,15,15	
3994.5	11.5					
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3981.5	24.5					

This log is a part of our report, and should not be used as a stand-alone document. Subsurface soil and rock descriptions on this log are specific to the location where the drilling took place and the time of drilling. Subsurface conditions will vary at other locationsacross the site and with time. Descriptions are simplifications of actual conditions encountered. Transitions between soil types maybe gradual.Elevations showns are approximate AMSL.

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BOREHOLE LOG

Project Number	RL2020-037			Location	9+79.31', 1219.5' Left		
Project Name	CalNeva PSES/BESS			Boring No.	SG-102	Total Depth	24.5
County	Lassen			Surface Elevation	4005.5		
Address	CalNeva Road			Date Started	2/5/2020	Completed	2/6/2020
Supervisor	SV	Driller	Toby	Depth of Water	Not Encountered	Date/Time	2/6/2020
Logged By	SV/CC			Hammer Eff.	80%	Provided By	Taber

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4005.5	0	Top soil - organics	SPT-1	0-1.5	4,5,6	
			SPT-2	1.5-3	5,6,6	
4005	0.5		SPT-3	3-4.5	5,6,7	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	6,7,7	
			SPT-5	6-7.5	7,8,9	
			SPT-6	7.5-9	8,8,9	
			SPT-7	9-10.5	7,9,9	
			SPT-8	10.5-12	10,10,9	
			SPT-9	12-13.5	10,11,10	
			SPT-10	13.5-15	10,11,13	
4000.2	5.3		SPT-11	15-16.5	12,13,12	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-12	16.5-18	12,13,13	
			SPT-13	18-19.5	12,12,15	
			SPT-14	19.5-21	12,14,14	
			SPT-15	21-22.5	12,14,15	
			SPT-16	22.5-24	14,15,15	
3993.1	12.4					
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3981	24.5					

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BOREHOLE LOG

Project Number	RL2020-037	Location	16+38', 662.1' Left		
Project Name	CalNeva PSES/BESS	Boring No.	SG-103	Total Depth	24.5
County	Lassen	Surface Elevation	4005.1		
Address	CalNeva Road	Date Started	2/5/2020	Completed	2/6/2020
Supervisor	SV	Driller	Toby	Depth of Water	Not Encountered	Date/Time	2/6/2020
Logged By	SV/CC	Hammer Eff.	80%	Provided By	Taber

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4005.1	0	Top soil - organics	SPT-1	0-1.5	3,5,5	
			SPT-2	1.5-3	3,5,6,	
4004.6	0.5		SPT-3	3-4.5	4,6,5	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	4,7,6	
			SPT-5	6-7.5	8,8,7	
			SPT-6	7.5-9	8,8,8	
			SPT-7	9-10.5	6,8,9	
			SPT-8	10.5-12	8,10,9	
			SPT-9	12-13.5	9,10,9	
			SPT-10	13.5-15	10,10,12	
4000	5.1		SPT-11	15-16.5	12,12,12	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-12	16.5-18	11,12,13	
			SPT-13	18-19.5	12,13,14	
			SPT-14	19.5-21	12,14,14	
			SPT-15	21-22.5	12,14,14	
			SPT-16	22.5-24	14,15,15	
3990.9	14.2					
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3980.6	24.5					

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916.934.2167

BOREHOLE LOG

Project Number	RL2020-037			Location	25+40.3', 912.4' Left		
Project Name	CalNeva PSES/BESS			Boring No.	SG-104	Total Depth	24.5
County	Lassen			Surface Elevation	4004.5		
Address	CalNeva Road			Date Started	2/5/2020	Completed	2/6/2020
Supervisor	SV	Driller	Toby	Depth of Water	Not Encountered	Date/Time	2/6/2020
Logged By	SV/CC			Hammer Eff.	80%	Provided By	Taber

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4004.5	0	Top soil - organics	SPT-1	0-1.5	6,5,5	
			SPT-2	1.5-3	6,7,6,	
4004	0.5		SPT-3	3-4.5	6,7,7	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	8,8,9	
			SPT-5	6-7.5	8,9,8	
			SPT-6	7.5-9	7,11,10	
			SPT-7	9-10.5	9,12,9	
			SPT-8	10.5-12	12,11,11	
			SPT-9	12-13.5	10,12,14	
			SPT-10	13.5-15	14,11,15	
4000.2	4.3		SPT-11	15-16.5	10,12,13	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-12	16.5-18	12,13,13	
			SPT-13	18-19.5	12,14,13	
			SPT-14	19.5-21	12,14,14	
			SPT-15	21-22.5	12,14,15	
			SPT-16	22.5-24	14,15,15	
3992.9	11.6					
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3980	24.5					

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BOREHOLE LOG

Project Number	RL2020-037	Location	32+77.7', 771.2' Left		
Project Name	CalNeva PSES/BESS	Boring No.	SG-105	Total Depth	24.5
County	Lassen	Surface Elevation	4004		
Address	CalNeva Road	Date Started	2/5/2020	Completed	2/6/2020
Supervisor	SV	Driller	Toby	Depth of Water	Not Encountered	Date/Time	2/6/2020
Logged By	SV/CC	Hammer Eff.	80%	Provided By	Taber

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4004	0	Top soil - organics	SPT-1	0-1.5	4,5,5	
			SPT-2	1.5-3	5,5,6,	
4003.5	0.5		SPT-3	3-4.5	5,5,7	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	6,6,7	
			SPT-5	6-7.5	8,7,7	
			SPT-6	7.5-9	7,11,10	
			SPT-7	9-10.5	9,11,11	
			SPT-8	10.5-12	12,11,11	
			SPT-9	12-13.5	10,12,13	
			SPT-10	13.5-15	14,12,12	
3997.9	6.1		SPT-11	15-16.5	13,14,13	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-12	16.5-18	12,13,13	
			SPT-13	18-19.5	12,14,13	
			SPT-14	19.5-21	12,13,15	
			SPT-15	21-22.5	12,14,14	
			SPT-16	22.5-24	14,15,15	
3989.7	14.3					
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3979.5	24.5					

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916.934.2167

BOREHOLE LOG

Project Number	RL2020-037			Location	37+87.3', 633' Left		
Project Name	CalNeva PSES/BESS			Boring No.	SG-106	Total Depth	24.5
County	Lassen			Surface Elevation	4001.1		
Address	CalNeva Road			Date Started	2/5/2020	Completed	2/6/2020
Supervisor	SV	Driller	Toby	Depth of Water	Not Encountered	Date/Time	2/6/2020
Logged By	SV/CC			Hammer Eff.	80%	Provided By	Taber

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4001.1	0	Top soil - organics	SPT-1	0-1.5	4,6,5	
			SPT-2	1.5-3	5,6,6	
4000.6	0.5		SPT-3	3-4.5	5,6,7	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	7,7,7	
			SPT-5	6-7.5	7,8,7	
			SPT-6	7.5-9	7,8,9	
			SPT-7	9-10.5	7,9,9	
			SPT-8	10.5-12	10,9,10	
			SPT-9	12-13.5	10,10,10	
			SPT-10	13.5-15	11,11,10	
3995.8	5.3		SPT-11	15-16.5	11,11,12	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-12	16.5-18	12,13,13	
			SPT-13	18-19.5	12,12,15	
			SPT-14	19.5-21	12,14,14	
			SPT-15	21-22.5	12,14,15	
			SPT-16	22.5-24	14,15,15	
3987.6	13.5					
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3976.6	24.5					

This log is a part of our report, and should not be used as a stand-alone document. Subsurface soil and rock descriptions on this log are specific to the location where the drilling took place and the time of drilling. Subsurface conditions will vary at other locationsacross the site and with time. Descriptions are simplifications of actual conditions encountered. Transitions between soil types maybe gradual.Elevations shown are approximate AMSL.

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BOREHOLE LOG

Project Number	RL2020-037			Location	44+31.6', 626.9' Left		
Project Name	CalNeva PSES/BESS			Boring No.	SG-107	Total Depth	24.5
County	Lassen			Surface Elevation	4000.6		
Address	CalNeva Road			Date Started	2/5/2020	Completed	2/6/2020
Supervisor	SV	Driller	Toby	Depth of Water	Not Encountered	Date/Time	2/6/2020
Logged By	SV/CC			Hammer Eff.	80%	Provided By	Taber

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4000.6	0	Top soil - organics	SPT-1	0-1.5	5,5,5	
			SPT-2	1.5-3	3,6,5	
4000.1	0.5		SPT-3	3-4.5	4,6,5	
			SPT-4	4.5-6	4,6,7	
			SPT-5	6-7.5	8,7,7	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-6	7.5-9	8,8,8	
			SPT-7	9-10.5	6,9,9	
			SPT-8	10.5-12	8,10,9	
			SPT-9	12-13.5	9,10,9	
			SPT-10	13.5-15	10,10,12	
3996.5	4.1		SPT-11	15-16.5	14,12,11	
			SPT-12	16.5-18	11,13,12	
			SPT-13	18-19.5	13,13,14	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-14	19.5-21	12,14,14	
			SPT-15	21-22.5	13,14,14	
			SPT-16	22.5-24	14,14,15	
3986.4	14.2					
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3976.1	24.5					

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BOREHOLE LOG

Project Number	RL2020-037			Location	1+64.2', 282.5' Right		
Project Name	CalNeva PSES/BESS			Boring No.	SG-201	Total Depth	24.5
County	Lassen			Surface Elevation	4005.5		
Address	CalNeva Road			Date Started	2/5/2020	Completed	2/6/2020
Supervisor	SV	Driller	Toby	Depth of Water	Not Encountered	Date/Time	2/6/2020
Logged By	SV/CC			Hammer Eff.	80%	Provided By	Taber

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4005.5	0	Top soil - organics	SPT-1	0-1.5	5,5,5	
			SPT-2	1.5-3	5,6,6,	
4005	0.5		SPT-3	3-4.5	6,6,5	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	6,7,6	
			SPT-5	6-7.5	7,7,8	
			SPT-6	7.5-9	8,7,8	
			SPT-7	9-10.5	6,8,9	
			SPT-8	10.5-12	8,9,10	
			SPT-9	12-13.5	9,9,10	
			SPT-10	13.5-15	10,12,11	
4002	3.5		SPT-11	15-16.5	12,12,11	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-12	16.5-18	11,13,11	
			SPT-13	18-19.5	12,14,13	
			SPT-14	19.5-21	13,14,14	
			SPT-15	21-22.5	13,14,14	
			SPT-16	22.5-24	15,15,15	
3991.4	14.1					
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3981	24.5					

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BOREHOLE LOG

Project Number	RL2020-037	Location	7+39.1', 509.9' Right		
Project Name	CalNeva PSES/BESS	Boring No.	SG-202	Total Depth	24.5
County	Lassen	Surface Elevation	4005		
Address	CalNeva Road	Date Started	2/5/2020	Completed	2/6/2020
Supervisor	SV	Driller	Toby	Depth of Water	Not Encountered	Date/Time	2/6/2020
Logged By	SV/CC	Hammer Eff.	80%	Provided By	Taber

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4005	0	Top soil - organics	SPT-1	0-1.5	5,6,5	
			SPT-2	1.5-3	5,6,7,	
4004.5	0.5		SPT-3	3-4.5	7,7,7	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	8,9,8	
			SPT-5	6-7.5	7,9,8	
			SPT-6	7.5-9	8,10,11	
			SPT-7	9-10.5	9,9,12	
			SPT-8	10.5-12	9,11,11	
			SPT-9	12-13.5	10,12,11	
			SPT-10	13.5-15	11,13,15	
4001.1	3.9		SPT-11	15-16.5	10,13,14	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-12	16.5-18	13,13,13	
			SPT-13	18-19.5	14,14,13	
			SPT-14	19.5-21	15,14,14	
			SPT-15	21-22.5	15,14,15	
			SPT-16	22.5-24	16,15,15	
3988.8	16.2					
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3980.5	24.5					

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BOREHOLE LOG

Project Number	RL2020-037			Location	15+99.6', 376.9' Right		
Project Name	CalNeva PSES/BESS			Boring No.	SG-203	Total Depth	24.5
County	Lassen			Surface Elevation	4004.5		
Address	CalNeva Road			Date Started	2/5/2020	Completed	2/6/2020
Supervisor	SV	Driller	Toby	Depth of Water	Not Encountered	Date/Time	2/6/2020
Logged By	SV/CC			Hammer Eff.	80%	Provided By	Taber

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4004.5	0	Top soil - organics	SPT-1	0-1.5	6,5,5	
			SPT-2	1.5-3	6,6,6,	
4004	0.5		SPT-3	3-4.5	7,7,8	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	7,8,9	
			SPT-5	6-7.5	9,9,10	
			SPT-6	7.5-9	8,9,10	
			SPT-7	9-10.5	8,10,12	
			SPT-8	10.5-12	12,9,14	
			SPT-9	12-13.5	10,10,14	
			SPT-10	13.5-15	10,10,15	
3997.8	6.7		SPT-11	15-16.5	11,11,16	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-12	16.5-18	12,14,13	
			SPT-13	18-19.5	13,13,13	
			SPT-14	19.5-21	13,14,13	
			SPT-15	21-22.5	14,14,14	
			SPT-16	22.5-24	14,14,16	
3987.2	17.3					
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3980	24.5					

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BOREHOLE LOG

Project Number	RL2020-037			Location	23+37.3', 743.7' Right		
Project Name	CalNeva PSES/BESS			Boring No.	SG-204	Total Depth	24.5
County	Lassen			Surface Elevation	4004.2		
Address	CalNeva Road			Date Started	2/5/2020	Completed	2/6/2020
Supervisor	SV	Driller	Toby	Depth of Water	Not Encountered	Date/Time	2/6/2020
Logged By	SV/CC			Hammer Eff.	80%	Provided By	Taber

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4004.2	0	Top soil - organics	SPT-1	0-1.5	5,5,6	
			SPT-2	1.5-3	5,6,6,	
4003.7	0.5		SPT-3	3-4.5	6,6,7	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	6,6,8	
			SPT-5	6-7.5	9,7,8	
			SPT-6	7.5-9	7,8,10	
			SPT-7	9-10.5	7,9,10	
			SPT-8	10.5-12	10,10,12	
			SPT-9	12-13.5	10,10,12	
			SPT-10	13.5-15	10,11,13	
3999.3	4.9		SPT-11	15-16.5	11,12,13	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-12	16.5-18	11,13,16	
			SPT-13	18-19.5	12,13,13	
			SPT-14	19.5-21	13,14,13	
			SPT-15	21-22.5	14,14,14	
			SPT-16	22.5-24	15,13,17	
3987.9	16.3					
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3979.7	24.5					

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BOREHOLE LOG

Project Number	RL2020-037			Location	30+06.3', 479.4' Right		
Project Name	CalNeva PSES/BESS			Boring No.	SG-205	Total Depth	24.5
County	Lassen			Surface Elevation	4003.6		
Address	CalNeva Road			Date Started	2/5/2020	Completed	2/6/2020
Supervisor	SV	Driller	Toby	Depth of Water	Not Encountered	Date/Time	2/6/2020
Logged By	SV/CC			Hammer Eff.	80%	Provided By	Taber

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4003.6	0	Top soil - organics	SPT-1	0-1.5	6,5,5	
			SPT-2	1.5-3	6,5,6,	
4003.1	0.5		SPT-3	3-4.5	7,5,6	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	7,7,6	
			SPT-5	6-7.5	8,7,7	
			SPT-6	7.5-9	8,8,10	
			SPT-7	9-10.5	9,9,11	
			SPT-8	10.5-12	10,10,12	
			SPT-9	12-13.5	10,12,13	
			SPT-10	13.5-15	10,12,12	
4001.2	2.4		SPT-11	15-16.5	12,13,14	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-12	16.5-18	13,13,13	
			SPT-13	18-19.5	13,14,12	
			SPT-14	19.5-21	12,13,14	
			SPT-15	21-22.5	13,14,15	
			SPT-16	22.5-24	14,15,15	
3991	12.6					
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3979.1	24.5					

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BOREHOLE LOG

Project Number	RL2020-037			Location	37+01.8', 572' Right		
Project Name	CalNeva PSES/BESS			Boring No.	SG-206	Total Depth	24.5
County	Lassen			Surface Elevation	4002.5		
Address	CalNeva Road			Date Started	2/5/2020	Completed	2/6/2020
Supervisor	SV	Driller	Toby	Depth of Water	Not Encountered	Date/Time	2/6/2020
Logged By	SV/CC			Hammer Eff.	80%	Provided By	Taber

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4002.5	0	Top soil - organics	SPT-1	0-1.5	4,5,5	
			SPT-2	1.5-3	4,5,6	
4002	0.5		SPT-3	3-4.5	5,6,5	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	6,6,7	
			SPT-5	6-7.5	8,7,7	
			SPT-6	7.5-9	8,8,8	
			SPT-7	9-10.5	8,8,9	
			SPT-8	10.5-12	9,10,9	
			SPT-9	12-13.5	9,10,9	
			SPT-10	13.5-15	10,11,12	
3996.4	6.1		SPT-11	15-16.5	14,12,11	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-12	16.5-18	11,13,12	
			SPT-13	18-19.5	13,13,14	
			SPT-14	19.5-21	14,15,14	
			SPT-15	21-22.5	15,15,15	
			SPT-16	22.5-24	15,15,14	
3989.2	13.3					
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3978	24.5					

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BOREHOLE LOG

Project Number	RL2020-037	Location	41+53.5', 1042' Right		
Project Name	CalNeva PSES/BESS	Boring No.	SG-207	Total Depth	24.5
County	Lassen	Surface Elevation	4001		
Address	CalNeva Road	Date Started	2/5/2020	Completed	2/6/2020
Supervisor	SV	Driller	Toby	Depth of Water	Not Encountered	Date/Time	2/6/2020
Logged By	SV/CC	Hammer Eff.	80%	Provided By	Taber

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4001	0	Top soil - organics	SPT-1	0-1.5	3,5,5	
			SPT-2	1.5-3	3,5,6,	
4000.5	0.5		SPT-3	3-4.5	4,6,5	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	4,7,7	
			SPT-5	6-7.5	5,8,7	
			SPT-6	7.5-9	7,8,8	
			SPT-7	9-10.5	8,8,9	
			SPT-8	10.5-12	9,9,9	
			SPT-9	12-13.5	9,10,9	
			SPT-10	13.5-15	10,12,12	
3995.5	5.5		SPT-11	15-16.5	11,12,12	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-12	16.5-18	11,13,13	
			SPT-13	18-19.5	12,13,14	
			SPT-14	19.5-21	13,13,14	
			SPT-15	21-22.5	13,13,13	
			SPT-16	22.5-24	14,14,15	
3983.5	17.5					
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3976.5	24.5					

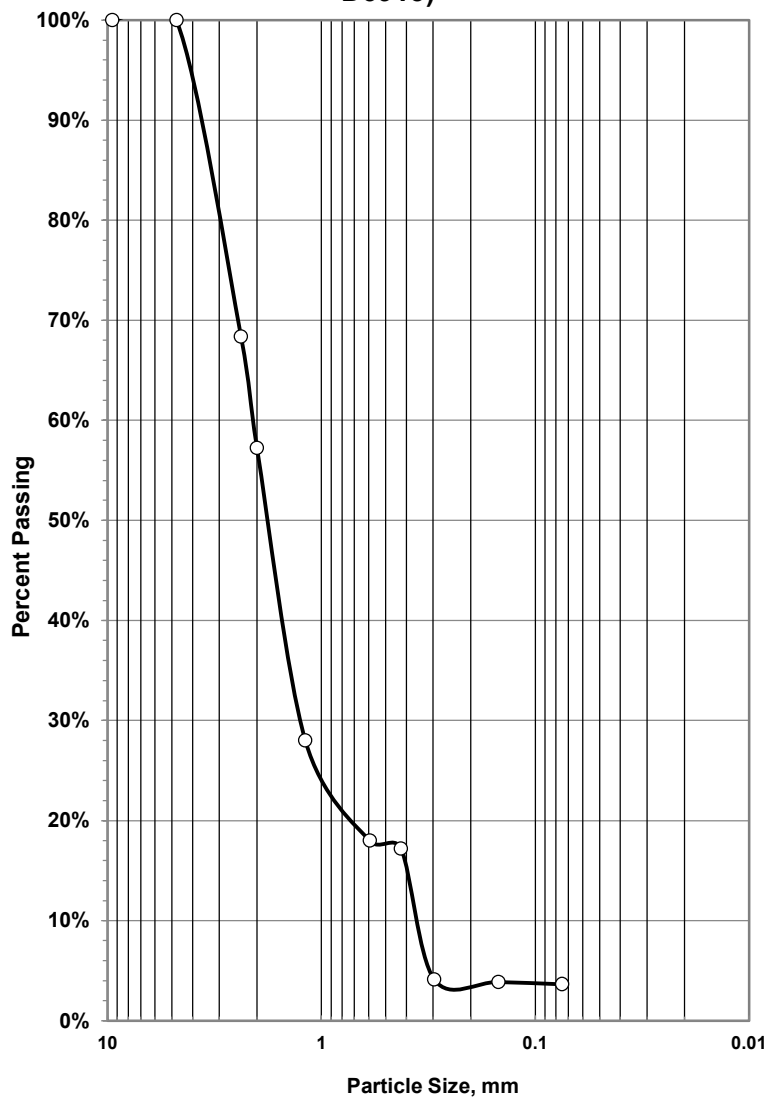
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Appendix C - Lab Testing Results

Lab Testing Report

Our Client:	***Our Project #:***	***Field Sample ID:***
Charles Hooper	RL2020-037	SG-101/SG-102
Project Owner:	***Our Project Name:***	***Field Sample Description:***
Sierra Geotech	Calneva PSES/BESS	Composite of Soil 1 from SG-101 and SG-102
General Contractor:	***Sierra Geotech PM:***	***Sampled By:***
TBD	Shaun Vemuri, PE	Sierra Geotech
Client Project Number:	***Sierra Geotech Lab Location:***	***Source:***
NA	Rocklin, CA	Geotechnical Investigation
Client Project Name:	***Lab Manager:***	***Depth (feet) below existing ground surface:***
Calneva PSES/BESS	Shaun Vemuri, PE	See Logs
Project Location:	***Lab Technician:***	***Sampled On:***
Calneva Rd, Calneva, CA	JC/CC/BZ/HA	2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties

Natural Moisture Content:	8.56%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Poorly Graded Sand (SP)	0.375	100.0%
	#4	100.0%
Gravel Percent	#8	68.4%
0.00%	#10	57.2%
Sand Percent	#16	28.0%
96.35%	#30	18.0%
Fines Percent	#40	17.2%
3.65%	#50	4.1%
	#100	3.9%
	#200	3.7%

Co-efficients

Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

For Lab Use Only

Test Requested On:	2/7/2020
Report Issued:	2/12/2020
Lab Report ID:	1001

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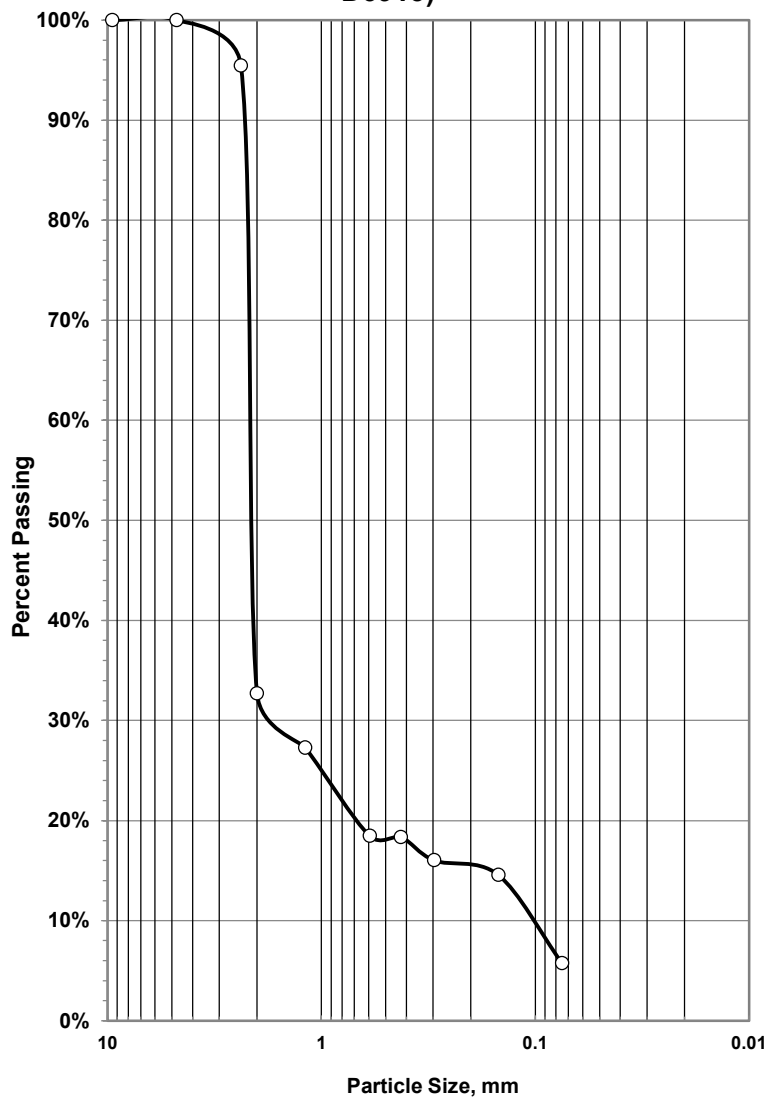
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Lab Testing Report

Our Client:	***Our Project #:***	***Field Sample ID:***
Charles Hooper	RL2020-037	SG-103/SG-104
Project Owner:	***Our Project Name:***	***Field Sample Description:***
Sierra Geotech	Calneva PSES/BESS	Composite of Soil 1 from SG-103 and SG-104
General Contractor:	***Sierra Geotech PM:***	***Sampled By:***
TBD	Shaun Vemuri, PE	Sierra Geotech
Client Project Number:	***Sierra Geotech Lab Location:***	***Source:***
NA	Rocklin, CA	Geotechnical Investigation
Client Project Name:	***Lab Manager:***	***Depth (feet) below existing ground surface:***
Calneva PSES/BESS	Shaun Vemuri, PE	See Logs
Project Location:	***Lab Technician:***	***Sampled On:***
Calneva Rd, Calneva, CA	JC/CC/BZ/HA	2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties	
Natural Moisture Content:	7.25%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Poorly Graded Sand (SP)	0.375	100.0%
	#4	100.0%
Gravel Percent	#8	95.4%
0.00%	#10	32.7%
Sand Percent	#16	27.3%
94.25%	#30	18.5%
Fines Percent	#40	18.4%
5.75%	#50	16.0%
	#100	14.6%
	#200	5.8%

Co-efficients	
Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

For Lab Use Only	
Test Requested On:	2/7/2020
Report Issued:	2/12/2020
Lab Report ID:	1002

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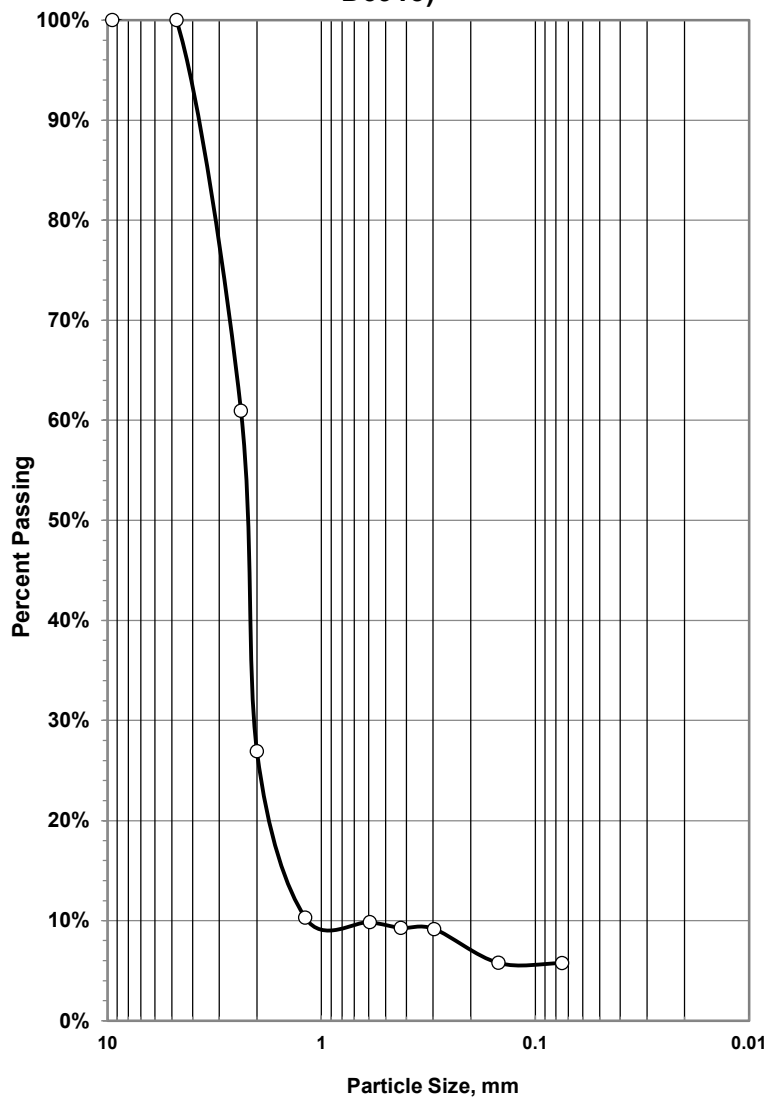
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Lab Testing Report

Our Client:	***Our Project #:***	***Field Sample ID:***
Charles Hooper	RL2020-037	SG-105/SG-106
Project Owner:	***Our Project Name:***	***Field Sample Description:***
Sierra Geotech	Calneva PSES/BESS	Composite of Soil 1 from SG-105 and SG-106
General Contractor:	***Sierra Geotech PM:***	***Sampled By:***
TBD	Shaun Vemuri, PE	Sierra Geotech
Client Project Number:	***Sierra Geotech Lab Location:***	***Source:***
NA	Rocklin, CA	Geotechnical Investigation
Client Project Name:	***Lab Manager:***	***Depth (feet) below existing ground surface:***
Calneva PSES/BESS	Shaun Vemuri, PE	See Logs
Project Location:	***Lab Technician:***	***Sampled On:***
Calneva Rd, Calneva, CA	JC/CC/BZ/HA	2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties	
Natural Moisture Content:	8.95%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Poorly Graded Sand (SP)	0.375	100.0%
	#4	100.0%
Gravel Percent	#8	60.9%
0.00%	#10	26.9%
Sand Percent	#16	10.3%
94.25%	#30	9.8%
Fines Percent	#40	9.3%
5.75%	#50	9.2%
	#100	5.8%
	#200	5.8%

Co-efficients	
Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

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Test Requested On:	2/7/2020
Report Issued:	2/12/2020
Lab Report ID:	1003

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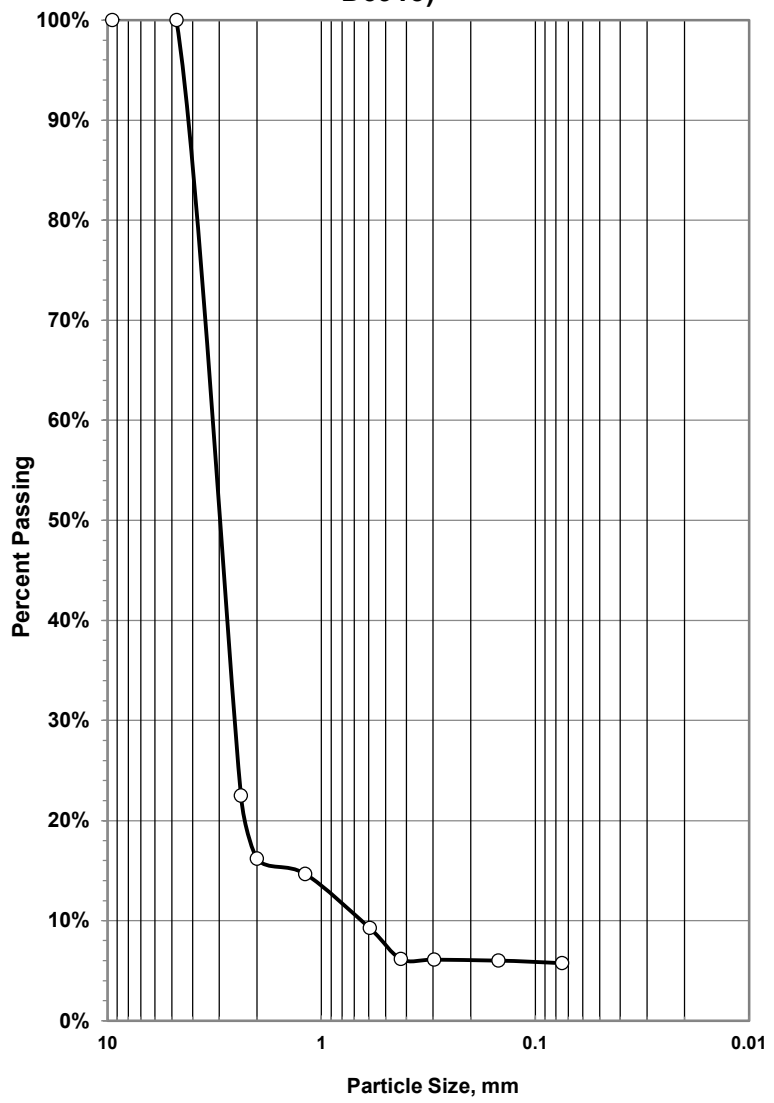
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Lab Testing Report

Our Client:	***Our Project #:***	***Field Sample ID:***
Charles Hooper	RL2020-037	SG-201/SG-202
Project Owner:	***Our Project Name:***	***Field Sample Description:***
Sierra Geotech	Calneva PSES/BESS	Composite of Soil 1 from SG-201 and SG-202
General Contractor:	***Sierra Geotech PM:***	***Sampled By:***
TBD	Shaun Vemuri, PE	Sierra Geotech
Client Project Number:	***Sierra Geotech Lab Location:***	***Source:***
NA	Rocklin, CA	Geotechnical Investigation
Client Project Name:	***Lab Manager:***	***Depth (feet) below existing ground surface:***
Calneva PSES/BESS	Shaun Vemuri, PE	See Logs
Project Location:	***Lab Technician:***	***Sampled On:***
Calneva Rd, Calneva, CA	JC/CC/BZ/HA	2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties

Natural Moisture Content:	12.50%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Poorly Graded Sand (SP)	0.375	100.0%
	#4	100.0%
Gravel Percent	#8	22.5%
0.00%	#10	16.2%
Sand Percent	#16	14.7%
94.25%	#30	9.3%
Fines Percent	#40	6.2%
5.75%	#50	6.1%
	#100	6.0%
	#200	5.8%

Co-efficients

Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

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Test Requested On:	2/7/2020
Report Issued:	2/12/2020
Lab Report ID:	1004

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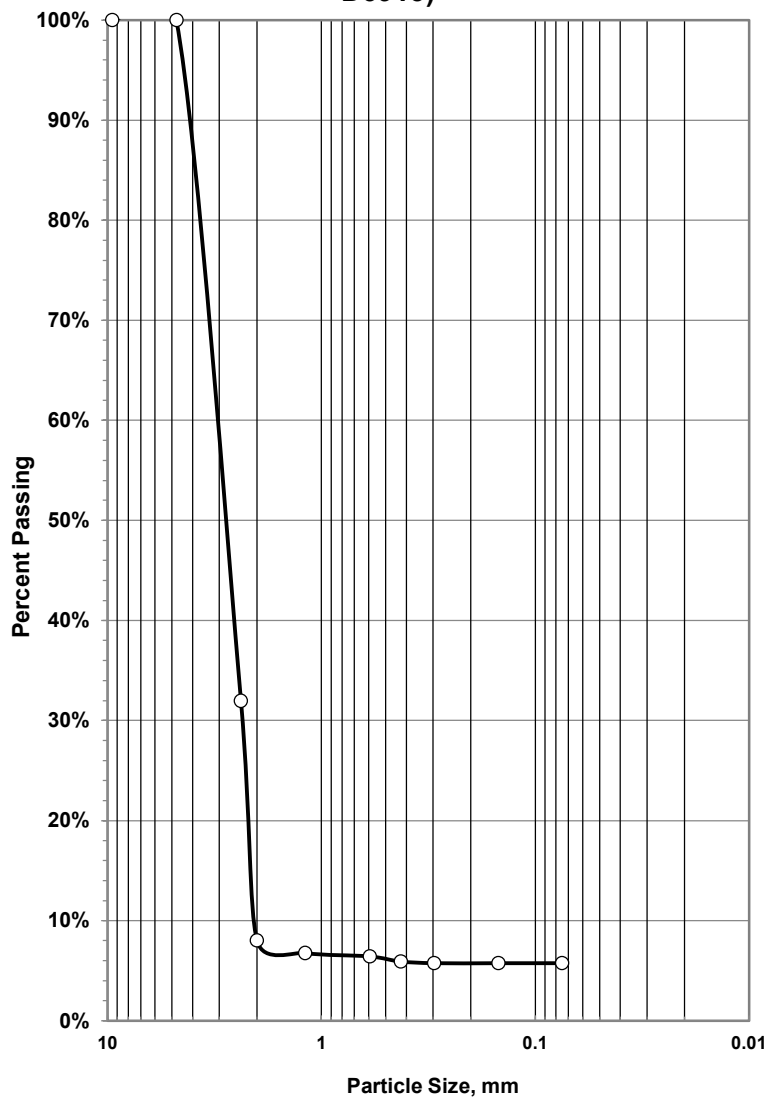
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Lab Testing Report

Our Client:	***Our Project #:***	***Field Sample ID:***
Charles Hooper	RL2020-037	SG-203/SG-204
Project Owner:	***Our Project Name:***	***Field Sample Description:***
Sierra Geotech	Calneva PSES/BESS	Composite of Soil 1 from SG-203 and SG-204
General Contractor:	***Sierra Geotech PM:***	***Sampled By:***
TBD	Shaun Vemuri, PE	Sierra Geotech
Client Project Number:	***Sierra Geotech Lab Location:***	***Source:***
NA	Rocklin, CA	Geotechnical Investigation
Client Project Name:	***Lab Manager:***	***Depth (feet) below existing ground surface:***
Calneva PSES/BESS	Shaun Vemuri, PE	See Logs
Project Location:	***Lab Technician:***	***Sampled On:***
Calneva Rd, Calneva, CA	JC/CC/BZ/HA	2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties

Natural Moisture Content:	14.60%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Poorly Graded Sand (SP)	0.375	100.0%
	#4	100.0%
Gravel Percent	#8	32.0%
0.00%	#10	8.0%
Sand Percent	#16	6.8%
94.25%	#30	6.4%
Fines Percent	#40	5.9%
5.75%	#50	5.8%
	#100	5.8%
	#200	5.8%

Co-efficients

Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

For Lab Use Only

Test Requested On:	2/7/2020
Report Issued:	2/12/2020
Lab Report ID:	1005

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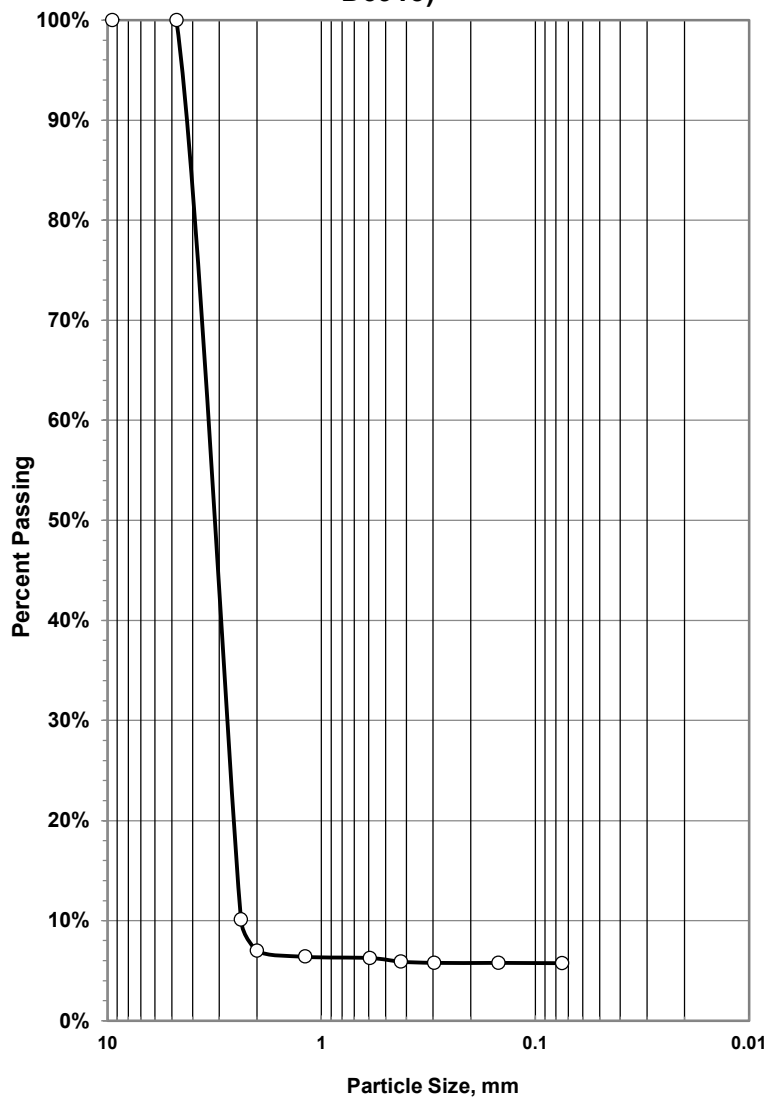
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Lab Testing Report

Our Client: Charles Hooper	***Our Project #:*** RL2020-037	***Field Sample ID:*** SG-205/SG-206
Project Owner: Sierra Geotech	***Our Project Name:*** Calneva PSES/BESS	***Field Sample Description:*** Composite of Soil 1 from SG-205 and SG-206
General Contractor: TBD	***Sierra Geotech PM:*** Shaun Vemuri, PE	***Sampled By:*** Sierra Geotech
Client Project Number: NA	***Sierra Geotech Lab Location:*** Rocklin, CA	***Source:*** Geotechnical Investigation
Client Project Name: Calneva PSES/BESS	***Lab Manager:*** Shaun Vemuri, PE	***Depth (feet) below existing ground surface:*** See Logs
Project Location: Calneva Rd, Calneva, CA	***Lab Technician:*** JC/CC/BZ/HA	***Sampled On:*** 2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties

Natural Moisture Content:	7.50%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Poorly Graded Sand (SP)	0.375	100.0%
	#4	100.0%
Gravel Percent	#8	10.1%
0.00%	#10	7.0%
Sand Percent	#16	6.4%
94.25%	#30	6.3%
Fines Percent	#40	5.9%
5.75%	#50	5.8%
	#100	5.8%
	#200	5.8%

Co-efficients

Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

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Report Issued:	2/12/2020
Lab Report ID:	1006

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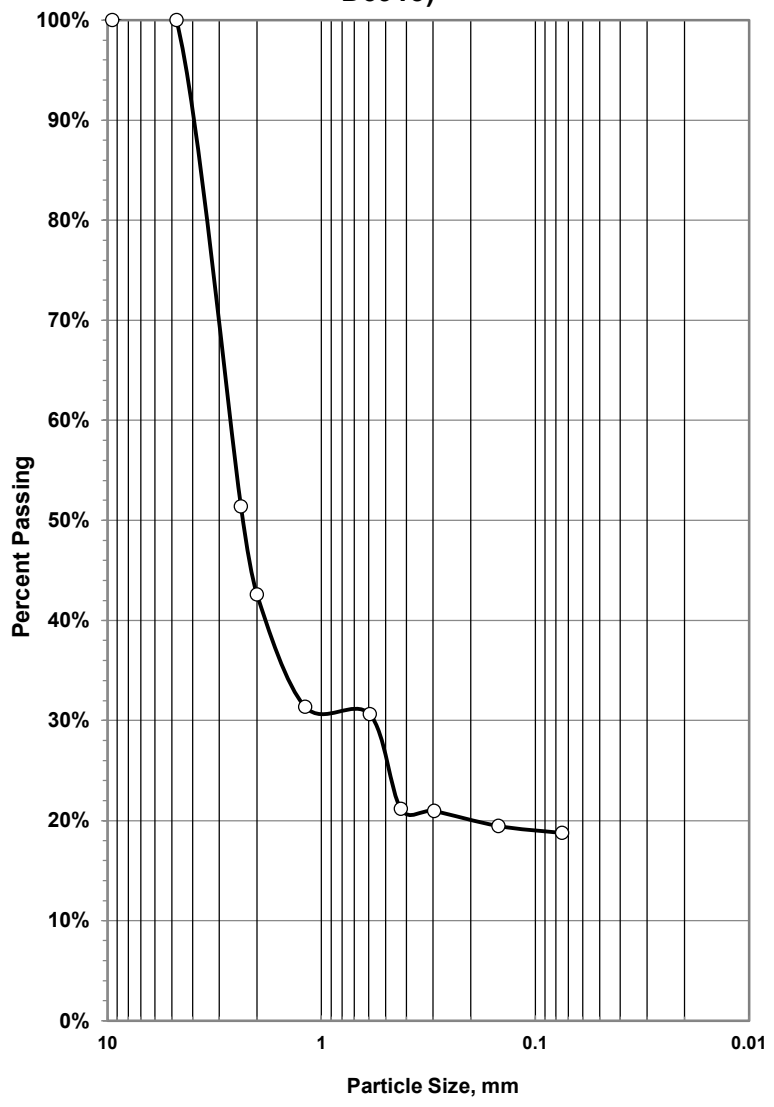
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Lab Testing Report

Our Client:	***Our Project #:***	***Field Sample ID:***
Charles Hooper	RL2020-037	SG-101/SG-102
Project Owner:	***Our Project Name:***	***Field Sample Description:***
Sierra Geotech	Calneva PSES/BESS	Composite of Soil 2 from SG-101 and SG-102
General Contractor:	***Sierra Geotech PM:***	***Sampled By:***
TBD	Shaun Vemuri, PE	Sierra Geotech
Client Project Number:	***Sierra Geotech Lab Location:***	***Source:***
NA	Rocklin, CA	Geotechnical Investigation
Client Project Name:	***Lab Manager:***	***Depth (feet) below existing ground surface:***
Calneva PSES/BESS	Shaun Vemuri, PE	See Logs
Project Location:	***Lab Technician:***	***Sampled On:***
Calneva Rd, Calneva, CA	JC/CC/BZ/HA	2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties

Natural Moisture Content:	14.50%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Silty Sand (SM)	0.375	100.0%
	#4	100.0%
Gravel Percent	#8	51.4%
0.00%	#10	42.6%
Sand Percent	#16	31.4%
81.23%	#30	30.6%
Fines Percent	#40	21.2%
18.77%	#50	20.9%
	#100	19.5%
	#200	18.8%

Co-efficients

Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

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Test Requested On:	2/7/2020
Report Issued:	2/12/2020
Lab Report ID:	1007

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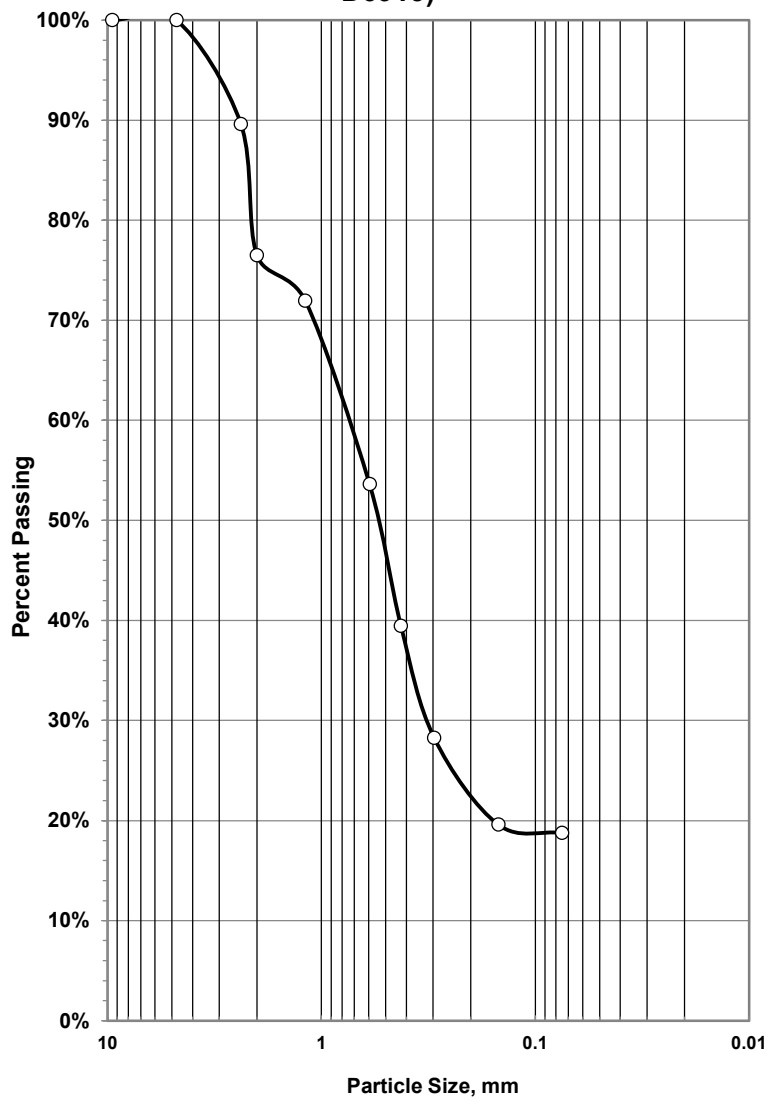
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Lab Testing Report

Our Client:	***Our Project #:***	***Field Sample ID:***
Charles Hooper	RL2020-037	SG-103/SG-104
Project Owner:	***Our Project Name:***	***Field Sample Description:***
Sierra Geotech	Calneva PSES/BESS	Composite of Soil 2 from SG-103 and SG-104
General Contractor:	***Sierra Geotech PM:***	***Sampled By:***
TBD	Shaun Vemuri, PE	Sierra Geotech
Client Project Number:	***Sierra Geotech Lab Location:***	***Source:***
NA	Rocklin, CA	Geotechnical Investigation
Client Project Name:	***Lab Manager:***	***Depth (feet) below existing ground surface:***
Calneva PSES/BESS	Shaun Vemuri, PE	See Logs
Project Location:	***Lab Technician:***	***Sampled On:***
Calneva Rd, Calneva, CA	JC/CC/BZ/HA	2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties	
Natural Moisture Content:	13.50%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Silty Sand (SM)	0.375	100.0%
	#4	100.0%
Gravel Percent	#8	89.6%
0.00%	#10	76.5%
Sand Percent	#16	71.9%
81.23%	#30	53.6%
Fines Percent	#40	39.4%
18.77%	#50	28.3%
	#100	19.6%
	#200	18.8%

Co-efficients	
Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

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Test Requested On:	2/7/2020
Report Issued:	2/12/2020
Lab Report ID:	1008

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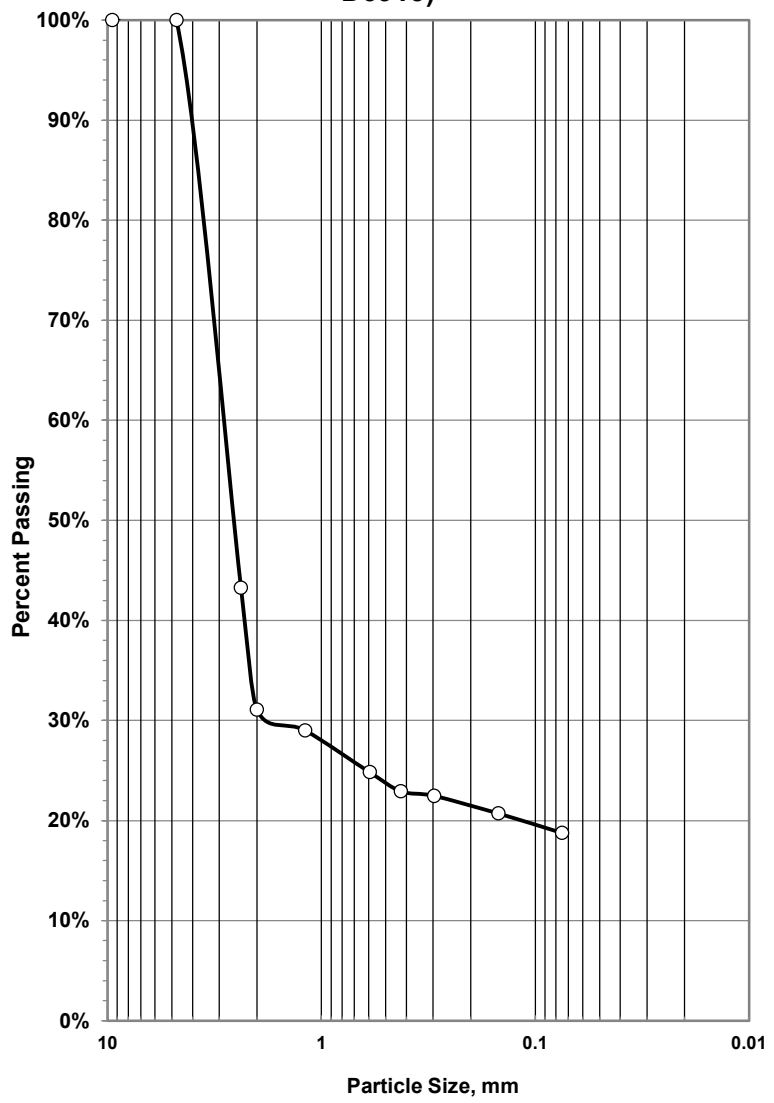
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Lab Testing Report

Our Client: Charles Hooper	***Our Project #:*** RL2020-037	***Field Sample ID:*** SG-105/SG-106
Project Owner: Sierra Geotech	***Our Project Name:*** Calneva PSES/BESS	***Field Sample Description:*** Composite of Soil 2 from SG-105 and SG-106
General Contractor: TBD	***Sierra Geotech PM:*** Shaun Vemuri, PE	***Sampled By:*** Sierra Geotech
Client Project Number: NA	***Sierra Geotech Lab Location:*** Rocklin, CA	***Source:*** Geotechnical Investigation
Client Project Name: Calneva PSES/BESS	***Lab Manager:*** Shaun Vemuri, PE	***Depth (feet) below existing ground surface:*** See Logs
Project Location: Calneva Rd, Calneva, CA	***Lab Technician:*** JC/CC/BZ/HA	***Sampled On:*** 2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties

Natural Moisture Content:	16.10%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Silty Sand (SM)	0.375	100.0%
	#4	100.0%
Gravel Percent	#8	43.3%
0.00%	#10	31.1%
Sand Percent	#16	29.0%
81.23%	#30	24.8%
Fines Percent	#40	22.9%
18.77%	#50	22.5%
	#100	20.7%
	#200	18.8%

Co-efficients

Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

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Test Requested On:	2/7/2020
Report Issued:	2/12/2020
Lab Report ID:	1009

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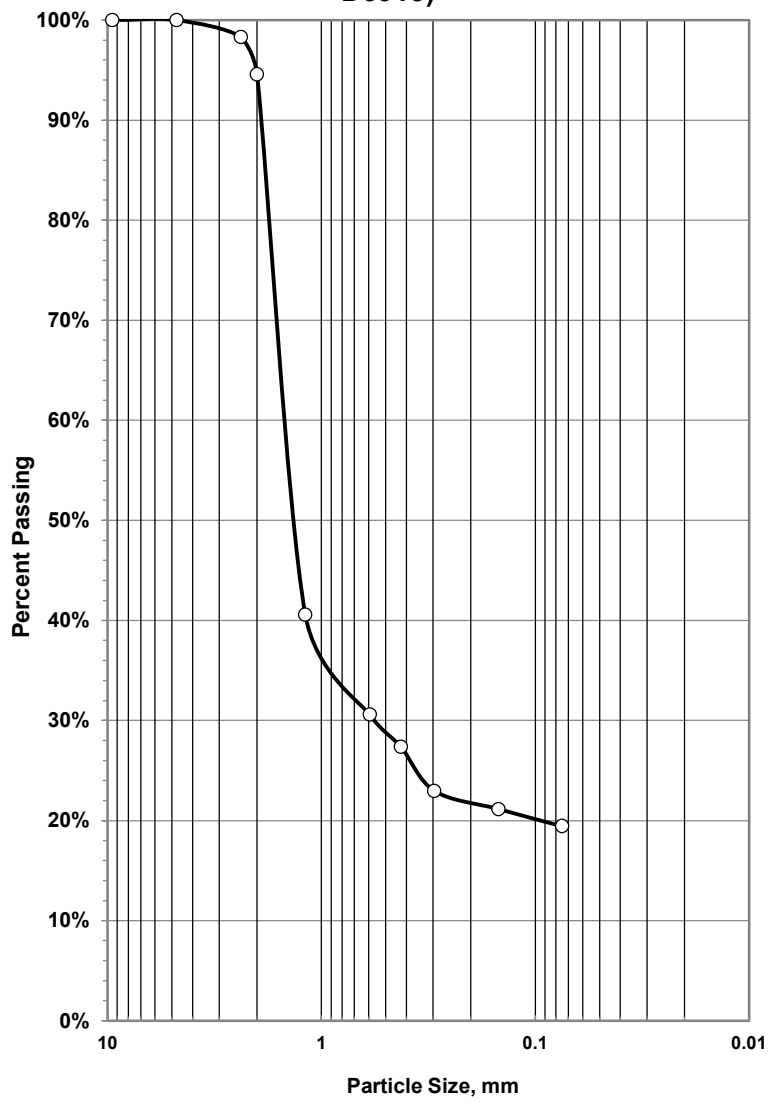
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Lab Testing Report

Our Client: Charles Hooper	***Our Project #:*** RL2020-037	***Field Sample ID:*** SG-201/SG-202
Project Owner: Sierra Geotech	***Our Project Name:*** Calneva PSES/BESS	***Field Sample Description:*** Composite of Soil 2 from SG-201 and SG-202
General Contractor: TBD	***Sierra Geotech PM:*** Shaun Vemuri, PE	***Sampled By:*** Sierra Geotech
Client Project Number: NA	***Sierra Geotech Lab Location:*** Rocklin, CA	***Source:*** Geotechnical Investigation
Client Project Name: Calneva PSES/BESS	***Lab Manager:*** Shaun Vemuri, PE	***Depth (feet) below existing ground surface:*** See Logs
Project Location: Calneva Rd, Calneva, CA	***Lab Technician:*** JC/CC/BZ/HA	***Sampled On:*** 2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties

Natural Moisture Content:	12.50%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Silty Sand (SM)	0.375	100.0%
	#4	100.0%
Gravel Percent	#8	98.3%
0.00%	#10	94.6%
Sand Percent	#16	40.6%
80.56%	#30	30.6%
Fines Percent	#40	27.4%
19.44%	#50	23.0%
	#100	21.2%
	#200	19.4%

Co-efficients

Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

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Test Requested On:	2/7/2020
Report Issued:	2/12/2020
Lab Report ID:	1010

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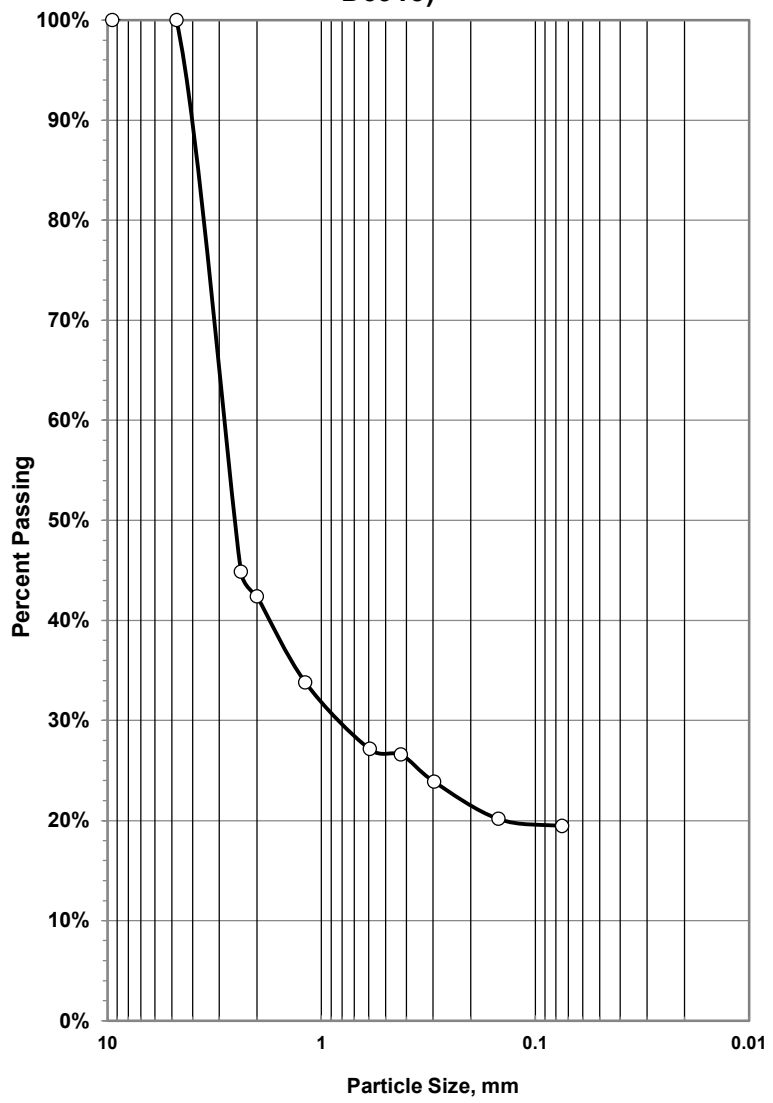
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Lab Testing Report

Our Client: Charles Hooper	***Our Project #:*** RL2020-037	***Field Sample ID:*** SG-203/SG-204
Project Owner: Sierra Geotech	***Our Project Name:*** Calneva PSES/BESS	***Field Sample Description:*** Composite of Soil 2 from SG-203 and SG-204
General Contractor: TBD	***Sierra Geotech PM:*** Shaun Vemuri, PE	***Sampled By:*** Sierra Geotech
Client Project Number: NA	***Sierra Geotech Lab Location:*** Rocklin, CA	***Source:*** Geotechnical Investigation
Client Project Name: Calneva PSES/BESS	***Lab Manager:*** Shaun Vemuri, PE	***Depth (feet) below existing ground surface:*** See Logs
Project Location: Calneva Rd, Calneva, CA	***Lab Technician:*** JC/CC/BZ/HA	***Sampled On:*** 2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties

Natural Moisture Content:	11.70%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Silty Sand (SM)	0.375	100.0%
	#4	100.0%
Gravel Percent	#8	44.9%
0.00%	#10	42.4%
Sand Percent	#16	33.8%
80.56%	#30	27.2%
Fines Percent	#40	26.6%
19.44%	#50	23.9%
	#100	20.2%
	#200	19.4%

Co-efficients

Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

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Test Requested On:	2/7/2020
Report Issued:	2/12/2020
Lab Report ID:	1011

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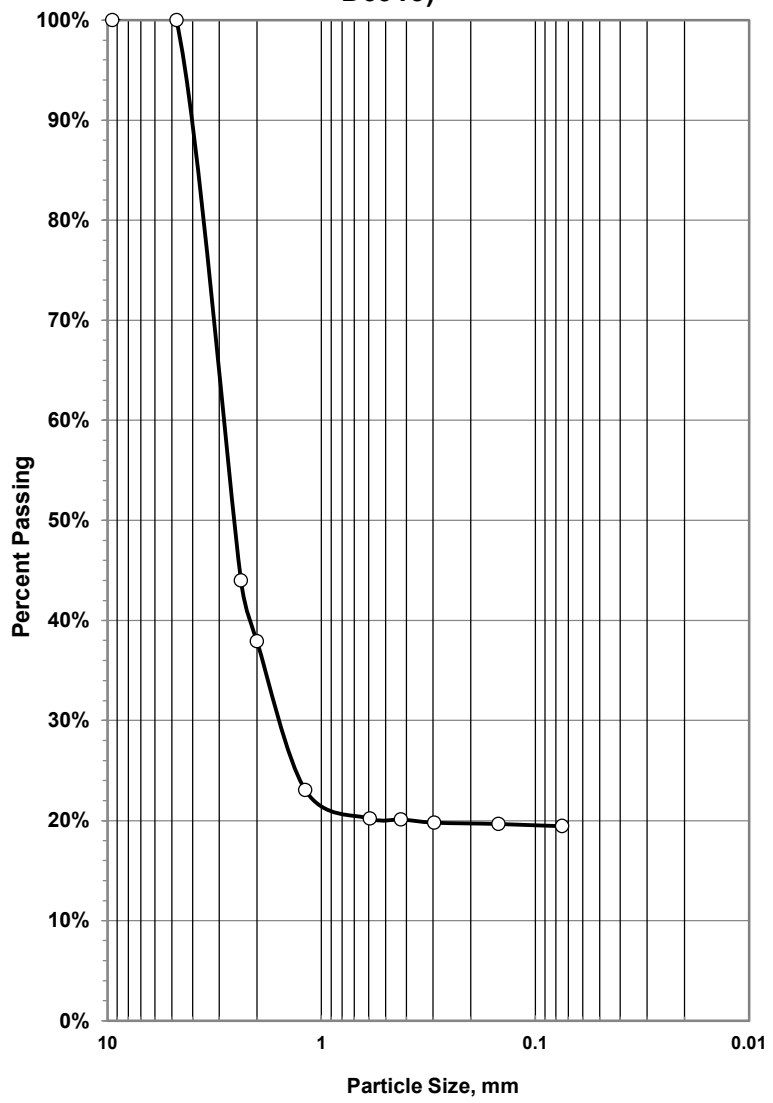
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Lab Testing Report

Our Client:	***Our Project #:***	***Field Sample ID:***
Charles Hooper	RL2020-037	SG-205/SG-206
Project Owner:	***Our Project Name:***	***Field Sample Description:***
Sierra Geotech	Calneva PSES/BESS	Composite of Soil 2 from SG-205 and SG-206
General Contractor:	***Sierra Geotech PM:***	***Sampled By:***
TBD	Shaun Vemuri, PE	Sierra Geotech
Client Project Number:	***Sierra Geotech Lab Location:***	***Source:***
NA	Rocklin, CA	Geotechnical Investigation
Client Project Name:	***Lab Manager:***	***Depth (feet) below existing ground surface:***
Calneva PSES/BESS	Shaun Vemuri, PE	See Logs
Project Location:	***Lab Technician:***	***Sampled On:***
Calneva Rd, Calneva, CA	JC/CC/BZ/HA	2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties

Natural Moisture Content:	16.90%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Silty Sand (SM)	0.375	100.0%
	#4	100.0%
Gravel Percent	#8	44.0%
0.00%	#10	37.9%
Sand Percent	#16	23.1%
80.56%	#30	20.2%
Fines Percent	#40	20.1%
19.44%	#50	19.8%
	#100	19.7%
	#200	19.4%

Co-efficients

Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

For Lab Use Only

Test Requested On:	2/7/2020
Report Issued:	2/12/2020
Lab Report ID:	1012

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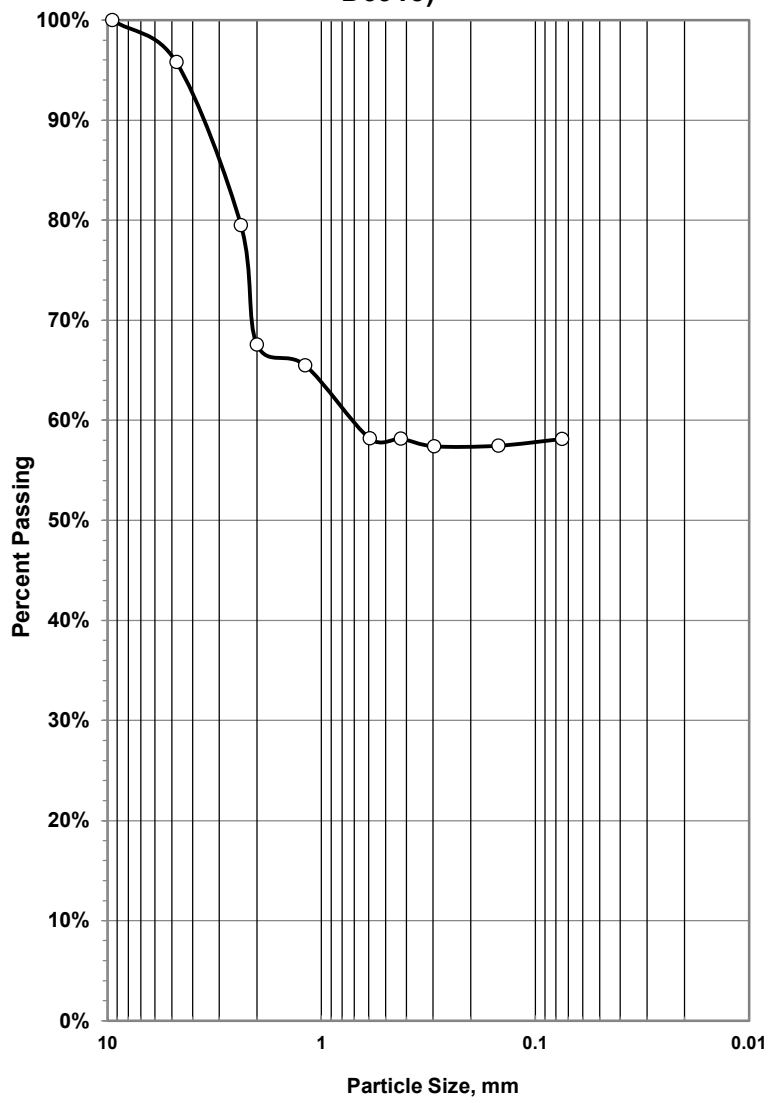
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Lab Testing Report

Our Client:	***Our Project #:***	***Field Sample ID:***
Charles Hooper	RL2020-037	SG-101/SG-102
Project Owner:	***Our Project Name:***	***Field Sample Description:***
Sierra Geotech	Calneva PSES/BESS	Composite of Soil 3 from SG-101 and SG-102
General Contractor:	***Sierra Geotech PM:***	***Sampled By:***
TBD	Shaun Vemuri, PE	Sierra Geotech
Client Project Number:	***Sierra Geotech Lab Location:***	***Source:***
NA	Rocklin, CA	Geotechnical Investigation
Client Project Name:	***Lab Manager:***	***Depth (feet) below existing ground surface:***
Calneva PSES/BESS	Shaun Vemuri, PE	See Logs
Project Location:	***Lab Technician:***	***Sampled On:***
Calneva Rd, Calneva, CA	JC/CC/BZ/HA	2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties

Natural Moisture Content:	12.80%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Sandy SILT (ML)	0.375	95.8%
	#4	95.8%
Gravel Percent	#8	79.5%
4.22%	#10	67.6%
Sand Percent	#16	65.5%
37.66%	#30	58.2%
Fines Percent	#40	58.1%
58.12%	#50	57.4%
	#100	57.5%
	#200	58.1%

Co-efficients

Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

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Lab Report ID:	1013

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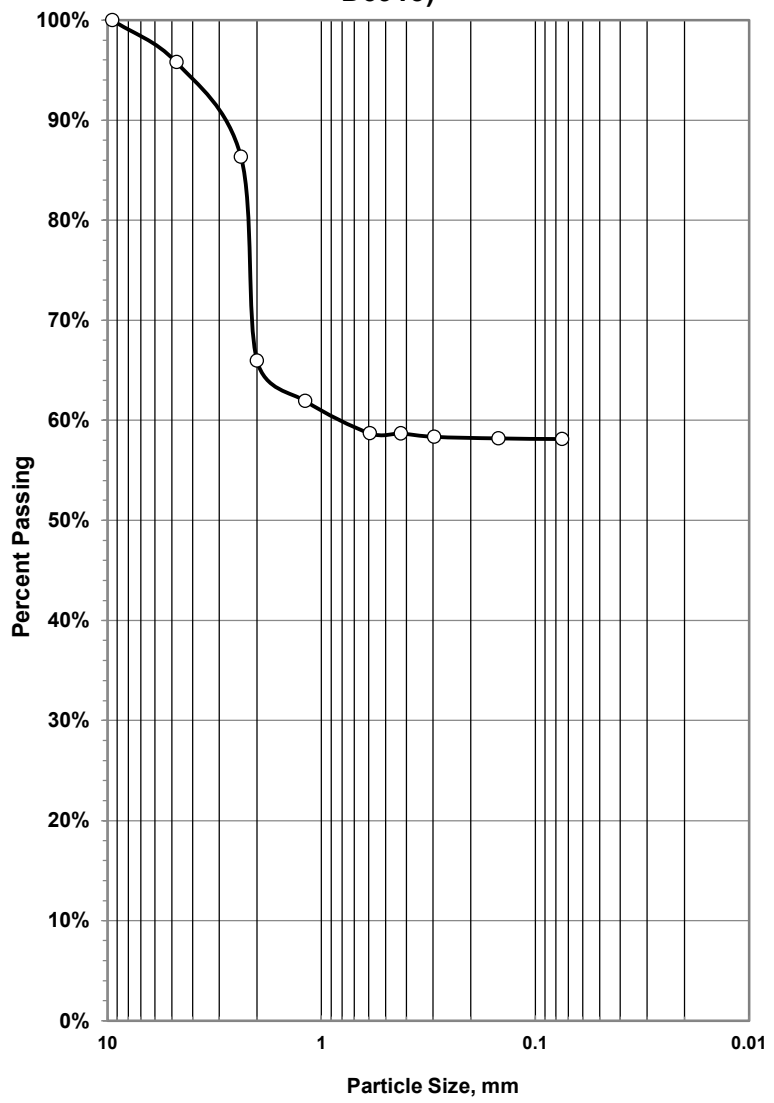
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Lab Testing Report

Our Client:	***Our Project #:***	***Field Sample ID:***
Charles Hooper	RL2020-037	SG-103/SG-104
Project Owner:	***Our Project Name:***	***Field Sample Description:***
Sierra Geotech	Calneva PSES/BESS	Composite of Soil 3 from SG-103 and SG-104
General Contractor:	***Sierra Geotech PM:***	***Sampled By:***
TBD	Shaun Vemuri, PE	Sierra Geotech
Client Project Number:	***Sierra Geotech Lab Location:***	***Source:***
NA	Rocklin, CA	Geotechnical Investigation
Client Project Name:	***Lab Manager:***	***Depth (feet) below existing ground surface:***
Calneva PSES/BESS	Shaun Vemuri, PE	See Logs
Project Location:	***Lab Technician:***	***Sampled On:***
Calneva Rd, Calneva, CA	JC/CC/BZ/HA	2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties

Natural Moisture Content:	16.80%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Sandy SILT (ML)	0.375	95.8%
	#4	95.8%
Gravel Percent	#8	86.3%
4.22%	#10	66.0%
Sand Percent	#16	61.9%
37.66%	#30	58.7%
Fines Percent	#40	58.7%
58.12%	#50	58.3%
	#100	58.2%
	#200	58.1%

Co-efficients

Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

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Test Requested On:	2/7/2020
Report Issued:	2/12/2020
Lab Report ID:	1014

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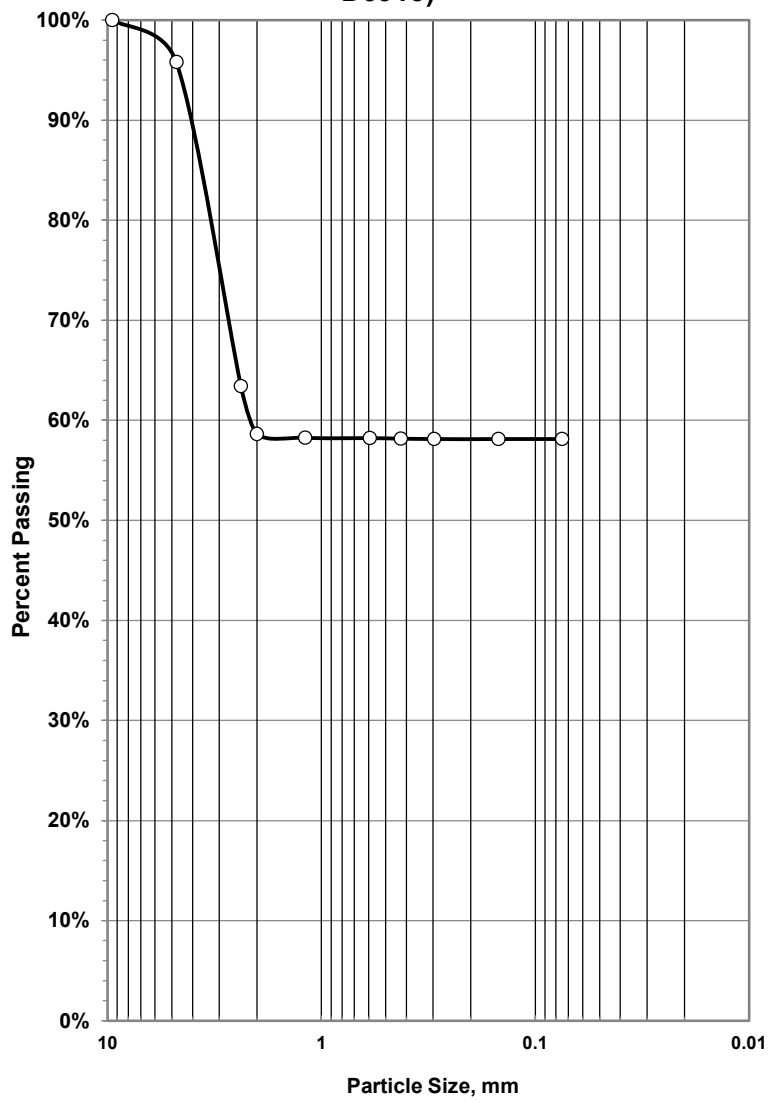
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Lab Testing Report

Our Client:	***Our Project #:***	***Field Sample ID:***
Charles Hooper	RL2020-037	SG-105/SG-106
Project Owner:	***Our Project Name:***	***Field Sample Description:***
Sierra Geotech	Calneva PSES/BESS	Composite of Soil 3 from SG-105 and SG-106
General Contractor:	***Sierra Geotech PM:***	***Sampled By:***
TBD	Shaun Vemuri, PE	Sierra Geotech
Client Project Number:	***Sierra Geotech Lab Location:***	***Source:***
NA	Rocklin, CA	Geotechnical Investigation
Client Project Name:	***Lab Manager:***	***Depth (feet) below existing ground surface:***
Calneva PSES/BESS	Shaun Vemuri, PE	See Logs
Project Location:	***Lab Technician:***	***Sampled On:***
Calneva Rd, Calneva, CA	JC/CC/BZ/HA	2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties

Natural Moisture Content:	20.10%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Sandy SILT (ML)	0.375	95.8%
	#4	95.8%
Gravel Percent	#8	63.4%
4.22%	#10	58.6%
Sand Percent	#16	58.2%
37.66%	#30	58.2%
Fines Percent	#40	58.2%
58.12%	#50	58.1%
	#100	58.1%
	#200	58.1%

Co-efficients

Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

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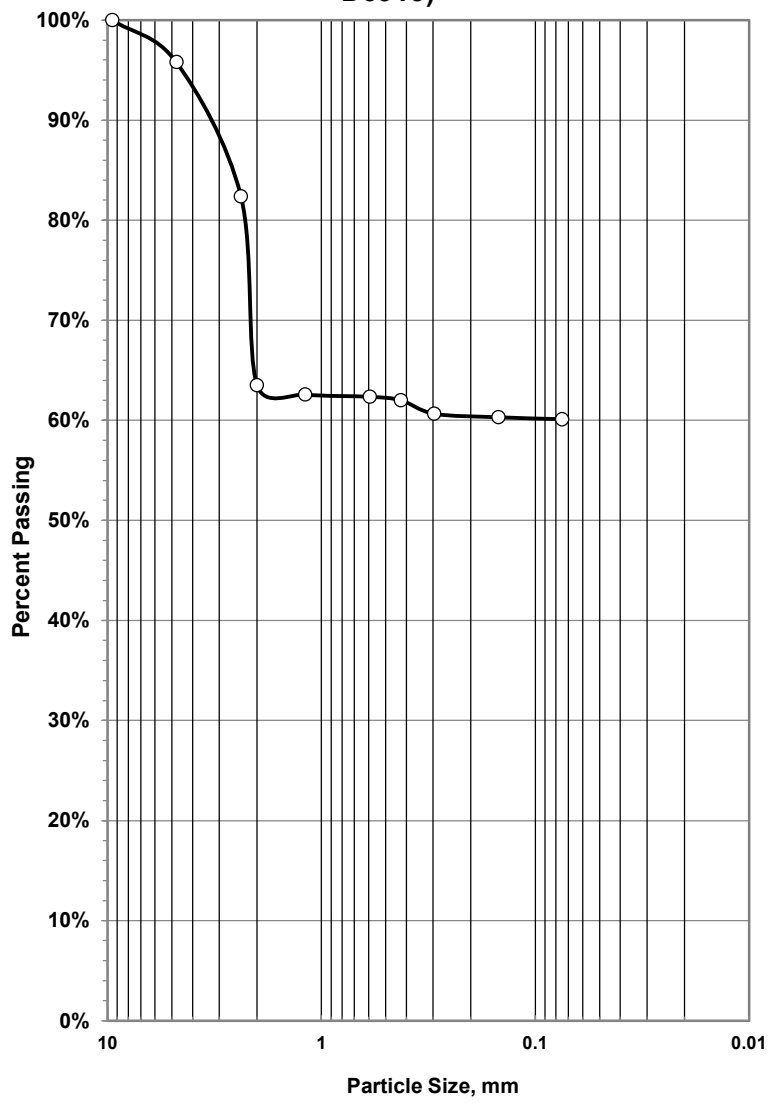
Test Requested On:	2/7/2020
Report Issued:	2/12/2020
Lab Report ID:	1015

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Lab Testing Report

Our Client:	***Our Project #:***	***Field Sample ID:***
Charles Hooper	RL2020-037	SG-201/SG-202
Project Owner:	***Our Project Name:***	***Field Sample Description:***
Sierra Geotech	Calneva PSES/BESS	Composite of Soil 3 from SG-201 and SG-202
General Contractor:	***Sierra Geotech PM:***	***Sampled By:***
TBD	Shaun Vemuri, PE	Sierra Geotech
Client Project Number:	***Sierra Geotech Lab Location:***	***Source:***
NA	Rocklin, CA	Geotechnical Investigation
Client Project Name:	***Lab Manager:***	***Depth (feet) below existing ground surface:***
Calneva PSES/BESS	Shaun Vemuri, PE	See Logs
Project Location:	***Lab Technician:***	***Sampled On:***
Calneva Rd, Calneva, CA	JC/CC/BZ/HA	2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties

Natural Moisture Content:	10.10%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Sandy SILT (ML)	0.375	95.8%
	#4	95.8%
Gravel Percent	#8	82.4%
4.22%	#10	63.5%
Sand Percent	#16	62.6%
35.68%	#30	62.3%
Fines Percent	#40	62.0%
60.10%	#50	60.7%
	#100	60.3%
	#200	60.1%

Co-efficients

Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

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Test Requested On:	2/7/2020
Report Issued:	2/12/2020
Lab Report ID:	1016

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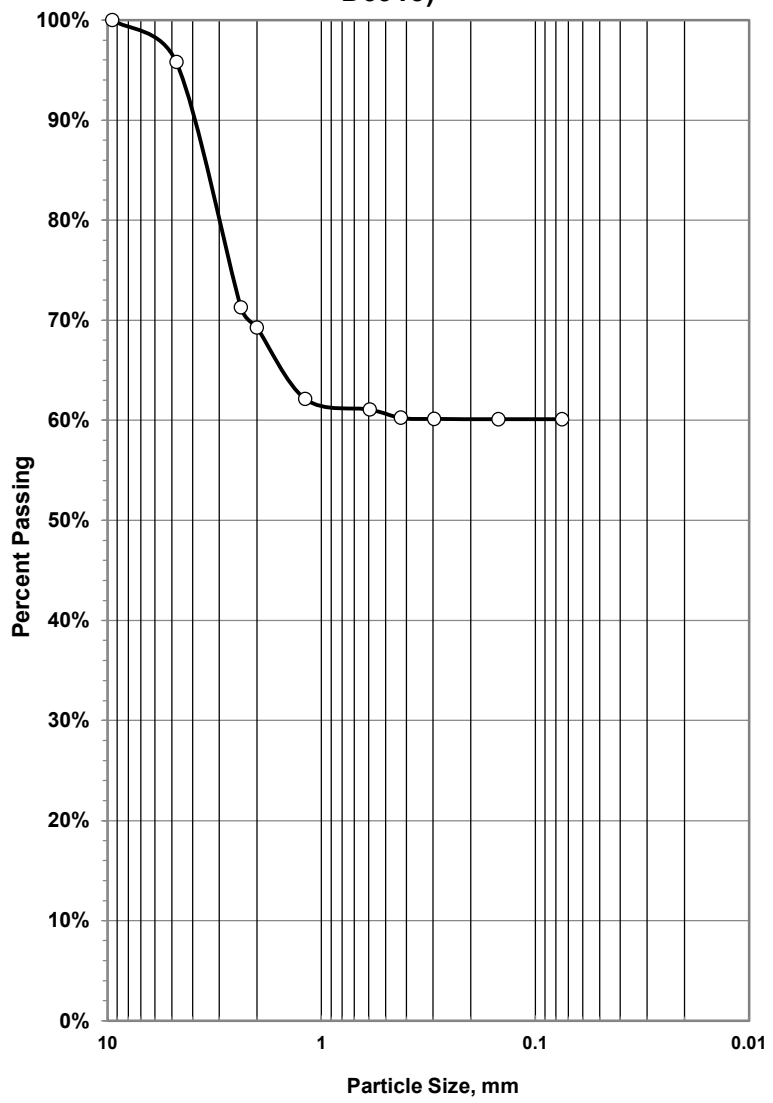
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Lab Testing Report

Our Client: Charles Hooper	***Our Project #:*** RL2020-037	***Field Sample ID:*** SG-203/SG-204
Project Owner: Sierra Geotech	***Our Project Name:*** Calneva PSES/BESS	***Field Sample Description:*** Composite of Soil 3 from SG-203 and SG-204
General Contractor: TBD	***Sierra Geotech PM:*** Shaun Vemuri, PE	***Sampled By:*** Sierra Geotech
Client Project Number: NA	***Sierra Geotech Lab Location:*** Rocklin, CA	***Source:*** Geotechnical Investigation
Client Project Name: Calneva PSES/BESS	***Lab Manager:*** Shaun Vemuri, PE	***Depth (feet) below existing ground surface:*** See Logs
Project Location: Calneva Rd, Calneva, CA	***Lab Technician:*** JC/CC/BZ/HA	***Sampled On:*** 2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties

Natural Moisture Content:	18.20%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Sandy SILT (ML)	0.375	95.8%
	#4	95.8%
Gravel Percent	#8	71.3%
4.22%	#10	69.3%
Sand Percent	#16	62.1%
35.68%	#30	61.1%
Fines Percent	#40	60.3%
60.10%	#50	60.1%
	#100	60.1%
	#200	60.1%

Co-efficients

Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

For Lab Use Only

Test Requested On:	2/7/2020
Report Issued:	2/12/2020
Lab Report ID:	1017

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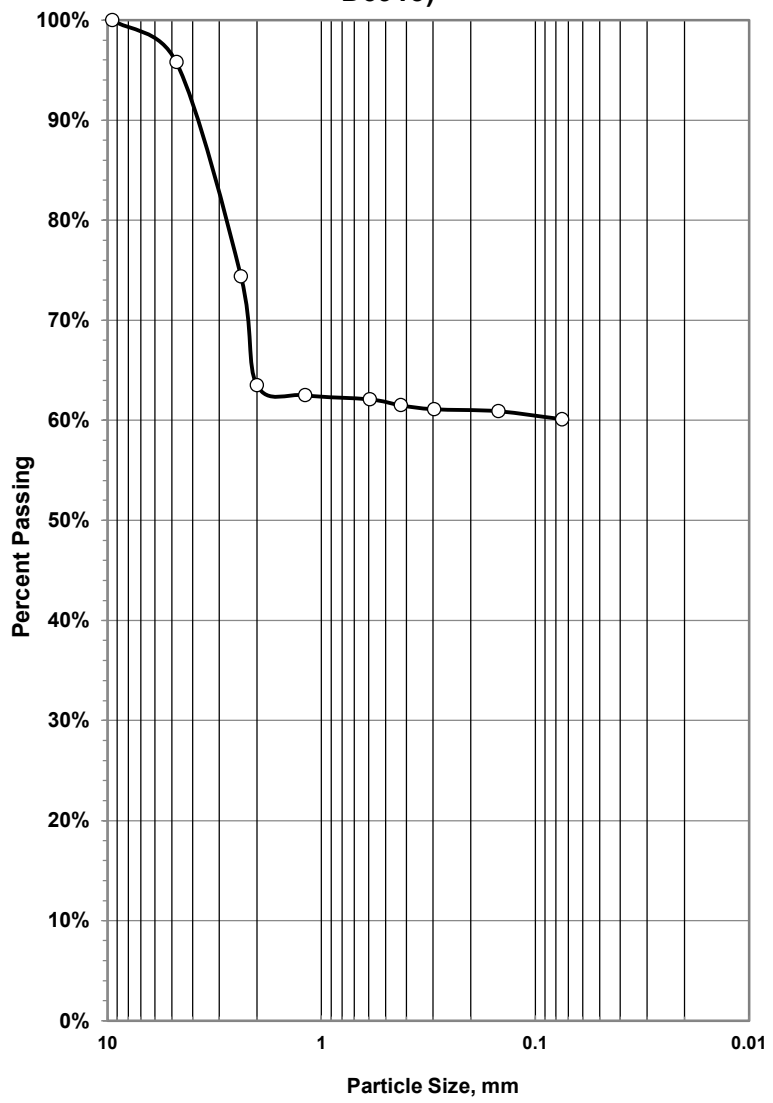
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Lab Testing Report

Our Client: Charles Hooper	***Our Project #:*** RL2020-037	***Field Sample ID:*** SG-205/SG-206
Project Owner: Sierra Geotech	***Our Project Name:*** Calneva PSES/BESS	***Field Sample Description:*** Composite of Soil 3 from SG-205 and SG-206
General Contractor: TBD	***Sierra Geotech PM:*** Shaun Vemuri, PE	***Sampled By:*** Sierra Geotech
Client Project Number: NA	***Sierra Geotech Lab Location:*** Rocklin, CA	***Source:*** Geotechnical Investigation
Client Project Name: Calneva PSES/BESS	***Lab Manager:*** Shaun Vemuri, PE	***Depth (feet) below existing ground surface:*** See Logs
Project Location: Calneva Rd, Calneva, CA	***Lab Technician:*** JC/CC/BZ/HA	***Sampled On:*** 2/5/2020 or 2/6/2020

GRAIN SIZE DISTRIBUTION REPORT (ASTM D6913)



Soil Properties

Natural Moisture Content:	14.10%
Assumed Specific Gravity:	2.7
Liquid Limit | Plastic Limit	|
Plasticty Index	

Soil Description	% Passing	
Sandy SILT (ML)	0.375	95.8%
	#4	95.8%
Gravel Percent	#8	74.4%
4.22%	#10	63.5%
Sand Percent	#16	62.5%
35.68%	#30	62.1%
Fines Percent	#40	61.5%
60.10%	#50	61.1%
	#100	60.9%
	#200	60.1%

Co-efficients

Cu:	
Cc:	
D90:	
D85:	
D60:	
D50:	
D30:	
D15:	
D10:	

For Lab Use Only

Test Requested On:	2/7/2020
Report Issued:	2/12/2020
Lab Report ID:	1018

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Special Status Plant Survey Report

for the

Calneva Battery Energy Storage System (BESS) and Photovoltaic Solar Energy System (PSES)

Lassen County, Calneva, California
May 2021



Prepared for:
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CDR (RET) MC USN
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1. Summary

Focused surveys for special-status plant species were conducted on the Calneva BESS/PSES Proposed Project Area. Two qualified botanists performed the presence/absence surveys on April 22, April 30, May 4, and May 15, 2021. The surveys were conducted during April and May and consisted of eight (8) person days of surveys, or approximately eighty (80) person-hours. Surveys were conducted during the peak blooming periods for special status species determined to have potential to occur in the Proposed Project Area. Surveys were floristic in nature. No special status plant species were observed within the Proposed Project Area.

Suitable habitat exists on the Proposed Project Area for the following nine (9) special-status plant species known to occur in the vicinity: Geyer's milk-vetch (*Astragalus geyeri Gray var. geyeri*), Dugway wild buckwheat (*Eriogonum nutans var. nutans*), sagebrush Loeflingia (*Loeflingia squarrosa var. artemisiarum*), intermontane lupine (*Lupinus pusillus var. intermontanus*), lance-leaved scurf pea (*Ladeania lanceolata*), winged dock (*Rumex venosus*), currant-leaved desert mallow (*Sphaeralcea grossulariifolia ssp. grossulariifolia*), many-flowered Thelypodium (*Thelypodium milleflorum*), and Nelson's evening primrose (*Eremothera minor*). These plant species were not observed on the Proposed Project Area during the focused surveys (April 22, April 30, May 4, and May 15); nor were any other special-status plant species.

California Department of Fish and Wildlife (CDFW) requested that the following eight (8) species be targeted during the special status plant surveys since they have been identified within a twelve (12) mile radius of the Proposed Project Area, despite no suitable habitat to support the following special-status plant species being present on the Proposed Project Area: Cruciform evening-primrose (*Camissonia claviformis ssp. cruciformis*), Hillman's Cleomella (*Cleomella hillmanii*), Bailey's Ivesia (*Ivesia baileyi var. baileyi*), ochre-flowered buckwheat (*Eriogonum ochrocephalum*), MacDougal's Lomatium (*Lomatium foeniculaceum var.*), Paiute Lomatium (*Lomatium ravenii*), western seablite (*Suaeda occidentalis Wats*), Kellogg's sand verbena (*Tripterocalyx crux-maltae*), and. These plant species were not observed on the Proposed Project Area during the focused surveys (April 22, April 30, May 4, and May 15); nor were any other special- status plant species.

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2. Introduction

PROJECT DESCRIPTION

The Proposed Project (Calneva BESS/PSES) will construct a battery electrical storage system (BESS) that would store up to 25 megawatts (MW) or 100 megawatt hours (MWh) of electricity for dispatch into the local grid via the existing adjacent PSREC 120 kV intertie line. The project will also construct 50 MW of solar photovoltaic power generation with the installation of Approximately 143,000 to 163,000 solar PV modules on a single axis track system on the 278 +/- acre Proposed Project Area. The project will also include:

- Electrical inverters and transformers
- Battery energy storage system (BESS)
  - Thirty (30) battery storage enclosures (i.e., 25 MW of power) store up to 25 megawatts (MW) or 100 megawatt hours (MWh) of electricity for dispatch
  - BESS power inverters, transformers switches, MV switchgear, SCADA enclosure,
- On-site electrical substation
- Meteorological stations
- Remote monitoring system (SCADA)
- Site access roads and maintenance access roads
- Security fencing
- Gen-Tie line structures to interconnect with the PSREC 120kV intertie line south of the solar generation site and
- Gen-Tie Laydown Area

PURPOSE OF SPECIAL STATUS PLANT SURVEY REPORT

The purpose of this Special Status Plant Survey Report is to describe the findings of focused plant surveys that were conducted at the Calneva BESS/PSES Proposed Project Area. Focused surveys were conducted to determine whether any special- status plant species are present on the Proposed Project Area that may pose development constraints to the proposed Calneva BESS/PSES project.

Special-status plants include those that are state- or federally listed as Rare, Threatened, or Endangered, proposed for state or federal listing as Threatened or Endangered, are federal Candidate species for listing, or are state and/or federal Species of Concern. In addition, plants included on Lists 1A, 1B, 2, 3, or 4 of the California Native Plant Society (CNPS) are also considered special status.

3. Environmental Setting

GENERAL SITE CHARACTERISTICS

The Calneva BESS/PSES Proposed Project Area is located four (4) miles north of the Fort Sage Road and Calneva Road intersection on the eastside of Calneva Road, in the southern end of the Honey Lake Valley, Lassen County. The Proposed Project Area is approximately 278 +/- acres in size within the parcels identified as Lassen County Assessor's Parcel Numbers (APNs) north half of Proposed Project Area is 137-170-12 (180 acres) and south half of the Proposed Project Area is 137-170-13 (98 acres). Adjacent to the Proposed Project Area, are the following properties and associated land uses: North: A 412-acre vacant open range parcel, owned by the State of California, Calneva Lake, and another vacant open range parcel owned by the State of California of approximately 105 acres in size. South: Vacant open rangeland with two parcels that abut the southern boundary of the Proposed Project Area, one parcel is 160 acres, and the other parcel is 128 acres in size; West: is Calneva Road public right-of-way and then vacant range land approximately six (6) miles to Herlong and the military installation Sierra Army Depot. Two privately owned vacant open range parcels border the western half of the Proposed Project Area one being 275.4 +/- acres in size and the other being 170.1 +/- acres in size; East: is more vacant open range lands and the California/Nevada state border. The entire Proposed Project Area for the proposed Calneva BESS/PSES project is vacant open range land with the Union Pacific (Historical Western Union) railroad corridor which bisects the site in a general east/west direction and provides rail service to the Sierra Army Depot. The Tuscarora natural gas pipeline runs through a portion of the northern half of the Proposed Project Area. The terrain is primarily flat (0-1 percent slopes) throughout the entire Proposed Project Area with an approximate elevation above sea level (asl) on the northwest corner of the BESS/PSES project at 4,006 feet asl, and then experiencing a very slight slope to the east/southeast toward the Nevada State border where the elevation is approximately 4,000 feet asl on the BESS/PSES project eastern boundary. The railroad tracks which bisect the Proposed Project Area in half has an elevation of approximately 4,012 feet asl. (See *Figure 3-1: Project Setting*, shows the surrounding land uses)



PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

N W E S

FIGURE: Project Setting

DATE:	05-18-2020	SCALE:	As Shown
BY:	AKM	FIGURE:	3-1

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PROJECT AREA SOIL TYPE (EPOT-RAGTOWN PLAYAS COMPLEX SOILS)

United States Department of Agriculture, Natural Resources and Conservation Service (USDA NRCS) soils survey designate the entire Proposed Project Area as Epot-Ragtown Playas complex soils. The Sierra Geotech DBA, Inc., geotechnical report dated April 8, 2020, with boring logs, and laboratory testing results which analyzes the soils of the Proposed Project Area provided soil data and indicators which confirmed the soils do not constitute wetland soils. The site is underlain by silty to clean sands with interbedded layers of clayey sands, sandy clays and sandy silts to the maximum depth explored (24.5 feet below the ground surface). The near-surface soils are loose to medium dense and consist predominately of cohesionless sand. The entire Proposed Project Area is made up of Epot-Ragtown Playas complex soils which are a *well-drained* class of soil with a very high runoff characteristic and saline within 40 inches. This soil is incapable of continuous or recurrent saturation of the upper substrate caused by groundwater.

The entire Proposed Project Area displays large amounts of cracking in the soils due to salinization, which is the precipitation of salts in the Proposed Project Area soils and is found mostly in desert soils such as the Epot-Ragtown Playas complex soils of the Proposed Project Area. The most common salts are halite and gypsum, which can form either as clear crystals within soil cracks or as sand crystals that engulf the pre-existing soil matrix. Salts are easily dissolved by rain and so accumulate in regions where there is a marked excess of evaporation over precipitation such as in the Honey Lake Valley where the Proposed Project Area is located. There is a strong relationship between mean annual precipitation and the depth of leaching of salts in soils and appearance of cracks in the soil. Salinized soils are sparsely vegetated or lack vegetation throughout the Proposed Project Area.

PLANT COMMUNITIES

There are only two primary vegetation plant communities observed on the Proposed Project Area. Figure 3-2 shows the plant communities characterization of the Proposed Project Area (*Holland's 36120 Desert sink scrub plant community, and 11300 Disturbed Habitat,*). Figure 3-2 shows the areas of alkali basins/flats/playas which are barren and void of all vegetation, and the Desert sink scrub plant community areas between the alkali basins/flats/playas which can support vegetation. The plant community's characterization types that were identified in the Proposed Project Area are described in detail below, based on Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (1986).

Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California – Desert Sink Scrub and Disturbed Habitat

36120 Desert Sink Scrub is comprised primarily of woody and succulent shrub species from the Goosefoot Family, that persist for periods of years. Desert Sink Scrub Communities are usually situated between Alkali Marsh and Saltbush Scrub Plant Communities. Soils that underly these communities are occasionally salt-encrusted, and highly alkaline. Shrub species common to this community type at the project lease area included: Big sagebrush (*Artemisia tridentata),* bud sagebrush (*Artemisia spinescens*), shadscale saltbush (*Atriplex confertifolia*), downy brome (*Bromus tectorum*), great basin wild-rye (*Elymus cinereus*), spiny hopsage (*Grayia spinosa*), prickly Russian thistle (*Kali tragus*), clasping pepperweed (*Lepidium perfoliatum*), black greasewood (*Sarcobatus vermiculatus*), littleleaf horsebrush (*Tetradymia glabrata*), and interconnected basins also known as alkali basins/flats/playas which are barren of vegetation.

11300 Disturbed Habitat consists mostly of bare dirt and is associated with access roads for the Union Pacific Railroad along the railroad tracks, disturbed areas from the construction and maintenance of the Tuscarora Natural Gas Transmission Pipeline, and several dirt roads for access to the Proposed Project Area that cross the Proposed Project Area.



PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

N W E S

Plant Communities Characterization

DATE:	05-18-2021	SCALE:	As Shown
BY:	AKM	FIGURE:	3-2

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PLANT SPECIES OBSERVED DURING FOCUSED SURVEYS

The following plant species were observed on the focused special status plant surveys between the Alkali basins/flats/playas on slightly raised ground associated with the Desert Sink Scrub plant community. Percent estimates represent land area covered by each taxon, not quantity of individuals. Finally, estimates were made given current dry climate conditions; precipitation would increase the percent cover of fast-growing annual species such as downy brome, clasping pepperweed, and prickly Russian thistle.

- **Big sagebrush (*Artemisia tridentata*).** was most abundant in the southern portion of the Proposed Project Area and comprised approximately 20% of the plant community.
- **Bud sagebrush (*Artemisia spinescens*).** was abundant and comprised approximately 15% of the plant community.
- **Shadscale saltbush (*Atriplex confertifolia*).** was very abundant and comprised approximately 20% of the plant community.
- **Downy brome (*Bromus tectorum*)** was observed at low density as dry culms throughout the Project Lease Site.
- **Great basin wild rye (Elymus cinereus)** was locally observed along a road within the Proposed Project Area and comprised approximately 2% of the plant community.
- **Spiny hopsage (*Grayia spinosa*)** was uncommon and comprised approximately 5% of the plant community.
- **Prickly Russian thistle (*Kali tragus*)** was observed in the most disturbed places and comprised approximately 3% of the plant community.
- **Clasping pepperweed (Lepidium perfoliatum)** was observed at low density as dry stems throughout the Proposed Project Area.
- **Black greasewood (Sarcobatus vermiculatus)** was very abundant and comprised approximately 25% of the plant community.
- **Littleleaf horsebrush (*Tetradymia glabrata*)** Littleleaf horsebrush was locally abundant and comprised approximately 10% of the plant community.

Almost no understory of vegetation was found within the Desert sink scrub plant community within the Proposed Project Area.

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SPECIAL-STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR ON THE CALNEVA BESS/PSES PROPOSED PROJECT AREA BASED ON CNDDB AND CNPS DATABASE SEARCH RESULTS

Astragalus geyeri* Gray var. *geyeri
Geyer's milk-vetch
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California
Habitat: Present on Proposed Project Area





Geyer's milk-vetch is an annual herb in the Fabaceae or Leguminosae Family are commonly known as the legume, pea, or bean family, of flowering plants. The Genus is *Astragalus* and Parent is *Astragalus geyeri*. These plants are easily recognized by their fruit and their compound, stipulate leaves. This plant is endemic to the Chenopod scrub and Great Basin scrub plant associations. This annual blooms from May to August and is typically found on sandy flats, depressions within stabilized or mobile dunes, margins of alkaline sandy playas, and in sandy bottomed gullies. It is common in the northwestern section of the Great Basin of Nevada and there is potential habitat within the Proposed Project Area as Lassen County represents the western most extension of this species.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Geyer's milk-vetch northwest of Calneva Lake and the proposed project.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Camissonia claviformis* ssp. *cruciformis
Cruciform evening-primrose
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: ***Not*** Present on Proposed Project Area



Cruciform evening-primrose is an annual herb in the Onagraceae Family which is an evening primrose family.

This plant is endemic to the Chenopod scrub and Great Basin scrub plant associations and is found mostly in clay soils. This annual blooms from May to July and grows in clay soils or rocky slopes or washes in the Modoc Plateau. The Proposed Project Area does not contain suitable habitat of rocky slopes nor clay soils to support this species.



The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Cruciform evening-primrose northwest of Calneva Lake and the proposed project.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

***Eriogonum nutans* var. *n*utans**
Dugway wild buckwheat
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: Present on Proposed Project Area



Dugway wild buckwheat is an annual herb in the Polygonaceae Family of flowering plants known informally as the knotweed family or smartweed—buckwheat family in the United States. This plant is endemic to the Chenopod scrub and Great Basin scrub plant associations and is found mostly in sandy or gravelly soils. The plant blooms from May to September and grows in sand or gravel flats and slopes.



The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Dugway wild buckwheat northwest of Calneva Lake and the proposed project.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068





Ivesia baileyi* var. *baileyi
Bailey's ivesia
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: ***Not*** Present on Proposed Project Area

Bailey's ivesia is a perennial herb in the Rosaceae Family of medium size family of flowering plants. This plant is endemic to the Lower montane coniferous forest and Great Basin scrub plant associations and is found mostly in volcanic and rocky soils. This perennial plant blooms from May to August and is found in volcanic crevices. There is no potential habitat for this species within the Proposed Project Area.

The species has been known to occupy some portions of the Doyle (602D) 4012011 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2071 of Calflora Survey located Bailey's ivesia, 6 miles southwest of the Proposed Project area which is off the map to the north.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2071





Loeflingia squarrosa* var. *artemisiarum
Sagebrush loeflingia
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California
Habitat: Present on Proposed Project Area

Sagebrush loeflingia is an annual herb in the Caryophyllaceae Family. Caryophyllaceae, commonly called the pink family or carnation family, is a family of flowering plants. It is included in the dicotyledon order Caryophyllales in the APG III system, alongside 33 other families, including Amaranthaceae, Cactaceae, and Polygonaceae. It is a large family, with 81 genera and about 2,625 known species. This plant is endemic to the Desert dunes, Great Basin scrub, and Sonoran Desert scrub plant associations and is found mostly in sandy soils. This annual plant blooms from April through May and is found on sandy, gravelly areas of sand dunes and sand flats in sagebrush scrub.

The species has been known to occupy some portions of the Doyle (602D) 4012011 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2071 of

Calflora Survey located Sagebrush loeflingia 6 miles southwest of the Proposed Project Area which is off the map to the north.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2071

***Lomatium foeniculaceum* var.**
MacDougal's lomatium
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California
Habitat: ***Not*** Present on Proposed Project Area





MacDougal's lomatium is a perennial herb in the Apiaceae Family. Apiaceae or Umbelliferae is a family of mostly aromatic flowering plants named after the type genus Apium and commonly known as the celery, carrot or parsley family, or simply as umbellifers. This plant is endemic to the Chenopod scrub, Great Basin scrub, Lower montane coniferous forest, Pinyon and juniper woodland plant associations and is found mostly in volcanic soils. This perennial plant blooms from April to July and is found in rocky clayey soils in sagebrush communities. The Proposed Project Area does not have suitable soils to support this species.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located MacDougal's lomatium northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Lupinus pusillus* var. *intermontanus
Intermontane lupine
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: Present on Proposed Project Area





Intermontane lupine is an annual herb in the Fabaceae Family. This plant is endemic to Great Basin scrub plant associations and suited to sandy soils. An annual that blooms from May to June in open sandy areas.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Intermontane lupine northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Ladeania lanceolata
Lance-leaved scurf-pea
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: Present on Proposed Project Area



Lance-leaved scurf-pea is a perennial rhizomatous herb in the Fabaceae Family. This plant is endemic to the Great Basin scrub plant associations and suited to sandy soils. This perennial blooms from April to August in sandy soils with a preference for disturbed soils. The Proposed Project Area has limited disturbed areas associated with access dirt roads only.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On May 11, 2004, cch: JEPS109942 was observed by Dean W. Taylor, Consortium of California Herbaria, Calflora Survey located Lance-leaved scurf-pea at the south end of Calneva Lakebed and just ¼ mile north of the Proposed Project Area.

http://www.rareplants.cnps.org/detail/2026.html

Rumex venosus
Winged dock
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: Present on Proposed Project Area



Winged dock is a perennial herb in the Polygonaceae family of flowering plants known informally as the knotweed family or smartweed—buckwheat family in the United States. This plant is endemic to the Great Basin scrub plant associations and is found mostly in sandy soils. This perennial blooms in May and June in dry, sandy soils, preferably in disturbed areas. In California it is found only in the Honey Lake valley. The Proposed Project Site has limited disturbed areas associated with access dirt roads only.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Winged dock several miles northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Sphaeralcea grossulariifolia* ssp. *grossulariifolia
Currant-leaved desert mallow
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: Present on Proposed Project Area



Currant-leaved desert mallow is a perennial herb in the Malvaceae family. Malvaceae, or the mallows, is a family of flowering plants estimated to contain 244 genera with 4225 known species. This plant is endemic to the Chenopod scrub and Great Basin scrub plant associations and is found mostly in volcanic soils. This perennial blooms between the months of May and August and found in dry alkaline or volcanic soils.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located currant-leaved desert mallow several miles northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

***Suaeda occidentalis* Wats**
Western seablite
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: ***Not*** Present on Proposed Project Area



Western seablite is an annual herb in the Chenopodiaceae family. The Chenopodioideae are a subfamily of the flowering plant family Amaranthaceae in the APG III system, which is largely based on molecular phylogeny, but were included - together with other subfamilies - in family Chenopodiaceae in the Cronquist system. This plant is endemic to the Great Basin scrub plant association and is found mostly in alkaline and mesic soils. This annual blooms from July to September in dry, saline, or alkaline wetland soils. This species may occur regionally but are associated with habitat (alkaline wetland soils) not present within the Proposed Project Area.

The species has been known to occupy some portions of the Doyle (602D) 4012011 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2071 of Calflora Survey located Western seablite 6 miles southwest of the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2071

Thelypodium milleflorum
Many-flowered thelypodium
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California
Habitat: Present on Proposed Project Area



Many-flowered Thelypodium is a perennial herb in the Brassicaceae Family. The Brassicaceae are a medium sized flowering plant commonly known as the mustards, the crucifers, or the cabbage family. This plant is endemic to the Chenopod scrub and Great Basin scrub plant associations and is found mostly in sandy soils. This perennial blooms April to June in sandy soils.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn

2068 of Calflora Survey located Many-flowered Thelypodium northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Cleomella hillmanii
Hillman's cleomella
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California
Habitat: ***Not*** Present on Proposed Project Area



Hillman's Cleomella is an annual herb in the Cleomaceae Family. The Cleomaceae are a small family of flowering plants in the order Brassicales, comprising about 300 species in 10 genera, or about 150 species in 17 genera. This plant is endemic to the Chenopod scrub and Great Basin scrub plant associations and is found mostly in clay soils. This annual blooms from April to June in clay soils which are not found on the Proposed Project Area.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Hillman's cleomella several miles northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Tripterocalyx crux-maltae
Kellogg's sand verbena
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California
Habitat: ***Not*** Present on Proposed Project Area



Kellogg's sand verbena is a perennial herb in the Nyctaginaceae family. The Nyctaginaceae family has a unique fruit type, called an "anthocarp" and many genera have large pollen grains. This plant is endemic to the Great Basin scrub plant association and is found mostly in fully or partially stabilized sand dunes. This perennial blooms May to July in partially or fully stabilized sand dunes. The Proposed Project Area contains no partially or fully stabilized sand dunes.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Kellogg's sand verbena several miles northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Eremothera minor
Nelson's evening primrose
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: Present on Proposed Project Area



Nelson's evening primrose is an annual herb in the Onagraceae family. The Onagraceae are a family of flowering plants known as the willowherb family or evening primrose family. This plant is endemic to the Chenopod scrub and Great Basin scrub plant associations and is found mostly in sandy soils. This annual blooms from April to July.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Nelson's evening primrose several miles northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Eriogonum ochrocephalum
Ochre-flowered buckwheat
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California
Habitat: ***Not*** Present on Proposed Project Area



Ochre-flowered buckwheat is a perennial herb in the Polygonaceae family. The Polygonaceae are a family of flowering plants known informally as the knotweed family or smartweed—buckwheat family in the United States. This plant is endemic to the Great Basin scrub and Pinyon and juniper woodland plant associations and is found mostly in volcanic and clay soils. This perennial blooms May to June in volcanic or clay soils which are not found in the Proposed Project Area.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Ochre-flowered buckwheat several miles northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

Lomatium ravenii
Paiute lomatium
USFWS: Not Listed
CDFW: Not Listed
CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California
Habitat: ***Not*** Present on Proposed Project Area



Paiute lomatium is a perennial herb in the Apiaceae family. The Apiaceae are a family of mostly aromatic flowering plants named after the type genus Apium and commonly known as the celery, carrot or parsley family, or simply as umbellifers. This plant is endemic to the Great Basin scrub, plant association and is found mostly in rocky, gravely, volcanic with underlying clay soils. This perennial blooms April to June in rocky, gravely, volcanic with underlying clay soils which are not found in the Proposed Project Area.

The species has been known to occupy some portions of the Calneva Lake (602A) 4012021 7.5-minute quadrangle with one or more occurrences. On July 4, 2019 viewing record #cn 2068 of Calflora Survey located Paiute Lomatium several miles northwest of Calneva Lake and the Proposed Project Area.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 03 May 2021].

https://www.calflora.org/entry/survey.html#vrid=cn2068

4. Special-Status Plants Focused Survey Methodology

DATA BASE SEARCTH

Before conducting the special-status plant focused surveys, information on the known distributions of threatened, endangered, and other special-status plants that may occur in the Proposed Project Area and nearby vicinity (up to twelve 12 miles) was collected from several sources and reviewed. The sources included the California Department of Fish and Wildlife's (CDFW's) California Natural Diversity Database (CNDDB) (2021), the Jepson Manual, Vascular Plants of California 2nd Edition (Baldwin et al. 2012), the California Native Plant Society's (CNPS's) Inventory of Rare, Threatened, and Endangered Plants of California (2021), Calphotos, Cal Berkeley Photo Database (2021) and Calflora (2021), and the Michigan

State University Herbarium (2021). The collected information was used to direct the efforts and timing of focused special-status plant surveys on the Proposed Project Area.

Our assessment of the potential for special-status plant species to occur on the Proposed Project Area is based on the proximity of the Proposed Project Area to recorded occurrences, on-site vegetation and habitat characteristics, topography, elevation, soils, surrounding land uses, previous documentation of biological resources on site, and known habitat preferences and geographic ranges of special-status plant species known to occur in the region. The results of this assessment form the basis for the species listed in Section 3 above. In addition, we reviewed past rare plant and wetland delineation surveys which were conducted by Hafen Environmental (Botanists Jeanene Hafen, John Hafen, William Harnach, and Nancy Harnach) 2007, 2008, 2010, for the Plumas Sierra Rural Electric Cooperative (PSREC) inter-tie line which is a portion of the Proposed Project Area. We reviewed the Aspen Environmental rare plant, and wetland delineation surveys for the Sierra Pacific Power Company, Alturas Transmission Line Project, which had several segments within the Proposed Project Area in 1995. We also reviewed URS's rare plant, wetland delineation surveys for Tuscarora Gas Transmission Company, for the Tuscarora Gas Pipeline in 1994 which traverses the Proposed Project Area.

PRESENCE/ABSENCE SPECIAL STATUS PLANT SURVEYS

To accurately determine whether special-status plants identified in Section 3 above actually occur on the Proposed Project Area, presence/absence surveys were conducted during the appropriate blooming periods for each special-status plant species. The methodology used for performing focused surveys followed the California Department of Fish and Wildlife's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*, dated March 20, 2018, and the CNPS revised June 2, 200,1 *Policy on Botanical Survey Guidelines of the California Native Plant Society (*Guidelines*)*. These Guidelines were utilized to implement the proper methods for performing plant surveys, considering the environmental impacts that may occur as a result of new Calneva BESS/PSES development, and developing the type of mitigation necessary to reduce project-related impacts to special-status plants.

Two qualified botanists performed the presence/absence surveys on April 22, April 30, May 4, and May 15, 2021. The surveys were conducted during April and May and consisted of eight (8) person days of surveys, or approximately eighty (80) person-hours. Surveys were conducted during the peak blooming periods for special status species determined to have potential to occur in the Proposed Project Area. Surveys were floristic in nature. All plants observed were identified using The Jepson Manual (Hickman 1993) to the taxonomic level necessary to determine whether they were rare. The rare plant surveys were preceded by habitat mapping field studies in September 2019, December 2019, and February 2021which covered the entire Proposed Project Area (see Biological Resources Assessment Report, Sierra Geotech, February 2021). This prior work allowed Sierra Geotech to identify habitats with potential to support the rare plant species which is where the focused surveys occurred in detail.

The botanists walked the extent of each plant community and habitat that was determined to be suitable for supporting the special-status plant species shown in Section 3: Environmental Setting, subsection "*Special-Status Plant Species with potential to occur on the Calneva BESS/PSES Proposed Project Area on CNDDB and CNPS Database Search Results*" above**.** The entire Proposed Project Area was walked with transects no more than 20 feet apart. Sierra Geotech botanists collected plant specimens of all species documented in the Proposed Project Area for identification.

5. Results

DATABASE SEARCH RESULTS FOR SPECIAL-STATUS PLANT SPECIES

Section 3: Environmental Setting, subsection "*Special-Status Plant Species with potential to occur on the Calneva BESS/PSES Proposed Project Area on CNDDB and CNPS Database Search Results*" includes all special-status plant species identified as occurring in the project region based on a review of the

CNDDB and CNPS databases and the results of focused surveys during the appropriate blooming periods for those with potential to occur on site.

PRESENCE/ABSENCE PLANT SURVEY RESULTS

No special-status plants were observed on the Proposed Project Area during the focused surveys which were conducted during the appropriate blooming periods.

The common species observed on the Proposed Project Area are listed in Section 3: Environmental Setting, subsection "*Plant Species Observed During Focused Surveys*". The vascular plant nomenclature used in Section 3: Environmental Setting, subsection "*Plant Species Observed During Focused Surveys*" follows "The Jepson Manual" and the World Wide Web internet site: http://ucjeps.berkeley.edu.

6. Conclusion

No special-status plant species were observed on the Proposed Project Area. Since both 2021 presence/absence plant surveys were performed during the appropriate blooming period for all of the potentially occurring special-status plant species known to occur in the region (within twelve (12) miles of the Proposed Project Area), and because the extent of the site was traversed by foot in appropriate habitats for supporting special-status plant species; and the site was geotagged with digital /images of the plant life on site; and plant specimens collected for identification; no special-status plant species are expected to occur on the Proposed Project Area.

7. References

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Calneva Battery Energy Storage System (BESS)
Photovoltaic Solar Energy System (PSES)
Response 2 - Attachment #3 **Project**

Gen-Tie Line Fire Management Plan
For Building of the Gen-Tie Line on Calneva Road ROW
Located 6.5 miles N/E of Doyle, Lassen County, CA

For
Calneva BESS/PSES
Dr. Charles Hooper, DO
CDR (RET) MC USN

Presented by

Blue Mountain Limited LLC
6630 Arabian Circle, Granite Bay, CA 95746
Steven Bowman, Owner and Wildfire Consultant
Roy D. Pike, Fire Management Mitigation Consultant

August 6, 2020

DocuSign Envelope ID: BC507466-8350-4EE2-95DE-6074A1C6C517

Fire Management Plan

Introductory Template for the Cal Neva BESS/PSES Gen-Tie Line

This template provides the minimum requirements for said Project Fire Management Plan. It outlines the channels of responsibility for fire prevention and suppression activities and sets up an attack procedure in the event of a fire within the project area.

The project area is defined as the area within the BLM or California State Wildfire Protection Areas (SRA) in the jurisdiction of CALFIRE and within private land right-of-way and the "unpaved" "unmaintained" County road (Calneva Road) used for construction purposes. (See Map Addendum 1)

Contractor shall, both independently and in cooperation with the agency of fire jurisdiction of California State Wildfire Protection Areas by CALFIRE (SRA), shall take all reasonable and practicable actions to prevent and suppress fires resulting from Contractor's Operations and to the best tactics to suppress any forest brush or grass fire started in the project area.

Contractor's independent initial fire suppression action on such fires shall be immediate and shall include the use of all necessary personnel and equipment at Contractor's disposal on site.

Requirements to Operate on "general operating days" during fire season includes:

A. Tools and Equipment (Quick Highlights of Plan)

1.Tools: (a) The contractor shall furnish and maintain in a serviceable condition: One shovel or Pulaski for each of his/her employees, to be used only for suppressing forest fires. These tools will be kept in sealed boxes (Fire Box) and available within the immediate working areas. For each piece of equipment and each personal vehicle, he/she shall furnish one shovel, (Long Handle Round Point (LHRP) size 0 or larger) and Fire Pulaski . For each welder, he/she shall furnish one shovel (LHRP size 0 or larger) and one backpack pump (five-gallon capacity). For each gasoline powered tool (power saw, soil auger, etc.), one shovel (LHRP size 0 or larger), and a 5# chemical ABC fire extinguisher. Contractor shall also furnish, if applicable, any other tools called for elsewhere in the agreement. A very handy fire suppressant items to have close by or on person is the 16oz pressurized water/foam spray can. These are not State Fire Marshall rated, however they work good on most A and B fires. They are throw away cans small enough to be carried in a sawyer belt pouch. Check on-line as there are several of these type products being made

2. Equipment: Upon request the contractor shall furnish a list of equipment used on the project.

3. Manpower: Upon request the contractor shall furnish a list of supervisory personnel and amount of total personnel available and working on the project.

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B. General Provisions

1. Fire Prevention - Quick Highlights of Plan

(a) Spark Arrestors. All diesel or gasoline operated engines, except those machines equipped with exhaust driven turbo chargers, and all flues used on the project and in construction camps shall be equipped with adequate, serviceable arresting devices that meet Forest Service Standard 5100-1, Spark Arrestors for Internal Combustion Engines. Information in this standard will be furnished upon request.
(b) Smoking. The contractor may permit smoking by his/her employees but only in safe places such as: along roads, in truck cabs, or where all inflammable material has been cleared away from an area at least three feet in diameter. During periods of high fire danger, smoking may be restricted dependent on the stage of Fire Restrictions. Under no circumstances will smoking be permitted while operating tractors or other open-type vehicles in areas not cleared to mineral soil, or while walking or working in such areas.
(c) Gas and oil will be carried only in approved metal safety cans.
(d) Storage and Parking Areas.
Equipment service areas, parking areas, gas and oil drum storage areas, and explosive storage areas will be cleared of all inflammable material for a distance of 50 feet. Small stationary engine sites shall be cleared of all inflammable material for a distance of 15 feet.
Inflammable and explosive storage areas will be labeled as such and "No Smoking" signs erected.
(e) Oil Filters, Cartridges, Oily Rags. Will be disposed of properly in trash containers and hauled to a proper waste management area. Glass jugs or bottles will not be used for gas, oil, or water.

C. Requirements imposed during Red Flag Day warnings:

1. No Smoking, except within an enclosed vehicle with the doors closed and windows up or inside a building in approved areas.
2. No Campfire or warming fire.

D. Requirements imposed during Red Flag Warnings: (See detail in the Full Plan)

1. When working on activities which generate flame, spark or flammable material, a skid mounted water tank and pump with fire hose, a water tender with pump and hose or a fire engine to be on site and ready, along with being operated by a Basic Wildland Firefighter trained person. The surrounding area must be soaked with water before starting the activity. A fire guard will continue to monitor the project for up to one hour after activities have ended with a suppression equipment on Site.
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6.1.4 Fire Notification Protocol (Dial 911), Doyle FPD **530-827-2681**

6.1.5 Make sure cell phone communication have good reception. A back up cell phone on the same Provider (AT&T, Verizon, or like) is necessary during working periods. If the cell phone reception is not providing good communication throughout the Site, make sure there is a proper 2-way radio on Site to reach Local Doyle FPD or Emergency Command Center **530-257-4171.** Fire suppression should start ASAP as the fire has been spotted.

6.2 Key Personnel and Contacts

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THE FIRE SAFETY PLAN

1.0 Responsibilities:

It is the responsibility of any person, business or firm that is working in or around flammable vegetation with equipment or working activities that can reasonably cause a fire of any type, particularly a wildland fire, to follow all rules, statutes, ordinances and Best Practices in order to prevent a fire before it starts and/or escapes control and burns into another person's property.

There are three components that are required by all persons who own and operate equipment and construct transmission towers and other structures and their appurtenances to adhere to in order to avoid civil and criminal liabilities involving all things and practices, especially the threat of fires that can reasonably expected when working in and adjacent to highly flammable vegetation. The three components are: (1) a Duty of Care (2) a Standard of Care and (3) Damages to property of others from a wildfire. All three components must be performed in strict compliance of what is written in this document. Failure to do so and should a fire that originates from said construction of a transmission line can be reasonably proven in a court of law, the owners, contractors and sub-contractors involved in said construction will be charged with the torts of negligence, and commission of misdemeanor crimes found in the California Public Resources Code relating to required spark arrestors, fire extinguishers, and other due diligence sections of said code.

1.1 A Duty of Care:

Furthermore, for any fire started on a person's property said person has a ***Duty of Care*** to protect the property and safety of others by taking all reasonable and prudent action to (1) prevent wildfires in the first place and (2) keep said fires from spreading to other's property.

Mandate: The owners, and their contractors and sub-contractors and their employees, must agree to follow the long established fact that wildfires are a serious threat to the public and must be prevented from occurring to property of others including entire communities and the lives of people within them. Therefore, it is an un-written understanding by law enforcement that a Duty of Care is established whenever transmission line construction occurs in areas

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within highly flammable vegetation such as thousands of acres of Sagebrush and Cheatgrass, in this specific location.

1.2 A Standard of Care:

In addition to a Duty of Care, a carefully written list of applicable Fire Prevention and Fire Suppression activities must also be written and enforced by the owners and their contractors and sub-contractors and their supervisors to further protect the public from wildfire in the surrounding vegetative environment, structures and the people that work and live in them.

Mandate: The owners, and their contractors and sub-contractors must follow the items of Fire Prevention and Fire Suppression listed in this document. These items make up the Standards of Care for the prevention and suppression of fires. Variation in tools and equipment may vary with approved in writing by Sierra Geotech.

1.3 The Tort of Negligence:

It is critically important for the owner(s) and their contractors /sub-contractors to fully understand that should a fire occur and spread to property of others it is a strong probability that their Duty of Care (to prevent and suppress wildfires) would be considered a tort and they would face severe civil liabilities for negligence.

1.4 Fire Suppression Costs:

Should a wildfire occur and spread to property of others that can reasonably be proven to be caused by the failure to follow the standards of care listed herein, or commission of a misdemeanor crime, all public firefighting entities who were needed to put out said fire could/would issue a Letter of Demand to recover their costs of fighting the fire due to your negligence.

Special Note: Responsibility of Maintaining the Standards of Care

In order to provide the most modern and Best Practices of fire prevention and fire suppression standards, a ***Project Fire Safety Officer*** **(PFSO)** empowered with the responsibility to secure, provide tools, train, inspect and mitigate all matters dealing with fire prevention and fire suppression and maintain the Fire Safety Standards listed in this

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Fire Plan is a critical person in the entire Transmission Line Construction Effort. To properly accomplish ***the Fire Safety Standards of Care*** a person with the following experience should be found to staff the Project Fire Safety Officer position:

Requirements for a Project Fire Safety Officer

- At least 10 years of full time in Powerline work with experience in fire prevention, fire equipment and fire suppression and understanding of wildland firefighting and agencies.
- Preferred Experience would include wildland fire inspection experience and fire training experience and supervision skills.
- The ability to drive a pick-up truck with a skid mount tank and pump in the back of said pick-up. With a valid Class C California Driver's License.
- Ability work well with people and outside fire agencies.

1.5 Pre-inspection of Equipment

1.5.1 Hydraulic Equipment Inspections

High Pressure Hydraulic equipment inside the operational platform should be checked once at the start of each shift and at the end of each shift. Leaks must be immediately brought to the attention of the lead diesel mechanic, must not be operated until the leak has been corrected.

1.5.2 Gas Powered Small Equipment Spark Arrestor

This equipment usually has a screen style of spark arrestor and it must be checked at least weekly. During very hot days with low humidity, a single piece of microscopic carbon ejected out of an exhaust pipe on a vehicle has been known to cause major fires. Occasionally, operators of small equipment take the screen out of the spark arrestor without approval on small internal combustion engines to (allegedly) increase the power of piece of small equipment and some say increase power. This activity must be stopped immediately because it is against the law and perpetrators can be fired and /or jailed for such an action.

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1.6 Safety Tailgate Meeting to Include at least the Following Fire Protocols:

1.6.1 At least once daily, an informal five to seven-minute safety review must be conducted by the supervisor of the construction crews. Subjects covered must be:

- Near misses that happened in the previous shift.
- Review the cause and mitigation of the near miss.
- Causes of accidental fires and their mitigation
- Discussion special fire safety issues not being followed.

1.6.2 During Safety Meetings subjects to be covered must be supported with instructor Demonstrations and resultant student Demonstrations of manual dexterity. Demonstration of how to properly use the following fire tools safely to put out a fire. Good wildfire tools are professional tools that save lives. There're sharp and heavy-duty and used in many different ways. Even a fire shovel can cut brush.

- The McCleod Tool
- The Long Handle Fire Shovel to throw dirt
- The 5 gallon Back Pump
- How to make a fire hose connection and manipulate a fire hose nozzle
- How Situation Awareness Predicts upcoming changes in weather
- Construction personnel without the required training and fire protection gear must never attempt an attack of the fire that has flame lengths of more than a few feet high without full safety nomex pants and shirt, goggles, fire gloves, lugged high top leather boots.

1.7 Scope of Work to Obtain a Set of Standards of Care with Fire:

Powerline Contractor shall furnish all supervision, labor, tools, equipment and material necessary to prevent starting of any fire, control spread of fire if started, and provide assistance for extinguishing fires started as a result of transmission line

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construction activities and other construction activities appurtenant to maintaining a fire safe work site as shown herein, the Project Specification, and Fire Management Specification that includes a designated and trained Project Fire Safety Officer that is assigned the authority and responsibility of eliminating any fire hazards, acting as a lookout for detecting and reporting smoke or flames within or immediately adjacent to the project area and sending personnel and equipment necessary to contain any fire within the transmission line construction zone.

1.8 Emergency Notifications of Firefighting Agencies:

The local fire district, federal and state firefighting agencies with jurisdiction of the location of the fire must be immediately notified of the fire.

Doyle Fire District Phone Number	(530) 827-2681
Nearest CALFIRE station	(530) 257-4171
Emergency Command Center	
Lassen County Sheriff Department	(530) 257-6121

1.9 Daily Wildfire Condition Updates

Assign the responsibility to obtain the daily wildfire briefing from the fire agency of jurisdiction of the local fire district, federal and state firefighting agencies. This information must be included in the morning Safety Briefings by PM/Project Fire Safety Officer

The Jurisdictional fire agencies

CALFIRE (Lassen Unit-Susanville Phone
697 CA-36, Susanville, CA 96130
Phone: (530) 257-4171
CALFIRE Radio Frequency (obtain from Calfire)

1.10 A Safety Zone. Use the dry lake bed just east of the Project Site for a Safety Zone in case of wildfire moving into the area. There have been wildfires through this area in the past that has over ran professional firefighters and burned structures. In 2003 (Fish Fire) there were 2 wildland firefighters over-ran by fire and structures burned within 1.5 miles of the Project site.

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2.0 Fire Prevention

2.1 Meet with Local Fire to acquire daily fire conditions

2.2 Require about Necessary Permits and Authorization of Work

From Local Fire Jurisdiction of Authority:

- Burn Permits, welding permits, metal cutting permits
- Inquire about Fire Prevention and Inspections
- Hoot-Owl Regs during Red Flag – Check with CalFire
- PFSO ask for help when needed to Local Fire / Blue Mtn Ltd
- There are private Resources in the Area for backup

2.3 Equipment Fueling Area

Use of gasoline, diesel, propane requires fueling only in the designated fueling area. PFSO responsibility to Supervise and Enforce Fire Regs]

2.4 Clearing Vegetation (see attached addendum) to be done in early morning hours with higher Rh reading. If fire danger conditions require more safety, use a water truck to spray down the area prior to clearing and have necessary fire equipment at ready

2.4.1 Staging Areas

These are the areas where heavy equipment and firefighting vehicles are to be parked during non-use periods [Project Fire Safety Officer responsibility]

2.4.2 Layout Areas

These are areas that are laid out and marked for work that requires more pace to than the roadway to perform pre-construction activity such as vehicle repairs and maintenance., welding, grinding, acetylene cutting of metals, and all other activity that could reasonably create sparks and cause a fire. This area should be fenced by a 6’ hurricane fencing to keep out unauthorized personnel.

2.4.3 Pole Site Storage Areas

To be used to store poles, work on attaching this to poles and other transmission line construction storage.

2.4.4 Removal of Brush from Pole Sites: See Add No. 1

This must be done in concert with the creation of cut-off sagebrush and cheatgrass so that an accumulation of dead vegetation is not left within the Right of Way. All vegetation in this condition must be taken to either an approved refuse

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dump site or a temporary cleared area devoid of flammable vegetation of at least 200' in circumference and not more than 10 feet tall. To be approved by Calneva BESS/PSES contractor. PFSP responsibility to make daily inspections for cut sagebrush and cheatgrass and enforcement of standards of care.

2.4.5 Clear all vegetation around engine and other portable equipment,(i.e.; generator, water pump, hydraulic pump) to 10 ft from the engine. Have ABC fire extinguisher at location.

2.5 Fire Water Source Locations

2.5.1 Doyle Fire Protection District
747-150 E Main Street, Doyle, CA 96109
Phone: (530) 827-2681

2.5.2 Doyle Interagency Fire Station (USFS and BLM)
S/W Corner of Doyle Grade Rd and Doyle Dr (Rd 361), Doyle
434-695 Doyle Loop Road in Doyle, California
Phone: 530-827-2681

2.5.3 Herlong Fire Department / Herlong Public Utility District
447-855 Plumas Ave, Herlong, CA 96113
Phone: (530) 827-3150

2.6 Smoking and Vaping Protocol

2.6.1 Smoking cigars, cigarettes, pipes and Vaping will not be on the construction project, except in an approved smoking/ vaping per Project Manager:

3.0 Fire Suppression Equipment and Specs.

3.1 Water Tender (Water Transport Equipment and Extinguishers)

3.1.1 Water Truck Specifications

- larger than 1,000 gallons and less than 3,999 gallons cap.
- an internal combustion powered pump or PTO
- at least 200 gpm at 50 psi
- two 2.5" NH M discharge valves
- one 2 ½" 20 ft. suction hose
- hydrant wrench and spanner,
- three, 1 1/2" x 100 ft. fire hose
- two 1 ½" shut off spray nozzles,
- one hydrant fill-hose 2.5"x 25'NH.

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- one 10# ABC fire extinguisher,
- one long-handed shovel,
- one Pulaski,
- anti-back-flow device on tank fill line,
- spray bar front and read for dust abatement and road maintenance where dry soils turn to powder limit travel
- equipment specs per DOT

3.1.2 Small Dozer for brush clearing must have a dry chem ABC fire extinguisher and a shovel on board along with 2 way communication with PM/PFSO

3.1.3.Buffalo Tank (Fire Trailer)

- a 500 gallon tank,
- plumbed in fire pump of at least 119 GPM and 60psi,
- a 1.5" intake, one (1) 1.5" discharge,
- adapted to 1.5"NH M,
- one (1) 1.5" NH gated Y,
- Two (2) 100'x1.5" wildland fire hose,
- two (2) 1.5" NH shut-off spray nozzles,
- One (1) long handled shovel on the trailer,
- one (1) 5# ABC fire extinguisher,
- must meet DOT highway specs.

3.1.4 Fire Pumper Vehicle (3/4 or 1 ton 4x4 Diesel Pick-up)

- a 200-gallon steel tank and pump for immediate use.
- a two way radio and cell phone
- one (1) 5 gallon back pumps and
- two (2) 100' x 1" npsh fire hose coupled and read
- two (2) shut-off spray nozzles
- a 25' of 1 ½" hose for nursing from a water tender
- two (2) long handle shovels
- one (1) Mcleod tool
- one (1) Pulaski tool

3.1.5 Compressed Air Foam System (CAFS) on each piece of heavy equipment with hi-pressure Hydraulic Activation rams and other moving part of said piece of equipment. To be used on large construction equipment with high pressure hoses to

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hydraulic rams and other items requiring a hydraulic operated system.
See sites for CAFS units available. Tri-Max or like.
http://www.trimax.us/compressed-air-foam-products/tri-max-3-mini-caf/

3.1.6 Proper Dry Chemical Extinguishers, all company pick-up trucks, flatbed trucks, bulldozers, transports, 10 wheeler and 18 wheel belly dump and truck trailers will carry a dry chemical A,B,C rated fire extinguisher of the size(5# to 10#) recommended by the fire agency of jurisdiction.

3.2 Inspections of Fire Equipment and Apparatus m

3.2.1 Must be Checked Daily by PM / PFSO and or Crew Personnel operating or using the Equip.

3.3 Gas, Diesel Fires and equipment Fires

3.3.1 Must be suppressed by CAFS or ABC Fire extinguishers – not water

3.4 Use Water on Wildfires or nearest suppressant.

3.4.1 Use the method to suppression the quickest way possible, ABC Ext, CAFS, Dirt by fire tools or other methods, and water.

3.4.2 Using sight and touch carefully, make sure there are no remaining hot areas where fire has been extinguished.

4.0 Inspections of Fire Suppression Equipment

4.1 All fire suppression equipment will be inspected by the PM / PFSO whose responsibility is to list it in Fire Plan Daily Safety Records

4.2 Individuals Operators of each truck or equipment shall inspect their fire suppression apparatus daily during the equipment check.

5.0 Fire Suppression Methods for Construction / Linemen/Equip Operators

5.1 Hydraulic Fire Inside Engine Compartment - Quick Reaction Needed!

5.1.1 On heavy high pressure hydraulic equipment, hydraulic oil will heat of and if there's a weak area on a hydraulic hose of fitting, and hot oil sprays onto the hot engine or exhaust system, there's a great possibility of a dangerous fire breaking quickly and causing an extreme fire. To suppress this type fire requires very quick reaction with the right suppressant. Shut off the engine immediately. Use the dry fire extinguishers if it's the closest. It will be difficult to get the suppressant into all compartment areas and the heat from the fire will hamper the

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effort. However in tight areas of engine compartments, the dry chemical may not completely suppress the fire. Therefor it is of great importance to have a CAFS unit on close by. First - CAFS makes a light weight foam suppressant that will reach 30 to 40 feet. The foam must be sprayed into the compartments through any opening. The foam will work as the light weight suppressant is not affected by gravity as it works its way throughout the compartment. Work both sides of the equipment if necessary. Once cooled off – try and open the compartment doors to check the fire out. Suppressant may be sprayed through the oil level check area any other small opening. Bring in water to spray around the equipment at the same time the fire inside the compartment is being suppressed. This will prevent or help suppress a wildfire.

5.2 Gas and Oil Fire Suppression

Using a CAFS is the preferred extinguisher for hydrocarbon type fuels. However the standard ABC dry chem fire extinguisher in the 5# to 10# rated will work in a quick response. Also stay up-winds and test the extinguisher before moving in closer. Spray the powder at the base of the fire and work across. CAFS works best as you can stay a safe distance away. Bring in water ASAP to keep fire from becoming a brush/grass wildfire.

5.3 Wildfire Suppression

Construction personnel without proper training (NWCG S-190 and S-130) and without wildfire PPE, must only be involved in fire suppression at the earliest stages of the fire. Without professional FF training and PPE it is very dangerous to take on more than it's safe to handle. With the proper suppression equipment, it is possible to continue with suppression by moving back from the heat and staying up wind while using the proper CAFS unit with 35' to 40' reach or a high pressure water system with proper fire nozzle when you can achieve 50' to 60' reach. There is an additive called Class A Fire Foam that will help with a safer tactic and quicker suppression. Even if you can't suppress the fire completely, you may be keeping the spread down to a minimum as the professional firefighters are heading to

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the Site. If you feel safe and making progress, continue suppression. Others can help with the hose and by using tools and a back pump to suppress hot areas near you. The best hand tools for "Hot Spotting" is the Back pump and shovel. For the shovel, find a soft soil, scope up and throw at the bottom of the fire to reduce the heat. Even though you don't have Wildfire PPE, a heavy cotton or wool long sleeve shirt and good thick work pants made of cotton or wool will help hold back some heat. Couple that with good heavy work boots, work gloves and your hard hat, bandana and goggles, you will be in pretty good shape dealing with safety, however staying back from the flames and turn up the water pressure by increasing the throttle on the pump motor if possible. Always stay up wind from the fire. Move the fire suppression equipment (water truck, trailer and small pumper when possible. Do not drive into the fuels stay on the road or cleared areas. If the fire continues to moves further away and you have extra hose, extend your range however again stay out of the fire and on the road or cleared areas. If possible and safe, hold the fire from spreading and allow the professional FF take over. Use your remaining suppression agent to support the professional FF. Use your skills to clearing vehicle and equipment from the area in a safe manner.

5.4 Make Sure Fire is DEAD OUT

Once the firefighters have taken over the fire, use your line personnel to mop-up around the fire start area and make sure there're no hot spots. Try your best to protect the origin of the fire. If you have water remaining in your water truck or tanks, notify the firefighters as they may be in need. Cool off any hot spots.

6.0 Emergency Fire Communications On Site

6.1 On Site Emergency Fire Notification

Unless or until a radio notification system is in place, the following emergency notification will be used by the Project Fire Safety Officer and/or the construction team person who first noticed the fire an alert will be started by said person by utilize the horn of a vehicle and gives three long blasts of the horn using the following cadence one

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long (at least 10 seconds) blast of the horn followed by a 5 second pause followed by another 10 second blast and a 5 second pause followed by the last 10 second blast. Repeat this cadence sequence at least three times and then utilize a cell phone to call the Project Fire Safety Officer via cell phone and notify him/her of the location and size of the fire.

6.1.1 A Two-Way Radio system will be needed that will cover the 4 mile project area. Check and make sure the watts are sufficient to cover that distance. Note: a higher than 1 or 2 watts may be needed. Check for use of a frequency for that area from Doyle Fire. A Rented Bendix King may be the best.

6.1.2 Two-Way Radios is a must with a 4 miles long project inadequate or spotty cell service, use a Bendix-King 5w hand held Fire radio which can be rented from Radio Companies. Have the Lassen Emergency Command and Doyly Fire programmed in with the correct frequencies (Tx and Rx) along with correct Tone for that area. This radio can be used for other emergencies.

6.1.3 Radio use must be official emergency use only with pre-authorization from ECC in Susanville and Doyle FPD Fire Chief.

ECC Susanville Freq: _____ Tx _____Rx _____Tone
Doyle FPD Freq: _____ Tx _____ Rx _____ Tone

6.2 Key Personnel List with Phone Numbers

6.2.1 Calneva BESS/PSES

Dr. Charles Hooper, DO	530-514-013

6.2.2 Sierra Geotech

Sierra Geotech	916-934-2167
Shaun Vemuri, PE, MBA	916-917-6673
Brent L. Moore, CEP	916.712.9707

6.2.3 Doyle FPD

Cathy Catron, Fire Chief	530-827-2681

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6.2.3 Blue Mountain Limited

- Steve Bowman, Owner, Fire Consultant 916-715-6571
- Roy Pike, Fire Mngt Mitigation Consultant 707-696-3025

6.2.4 Lassen County Emergency Command Center **911**

7.0 SAFEGUARDS AND CONTROL OF FIRES - PM/PFSO's Duty and Responsibility to Policies and Maintain those Policies:

7.1 SAFEGUARDS AND CONTROL OF FIRES:

Responsibility:

It is the Project Fire Safety Officer that is assigned the authority and responsibility of eliminating any fire hazards, acting as a lookout for detecting and reporting smoke or flames within or immediately adjacent to the project area and sending personnel and equipment necessary to contain any fire within the transmission line construction zone.

7.1.1 The Contractor shall appoint a PFSO to ensure reasonable inspecting duties and immediate correcting of any fire hazard as observed by him/her or reported by others on a work crew.

7.1.2 The Motto: **"Fire Safety is Everyone's Business"** should be posted on signage with heavy black lettering at least 6" high safety yellow background.

7.1.3 The Contractor, with the aid of the PM/PFSO shall incorporate THE STANDARDS OF CARE with implement same to prevent starting any fire, including but not limited to forbidding:
(1) open warming or cooking fires
(2) smoking in non-approved areas or while working on an open and moving piece of equipment
(3) operating small engine equipment such as, chain saws, ATV's, air compressors, welders, hand held air blowers, etc., without first ensuring that an approved spark arrestor is properly installed and maintained.

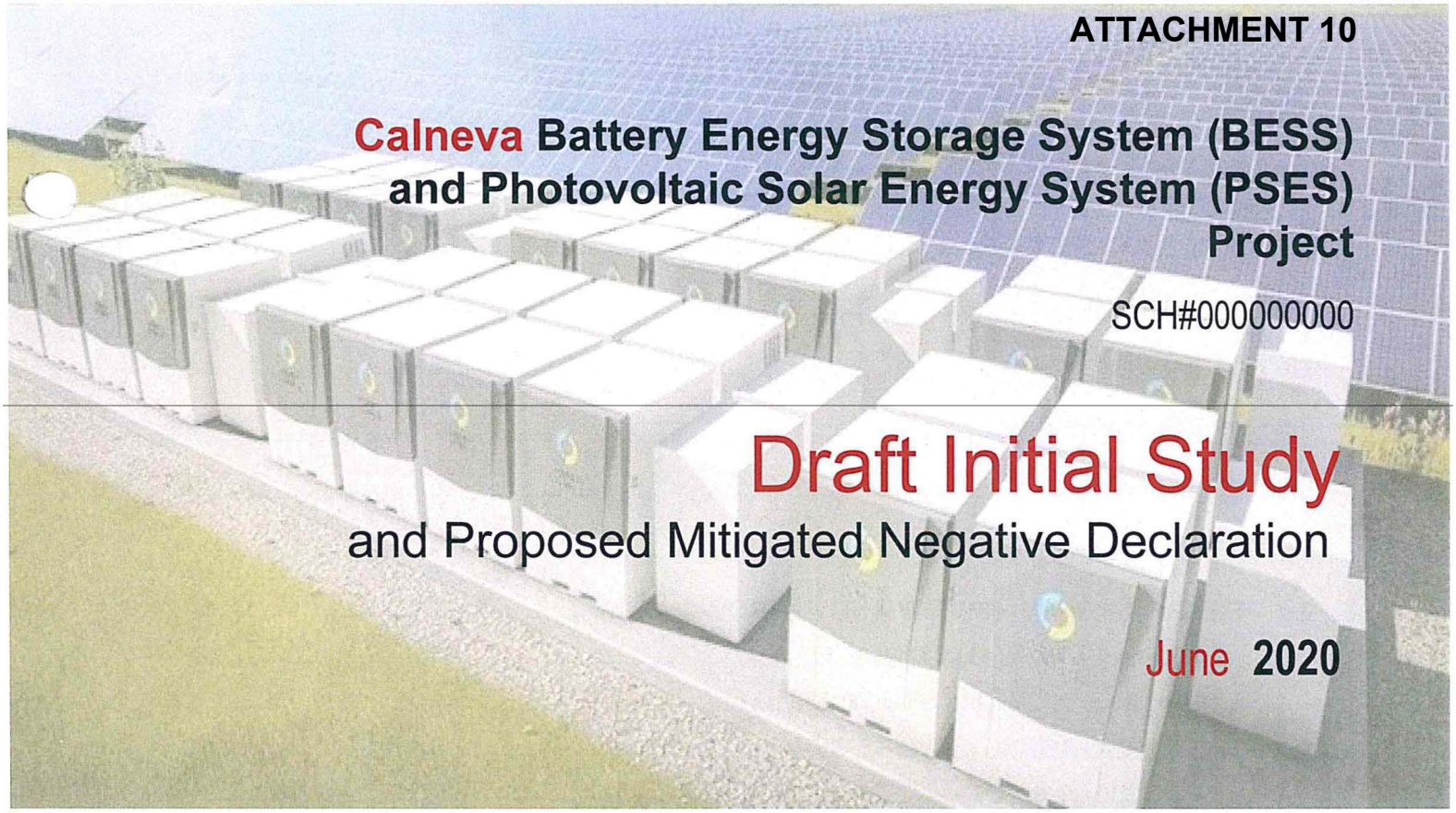
7.1.4 The Contractor, with the aid of the PM/PFSO to incorporate BEST MANAGEMENT PRACTICES prior to operating large equipment such as bulldozers, cranes, excavators, wheel tractors, back hoes, and other similar equipment without first

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ensuring that a USFS approved spark arrestor is installed on said equipment. Check this web site for more information: https://www.fs.fed.us/eng/pubs/html/03511304/03511304.htm

7.1.5 EXCEPTION: A spark arrestor will not be required on the above large equipment providing the engines in said equipment have an approved and correctly performing turbocharger in its exhaust system.

ATTACHMENT 10



Calneva Battery Energy Storage System (BESS) and Photovoltaic Solar Energy System (PSES) Project

SCH#000000000

Draft Initial Study

and Proposed Mitigated Negative Declaration

June **2020**

Lead Agency:

Lassen County Planning and Building Services

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Rocklin, CA 95677

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LIST OF ACRONYMS

AB— Assembly Bill
AB 32—California's Global Warming Solutions Act, Assembly Bill 32
AC Paving—Asphalt Concrete
ADT— Average Daily Traffic
AG— Agriculture
A-1— A-1 General Agriculture District Zoning Classification
ANSI—American National Standards Institute
APCD—Air Pollution Control District
APN—Assessor's Parcel Number
ASME—American Society of Mechanical Engineering
ASTM—American Society for Testing and Materials
BACT—Best Available Emission Control Technology
BMP— Best Management Practices
BP—Before Present
BPS— Best Performance Standards
BESS—Battery Energy Storage System
CAA—Clean Air Act
CAAQS— California Ambient Air Quality Standards
CAIOS— California Independent System Operator
Cal/EPA— California Environmental Protection Agency
Cal/OSHA—California Occupational Safety and Health Agency
Cal Recycle— Department of Resources Recycling and Recovery
Caltrans— California Department of Transportation
CARB— California Air Resources Board
CBC—California Building Code
CCAA— California Clean Air Act
CCAP— Climate Change Action Plan
CCPS—Center for Chemical Process Safety
CCR—California Code of Regulations
CD—Community Design
CDR— Commander, Senior Grade Military Rank
CDFW—California Department of Fish and Wildlife
CERCLA— Comprehensive Environmental Response Compensation and Liability Act
CERCLIS-NFPRA— U.S. EPA Comprehensive Environmental Response, Compensation, and Liability Information System - No Further Remediation Action Planned List
CEQA— California Environmental Quality Act
CESA— California Endangered Species Act
CFG— California Fish and Game Code
CFM—Cubic Feet per Minute
CFP—California Fully Protected (species)
CFR—Code of Federal Regulations
CH— Critical habitat
CHMIRS— Chemical Hazardous Materials Incident Report System
CHSC— California Health and Safety Code
City—City of Yuba City
CIWMB— California Integrated Waste Management Board
CNDDB— California Natural Diversity Data Base
CNEL— Community Noise Equivalent Level
CNPS— California Native Plant Society
CO—Carbon Monoxide
CO_2—Carbon Dioxide
Corps— United States Army Corps of Engineers

CORRACTS list—Resources Conservation and Recovery Act Corrective Action List
County—Lassen County
CSC— California species of concern
CSFM— California State Fire Marshal
CSUS— California State University System
CTR— California Toxics Regulations
CUPA— Certified Unified Program Agency
CPUC— California Public Utility Commission
dB—Decibel
dBA—A-Weighted Decibel
DBE—Disadvantaged Business Enterprise
DFMEA— Design Failure Mode and Effects Analysis
DHS— Department of Homeland Security
DO— Doctor of Osteopathic Medicine
DOD—Department of Defense
DOI— Department of the Interior
DOT— United States Department of Transportation
DSP—Development Standards Plan
DTSC— Department of Toxic Substances Control
EMD—Emergency Medical Dispatch
EDR— Environmental Database Report
EIR—Environmental Impact Report
EPA—United States Environmental Protection Agency
ESA—Environmental Site Assessment
ERNS— United States Environmental Protection Agency Emergency Response Notification System
FAR— Floor Area Ratio
FCC— Federal Communications Commission
FE— Federally endangered
Fed/ OSHA— Occupational Safety Health Administration
FEMA— Federal Emergency Management Agency
FESA— Federal Endangered Species Act
FIRM— Flood Insurance Rate Map
FMMP— Farmland Mapping and Monitoring Program
FSP— Facility Security Plan
FT— Federally threatened
GAMAQI— Guide for Assessing and Mitigating Air Quality Impacts
GHG—Greenhouse Gas Emissions
GIP— General Industrial Permit
GPM—Gallons Per Minute
Great Valley— Great Valley geomorphic province
HAP—Hazardous Air Pollutant
HCFC—Hydrofluorocarbons
HCP—Habitat Conservation Plan
HMRIS—Hazardous Materials Incident Report System
HR—Hour
HSWA— Hazardous and Solid Waste Act
HWCL— Hazardous Waste Control Law
Hz— Hertz
IBC— International Business Code
IEEE— Institute of Electrical and Electronic Engineers
IRP—Integrated Resource Planning
IS—Initial Study
ISO—International Organization for Standardization
IS/MND – Initial Study/Mitigated Negative Declaration

IRS— United States Internal Revenue Service
ISR— Indirect Source Review
KOP— Key Observation Point
kV— Kilovolt
KW—Kilo Watt
LB—Pound
LCEHD—Lassen County Environmental Health Department
L_{dn}—Day/Night Equivalent (sound measurement)
L_{eq}— Equivalent Continuous Sound Pressure Level
LLC—Limited Liability Corporation
LMUD—Lassen Municipal Utility District
LOS—Level of Service
LESA—Limited Environmental Site Assessment
MBTA—Migratory Bird Treaty Act
MC— United States Marine Corps
MCE—Maximum Credible Earthquake
MEI—Maximum Exposure Individual
MOO— Must Offer Obligations
MOU— Memorandum of Understanding
MRZ— Mineral Resource Zones
MSDS—Material Safety Data Sheet
MSL—Mean Sea Level
MW—Mega Watt
Na. RC— National Research Council
NAAQS—National Ambient Air Quality Standards
NAHC— Native American Heritage Commission
NCR—Natural and Cultural Resources
NEC— National Electrical Code
NFPA—National Fire Protection Association
NHPA—National Historic Preservation Act
NIH— National Institute of Health
NMFS— National Marine Fisheries Service
NOC—Notice of Completion
NOD – Notice of Determination
NOI— Notice of Intent
NOP—Notice of Preparation
NOx—Nitrogen Oxides
NO_2—Nitrogen Dioxide
NOAA— National Oceanic and Atmospheric Administration
NPDES— National Pollutant Discharge Elimination System
NPS— Non-Point Source
NRC— National Response Center
NTSB—National Transportation Safety Board
O_3—Trioxygen
OES— Office of Emergency Services
OSBL—Outside Battery Limits
OSHA—Occupational Safety Health Administration
PPA—Power Purchase Agreement
Pb—Lead
PCE – Passenger Vehicle Equivalent
PFS—Public Facilities and Services
PG&E— Pacific Gas and Electric
PHMSA— Pipeline and Hazardous Materials Safety Administration
PSES— Photovoltaic Solar Energy System

PSREC — Plumas-Sierra Rural Electric Cooperative
$PM_{2.5}$—Fine Particulate Matter
PM_{10}—Respirable Particulate Matter
PPM—Parts Per Million
PSI—Pounds Per Square Inch
PRC—California Public Resources Code
PV—Photovoltaic
RACT—Reasonably Available Control Technology
RCRA— Resource Conservation and Recovery Act
RCRA-LQG— Resource Conservation and Recovery Act Large Quantity Generator
RCRA-SQG— Resource Conservation and Recovery Act Small Quantity Generator
REC— Recognized Environmental Condition
RET— Retired
RMP— Risk Management Plan
ROG—Reactive Organic Gasses
ROW—Right of Way
RPS—Renewable Portfolio Standard
RSPA— Research and Special Programs Administration
RTTM— Real Time Transient Model
RWQCB— Regional Water Quality Control Board
SB—Senate Bill
SCADA—Supervisory Control and Data Acquisition
SCH—State Clearinghouse
SCP—Source Control Program
SGIP—Self Generation Incentive Program
SE— State Endangered
SIP—State Implementation Plans
SO_2—Sulfur Dioxide
SO_x—Sulfur Oxide
SPCC— Spill Prevention, Control, and Countermeasures Plans
SR— State Rare
SRRE— Source Reduction and Recycling Element
ST—State Threatened
SWPPP—Storm Water Pollution Prevention Plan
SWQCB—State Water Quality Control Board
SWRCB—State Water Resources Control Board
TAC— Toxic Air Containment
TFV—Threshold Friction Velocity
TMDL— Total Maximum Daily Load
TOP—Take Over Point
TRIS—Toxic Chemical Release Inventory System
TSA— Transportation Security Administration
TSD—Treatment, Storage, and Disposal Facilities
UBC—Uniform Building Code
UFC— Uniform Fire Code
UL— Underwriters Laboratories
UN— United Nations
UNS—Unified Numbering System
URBEMIS—Urban Emissions
USC—United States Code
USCG—United States Coast Guard
USDA—United States Department of Agriculture
USGS—United States Geological Survey
USFWS—United States Fish and Wildlife Service

USN— United States Navy
V—Volt
Valley—Sacramento Valley
VDE—Visible Dust Emissions
VOC—Volatile Organic Compounds
VPP—Virtual Power Plants
VRU— Vapor Recovery Unit
VTS— Vessel Traffic Service
WDR—Waste Discharge Report
WQCP— Water Quality Control Plan

1.0 INTRODUCTION

This Initial Study and proposed Mitigated Negative Declaration have been prepared by Lassen County Planning and Building Services (Lassen County), as the Lead Agency under the California Environmental Quality Act (CEQA), for the Calneva Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project (Calneva BESS/PSES) with technical assistance from Sierra Geotech, DBE, Inc. Dr. Charles Hooper, DO, CDR (RET) MC USN, the landowner and project proponent, is proposing to develop a BESS/PSES facility on approximately 278 acres +/- acres on Lassen County Assessor's Parcel Numbers (APNs) 137-170-12, (180 acres) and 137-170-13, (98 acres) located immediately east of Calneva Road and four (4) miles north of the intersection at Calneva Road and Fort Sage Road in Lassen County, California, within the area of Lassen County known as Calneva. The Calneva BESS/PSES project would be a nominal 50-megawatt (MW) solar photovoltaic (PV) power facility, related substation, with an integrated battery energy storage system (BESS). The BESS would store 25 megawatts (MW) or 100 MW hours of electricity, to provide renewable energy and critically needed flexibility attributes needed to advance California's and Nevada's Renewable Portfolio Standard (RPS) goals, climate policies, and to enhance electrical grid reliability. The Calneva BESS/PSES would utilize the Lassen County Calneva Road right-of-way, permitted as an encroachment permit to install the 120-kilovolt (kV) Gen-Tie line, run on standard distribution utility poles, 300 foot span lengths (70 utility poles) to connect to the proposed Plumas-Sierra Rural Electric Cooperative (PSREC) 120 kV transmission line located on Fort Sage Road.

The proposed BESS/PSES facilities would reduce greenhouse gas emissions associated with gas-fired power generation facilities by storing energy during off-peak hours (lower energy usage/demand times) and dispatch energy on an as-needed basis during peak demand hours. The BESS facility would respond to California Public Utilities Commission Resolution E-4909 authorizing California Utilities to procure energy storage to address local deficiencies and ensure local reliability.

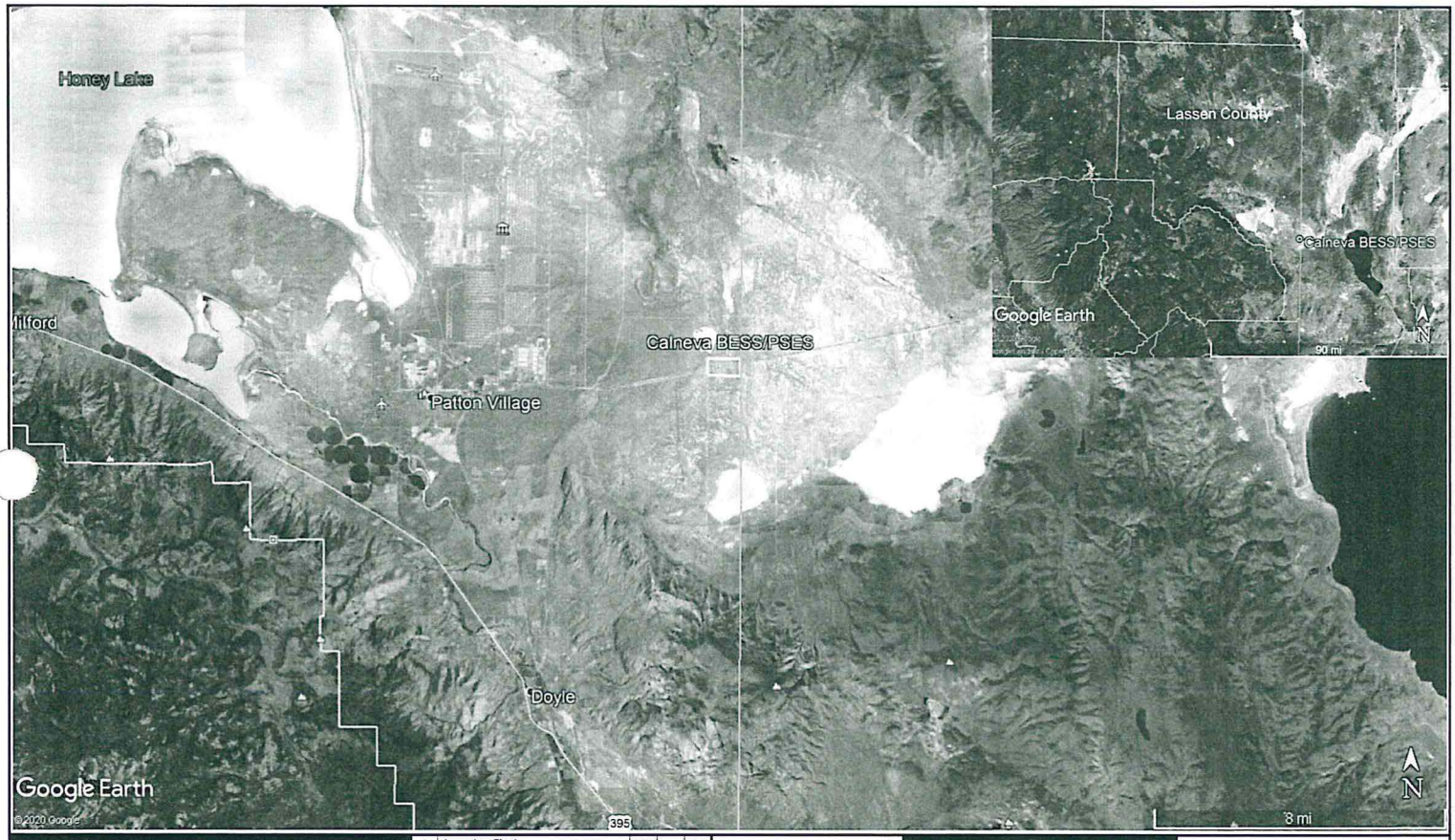
The project's location north of the PSREC electric power transmission line and Fort Sage and Herlong power substations, would enable connection to the existing grid. The California Independent System Operator (CAISO) would control the dispatching of electricity from the proposed project. See *Figure 1.0-1: Vicinity and Location Map* of the Calneva BESS/PSES project lease area for the proposed BESS/PSES facilities and See *Figure 1.0-2: Calneva BESS/PSES Layout Plan* for the *Use Permit Site Plan and Layout* for the proposed Calneva BESS/PSES facilities.

This Initial Study and proposed Mitigated Negative Declaration have been prepared to identify and assess the anticipated environmental impacts of constructing and operating the proposed Calneva BESS/PSES project. This Initial Study analyzes the potential impacts of the proposed Calneva BESS/PSES project with regard to the following environmental topic areas: (1) Aesthetics, (2) Agricultural and Forestry Resources, (3) Air Quality, (4) Biological Resources, (5) Cultural Resources, (6) Energy, (7) Geology and Soils, (8) Greenhouse Gas Emissions, (9) Hazards and Hazardous Materials, (10) Hydrology and Water Quality, (11) Land Use and Planning, (12) Mineral Resources, (13) Noise, (14) Population and Housing, (15) Public Services, (16) Recreation, (17) Transportation and Traffic, (18) Tribal Cultural Resources (19) Utilities and Service Systems, (20) Wildfire, and (21) Mandatory Findings of Significance.

Lassen County has reviewed the proposed Calneva BESS/PSES project and has determined that the proposed project, with mitigation measures, as identified in the attached Initial Study, would not have a significant effect on the environment. Thus, an Environmental Impact Report (EIR) is not required pursuant to the California Environmental Quality Act (CEQA) of 1970 (Sections 21000, et seq., Public Resources Code of the State of California).

The Initial Study is a public document used by the decision-making lead agency to determine whether a project may have a significant effect on the environment. If the lead agency finds substantial evidence that any aspect of the project, either individually or cumulatively, may have a significant effect on the environment, regardless of whether the overall effect of the project is adverse or beneficial, the lead agency is required to either use a previously prepared EIR and supplement that EIR, or prepare a subsequent EIR

to analyze the issues at hand. In reviewing the site-specific information provided for the above-referenced project, Lassen County found no substantial evidence that the Calneva BESS/PSES project or any of its aspects might cause a significant effect on the environment, and consequentially a Mitigated Negative Declaration is the proposed CEQA document for this project.

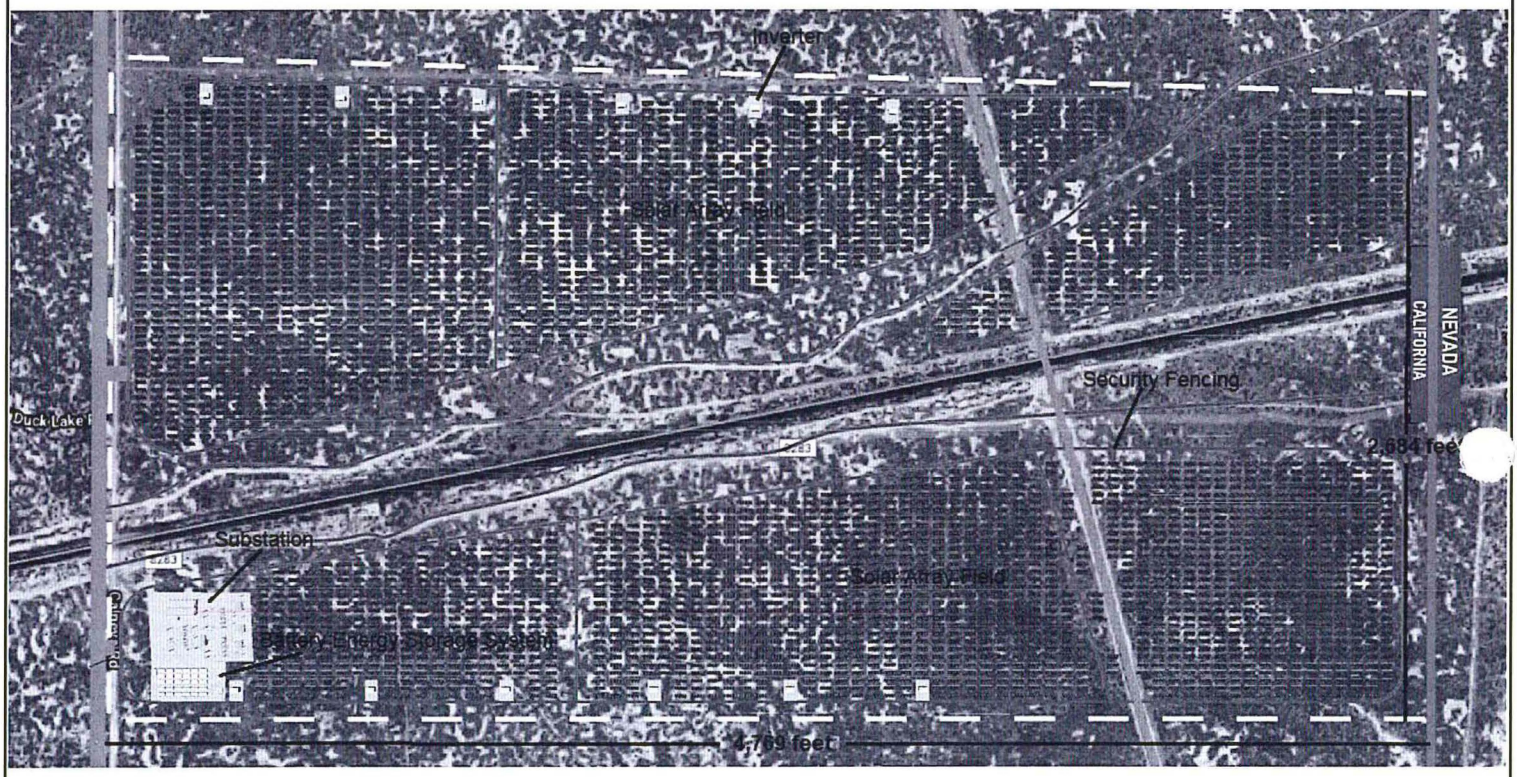


PROJECT: CALNEVA BESS/PSES FACILITY							
Calneva, CA	APNs: 137-170-012,013						
		REV.	DESCRIPTION	BY	APP.	CHKD	
		0	Issued as Final	SCV		BLM	

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FIGURE: Vicinity and Location Map			
DATE:	04-09-2020	SCALE:	As Shown
BY:	AKM	FIGURE:	1.0-1

SIERRA GEOTECH



Scale: 1" = 475'

PROJECT: CALNEVA BESS/PSES FACILITY							
Calneva, CA	APNs: 137-170-012,013						
		0	Issued as Final	SCV		BLM	
		REV.	DESCRIPTION	BY	APP.	CHKD	

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FIGURE: Layout Plan	
DATE: 04-09-2020	SCALE: As noted above (11"x17")
BY: AKM	FIGURE: 1.0-2

SIERRA GEOTECH

All mitigation measures as identified in the project's Initial Study, as well as all project components described in the Initial Study, are included in the Approval, and incorporated into the project. The development and operation of the proposed Calneva BESS/PSES facilities are a conditionally permitted use within the Lassen County zoning classification of the project area, A-1 General Agricultural District (A-1), (*Lassen County Code Title 18 Zoning, Chapter 18.16, A-1 General Agricultural District*) and the project area is designated as "Extensive Agriculture" land use designation by the Lassen County General Plan 2000 adopted September 21,1999.

Lassen County is soliciting views of interested persons and agencies on the content of the environmental information presented in this document. Due to time limits mandated by state law, your responses must be sent as soon as possible, but no later than the 30-day review period ending on July 23, 2020.

Written responses should be sent to:

Mr. Maurice L. Anderson, Environmental Review Officer
Lassen County Planning and Building Services
707 Nevada Street, Suite 5
Susanville, CA 96130
Phone: (530) 251-8269
FAX: (530) 251-8373
Email: landuse@co.lassen.ca.us
Website: www.co.lassen.ca.us

2.0 ENVIRONMENTAL REVIEW AND APPROVAL

2.1 REGULATORY GUIDANCE

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the Lassen County Planning and Building Services (Lassen County) to evaluate potential environmental effects of the proposed Calneva BESS/PSES project, located on approximately 278 +/- acre project lease area 4 miles north of the intersection at Calneva Road and Fort Sage Road in Lassen County, California, in the area of Lassen County known as Calneva; Project Lease Area known as Lassen County Assessor's Parcel Numbers (APNs) 137-170-12, (180 acres) and 137-170-13, (98 acres); located off Calneva Road. This document has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations [CCR] Section 15000 et seq.).

An Initial Study (IS) has been prepared by Lassen County as lead agency to determine if the Calneva BESS/PSES project may have a significant effect on the environment (State CEQA Guidelines Section 15063[a]) and to determine the appropriate environmental document. In accordance with CEQA Guidelines Section 15070, a "public agency shall prepare ... a proposed Negative Declaration or Mitigated Negative Declaration ... when: (a) The Initial Study shows that there is no substantial evidence ... that the project may have a significant impact upon the environment, or (b) The Initial Study identifies potentially significant effects but revisions to the project plans or proposal are agreed to by the applicant and such revisions would reduce potentially significant effects to a less-than-significant level." Lassen County, as the lead agency, has prepared a written statement describing its reasons for concluding that the proposed Calneva BESS/PSES project would not have a significant effect on the environment and, therefore, the proposed project does not require the preparation of an Environmental Impact Report (EIR). This IS/MND conforms to the requirements set forth in CEQA Guidelines Section 15071.

This IS/MND evaluates the environmental effects of the proposed Calneva BESS/PSES project. This IS/MND formalizes the County's preliminary analysis to determine whether an EIR or Negative Declaration must be prepared. The IS/MND is based upon the CEQA Guidelines checklist which illuminates the various environmental impacts which may result from development. The checklist, however, is only part of the IS/MND. The IS/MND also explains the checklist findings and provides references and resources relied upon in its preparation, complying with the CEQA guidelines, statutes, and current case law (see: *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296). The IS not intended to provide the full-blown analysis expected of a complete EIR (see: *Leonoff v. Monterey County Board of Supervisors* (1990) 222 Cal.App.3d 1337 and *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1996) 42 Cal.App.4th 608).

This IS/MND includes specific technical studies which examine the potential significance of an anticipated environmental effect. It also includes references to previous environmental documents or other information sources. This IS/MND is a crucial part of the record supporting Lassen County's determination to prepare a Mitigated Negative Declaration.

CEQA requires that the Lead Agency, through the IS, to review the whole of a project. A project must not be broken into smaller parts, each of which alone might qualify for a Negative Declaration, in an attempt to avoid preparing an EIR (*Association for Sensible Development of Bishop Area v. County of Inyo* (1985) 172 Cal.App.3d 151). The decision to prepare an MND must be grounded in an objective, good faith effort on the part of the Lead Agency to review the project's potential for significant impacts (*Sundstrom v. County of Mendocino*, supra).

An MND is subject to the consultation and notice requirements as follows (see Sections 21080.3, 21091, and 21092 for details on current requirements). Lassen County will consider the comments it receives during the review period (30 days) prior to adopting the proposed MND. If these comments include substantial evidence that a potential environmental effect may occur despite the project revisions or

mitigation measures included in the MND, Lassen County will either require further revisions to the proposed Calneva BESS/PSES project which would effectively avoid or mitigate that effect, or if that is not possible, Lassen County would prepare an EIR. If new mitigation measures are required to decrease impacts to a "less than significant" level after the 30-day review and comment response periods, Lassen County will recirculate the revised MND for review prior to acting on the proposed Calneva BESS/PSES project and adopting the document. This process ensures that the public will be afforded the chance to review the new mitigation measures as well as the revised project (see: *Leonoff v. Monterey County Board of Supervisors* (1990) 222 Cal.App.3d 1337 and *Perley v. County of Calaveras* (1982) 137 Cal.App.3d 424). Any additional project changes must be agreed to prior to recirculation of final the MND.

Upon adopting a Mitigated Negative Declaration, Lassen County must make both of the following findings:

1. Revisions in the project plans or proposals made by, or agreed to by, Dr. Charles Hooper, DO, CDR (Ret) MC USN, before the proposed MND and IS are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur.

2. There is no substantial evidence in light of the whole record before the public agency that the proposed Calneva BESS/PSES project, as revised, may have a significant effect on the environment. (Sections 21064.5 and 21080(c)).

2.2 SCOPE OF INITIAL STUDY

Based on the analysis presented in this IS, Lassen County, as the lead agency, has determined that the proposed Calneva BESS/PSES project, herein described, would not result in any potentially significant impacts that cannot be mitigated to a less-than-significant impact. The analysis contained in this IS concludes that environmental impacts from the proposed Calneva BESS/PSES project would be as follows: (1) no impact; (2) less-than-significant impact; and (3) less-than- significant impact with incorporation of Calneva BESS/PSES project specific mitigation measures. Under these circumstances an MND is the appropriate level of CEQA documentation.

Since none of the conditions described in CEQA or the CEQA Guidelines calling for preparation of an EIR have occurred, this Initial Study includes mitigation measures to reduce all identified potential impacts of the Calneva BESS/PSES project to a less than significant level. The analysis in this IS supports the proposed adoption of an MND.

2.3 PUBLIC AGENCY AND REVIEW

This Draft IS and proposed MND will be circulated for public and agency review from June 22, 2020 to July 23, 2020. Copies of the Draft Initial Study are available during normal operating hours at the Lassen County Planning and Building Services, 707 Nevada Street, Suite 5, Susanville, CA, 96130-3912. Comments on this Draft Initial Study must be received by 5 p.m. on July 23, 2020 and may be emailed to landuse@co.lassen.ca.us mailed to:

Mr. Maurice L. Anderson, Environmental Review Officer
Lassen County Planning and Building Services
707 Nevada Street, Suite 5
Susanville, CA 96130-3912
Phone: (530) 251-8269
FAX: (530) 251-8373

The IS/MND is being circulated for public review and comment for a review period of 30 days. After comments are received from the public and reviewing agencies, Lassen County will consider those comments and may (1) adopt the MND and approve the proposed project; (2) undertake additional environmental studies and require additional mitigation measures; (3) require an EIR; or (4) reject the project. If the project is approved, Lassen County will be responsible for enforcing all mitigation measures.

After public review of the IS/MND, the proposed Calneva BESS/PSES project will be considered by the Lassen County Planning Commission. The Lassen County Planning Commission shall consider the Calneva Battery Energy Storage System (BESS) / Photovoltaic Solar Energy System (PSES) project Initial Study and Mitigated Negative Declaration and the Calneva BESS/PSES application for a Use Permit at a noticed public hearing. A date for the public hearing at the Lassen County Planning Commission has not yet been set.

Should you wish to challenge the environmental document in court, you may be limited to raising only those issues you or someone else raised in written correspondence delivered to the Lassen County Planning Commission or in a public hearing on the proposed Calneva BESS/PSES project.

2.4 PROJECT INFORMATION

Project Title: Calneva Battery Energy Storage System (BESS) / Photovoltaic Solar Energy System (PSES) Project

Project Location: Street Address: Adjacent to Calneva Road; Located approximately four (4) miles north of the Calneva Road and Fort Sage Road intersection on the east side of Calneva Road, Lassen County, California. The proposed project area is located on Lassen County Assessor's Parcel Numbers (APNs) 137-170-12 and 137-170-13 within Lassen County. The proposed project lease area is situated in the unincorporated area in Lassen County, California and is describe as follows:

In Township 27 North, Range 17 East, Mount Diablo Meridian, according to the following plat thereof.

Section 36: Lots 1 and 2; the West ½ of the Northeast ¼; and the Northwest ¼.

Excepting therefrom all that portion in the Deed from Flora B. Barber and V.S. Barber her husband to the Western Pacific Railway Company, a railroad corporation, dated November 3, 1905, recorded November 15, 1905 in Book P of Deeds, at Page 549.

Lead Agency Name and Address: Lassen County Planning and Building Services, 707 Nevada Street, Suite 5, Susanville, CA 96103

Project Sponsor's Name and Address:

Dr. Charles Hooper, DO
CDR (RET) MC USN
Board Certified Family Practice
11242 Clinton Bar Road
Pine Grove, CA 95665
(530) 514-0135
Chooper714@aol.com

Contact Persons and Phone Numbers:

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Vice President
Sierra Geotech, DBE, Inc
2250 Sierra Meadows Drive, Suite A
Rocklin, CA 95677
(916) 712-9707
brent@sierrageotech.com

Shaun Vemuri, PE
President
Sierra Geotech, DBE, Inc
2250 Sierra Meadows Drive, Suite A
Rocklin, CA 95677
(916) 917-6673
shaun@sierrageotech.com

Location of the Administrative Record for this Project: Lassen County Planning and Building Services, 707 Nevada Street, Suite 5, Susanville, CA 96130

2.5 ORGANIZATION OF THE INITIAL STUDY

This Initial Study is organized into the following sections.

Section 1.0 - Introduction: Provides summary background information about the proposed Calneva BESS/PSES project, including project location, lead agency, and contact information.

Section 2.0 - Environmental Review and Approval: Includes regulatory guidance of CEQA, purpose of the IS, the scope of the IS, public and agency review information, and an overview of the document's organization.

Section 3.0 - Project Description: Includes a description of the proposed Calneva BESS/PSES project.

Section 4.0 - Environmental Factors Potentially Affected: Identifies which environmental areas, if any, the proposed Calneva BESS/PSES project would cause 'Potentially Significant Impacts' as indicated by the analysis provided in the CEQA Environmental Checklist.

Section 5.0 - Determination: Indicates whether impacts associated with the proposed Calneva BESS/PSES project are significant, and what, if any, additional environmental documentation is required.

Section 6.0 - Evaluation of Environmental Impacts: Contains *Appendix G Environmental Checklist Form* from the California Environmental Quality Act (CEQA) Guidelines, as adopted from time to time by the California Natural Resources Agency, for each resource area. The checklist is used to assist in evaluating the potential environmental impacts of the proposed Calneva BESS/PSES project. The checklist identifies potential project effects as follows: (1) New Potentially Significant Impacts; (2) Less-Than-Significant impacts with Mitigation Incorporated; (3) Less Than Significant; (4) No Impact. This section also contains an explanation of all checklist answers and recommended mitigation measures.

Section 7.0 – Fish and Game Determination

Section 8.0 - References: Lists references used in the preparation of this initial study.

Section 9.0 - Agencies and Persons Consulted: Provides the names of individuals contacted in preparation of this document.

Section 10.0 - Report Preparers: Lists the names of individuals who assisted in the preparation of this IS/MND.

Appendix A – Proposed Mitigated Negative Declaration
Appendix B – Mitigation Monitoring and Reporting Plan
Appendix C – BESS/PSES Equipment Specifications
Appendix D – Chicago Title Insurance Company Report and Map
Appendix E - Cultural Resources Documentation
Appendix F – CalEEMOD Version 2016.3.2 Emission Data Model Spreadsheet
Appendix G – Geotechnical Report
Appendix H – Phase 1 Environmental Site Assessment-EDR Data
Appendix I – El Centro BESS Noise Study

3.0 PROJECT DESCRIPTION

3.1 PROJECT NAME

Calneva Battery Energy Storage System (BESS) / Photovoltaic Solar Energy System Project (*Calneva BESS/PSES project*)

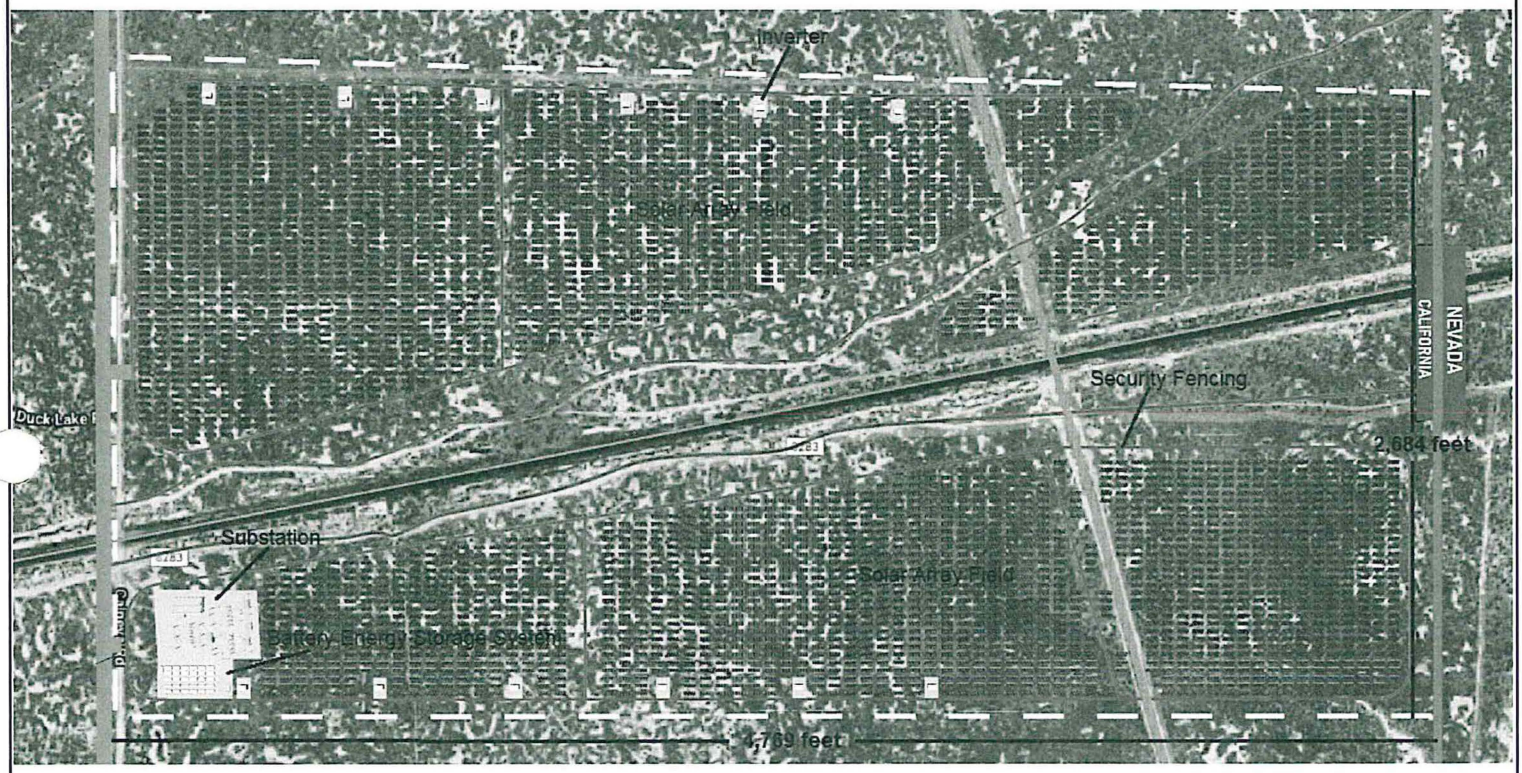
3.2 PROPOSED ACTION

Dr. Charles Hooper, DO, CDR (RET) MC USN, is requesting from Lassen County a Conditional Use Permit to construct and operate a battery energy storage system and photovoltaic solar energy system under the Lassen County Zoning Code Title 18, Chapter 18.16.050 Uses Allowed by Use Permit, on land to be leased from Dr. Charles Hooper, DO, CDR (RET) MC USN, property owner of the proposed Calneva BESS/PSES project lease area of approximately 278 +/- acres located on Lassen County Assessor's Parcel Numbers (APNs) 137-170-12, (180 acres) and 137-170-13, (98 acres) off of Lassen County road, Calneva Road within Lassen County. The current zoning classification for the proposed project lease area is A-1 General Agricultural District (A-1) with a general plan designation of Extensive Agriculture. The proposed Calneva BESS/PSES project is considered an allowed land use by use permit within the A-1 zoning classification as defined by Lassen County Zoning Code Title 18, Chapter 18.16.050 which states: "*Uses allowed by use permit in an A-1 district shall be as follows: (10) Uses allowed by use permit in the following zones: R-1, U-C, U-C-2 and E-A*". The Zoning Code describes the Calneva project within the E-A zone found in Title 18, Chapter 18.66.040 Uses Allowed by Permit in the (E-A) Exclusive Agricultural District states: "*(7) Commercial electrical generating facilities utilizing biomass, cogeneration, gas, oil, geothermal, solar, and wind if the produced power is intended for sale or distribution off premises".* To allow development of the Calneva BESS/PSES project will require a Use Permit be issued by Lassen County as a discretionary action.

The proposed project requires a public hearing and approval of the project from the Lassen County Planning Commission with findings for such action, and adoption of the appropriate CEQA document to support the action. The Lassen County Planning Commission must hold a public hearing and consider the Planning Staff recommendations, public testimony, and certify the proposed Initial Study and Mitigated Negative Declaration, adopt a Mitigation and Monitoring Plan, and conditions of approval for the proposed Conditional Use Permit (CUP) to allow development of the proposed Calneva BESS/PSES project. After Lassen County Planning Commission approval and certification of the CEQA document Dr. Charles Hooper, DO, CDR (RET) MC USN, will have administrative clearances (i.e., Post-discretionary Land Use Permit, building permit, grading permit, electrical permit, fire permit, etc.). No other permitting is required for the project. (See Figure 3.2-1: *Calneva BESS/PSES Layout Plan*)

3.3 REQUIRED PERMITS AND APPROVALS

Many laws and policies have been adopted at the federal, state, and local levels to protect environmental resources and ensure that development is appropriately planned and managed. *Table 3.3-1: Applicable Compliance and Review Requirements*, summarizes the principal laws, regulations, and policies with which the proposed Calneva BESS/PSES project must comply.



Scale: 1" = 475'

PROJECT: CALNEVA BESS/PSES FACILITY	0	Issued as Final	SCV		BLM
Calneva, CA	APNs: 137-170-012,013				
	REV.	DESCRIPTION	BY	APP.	CHKD

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FIGURE: Layout Plan	
DATE: 04-09-2020	SCALE: As noted above (11"x17")
BY: AKM	FIGURE: 3.2-1

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Table 3.3-1: Applicable Compliance and Review Requirements

Resource Area	Compliance Requirements
Aesthetics	• Lassen County 2000 General Plan • Lassen County Natural Resources Element – Scenic Resources Classification, Class III: Have low visual sensitivity because of very low levels of public exposure due to isolation
Agricultural Resources	• Williamson Act Regulations
Air Quality/Green House Gas	• Federal Clean Air Act and Clean Air Act Amendments 1990 • California Clean Air Act (Section 112(r)(1))—Requires the facility operator to identify hazards that may result from accidental releases • New Source Performance Standards (40 CFR 60) • Lassen County Air Pollution Control District Plans • Lassen County Air Pollution Control District, Authorities to Construct and Authorities to Operate • California Global Warming Solutions Action 2006 (AB32)
Biology	• Federal and State Endangered Species Acts • Federal Migratory Bird Treaty Act • Federal Bald and Golden Eagle Protection Act • California Native Plant Protection Act • California Fish and Game Code
Cultural Resources	• California Public Resources Code Sections 5024 and 5024.5 • State Historic Preservation Office Requirements • California Native American tribes traditionally and culturally affiliated with the project lease area be notified of the proposed project
Geology and Soils	• Lassen County Building Permit • Alquist-Priolo Earthquake Fault Zone
Hazards and Hazardous Materials	• California Code of Regulations Title 22 • California Hazardous Materials Release Response Plans and Inventory Act • Lassen County Environmental Health Department is the CUPA and regulates hazardous materials • California State Fire Marshal • DOT Hazardous Materials Regulations (amended by Homeland Security Act of 2002)—Requires the Implementation of a HM 232 hazardous materials plan • Design Failure Mode and Effects Analysis (DFMEA) • Lassen County Code of Ordinances Title 7 Health and Sanitation
Hydrology and Water Quality	• Federal Clean Water Act • Porter-Cologne Water Quality Control Act • California Department of Health Services requirements for potable water facilities • State Water Resources Control Board, General Industrial Activity Stormwater Permits • California Regional Water Quality Control Board, Construction Activities Stormwater General Permit • California Regional Water Quality Control Board, Industrial Activities Stormwater General Permit • Lahontan Regional Water Quality Control Board—NPDES and SWPPP • 40 CFR 112 (Requirement for a Spill Preventions Control Countermeasure Plan) • Regional Water Quality Control Board (RWQCB), Lahontan Region – Clean Water Act Section 401Permit and National Pollutant Discharge Elimination System's (NPDES) California General Permit for Storm Water Discharges Associated with Construction Activity
Land Use and Planning	• Lassen County 2000 General Plan • Lassen County Zoning Code Title 18 • California Government Code

Resource Area	Compliance Requirements
	• Lassen County building permits and encroachment permits • Lassen County Conditional Use Permit • Lassen County Site Plan Review and Approval
Mineral Resources	• California Surface Mining and Reclamation Act of 1975
Noise	• Lassen County 2000 General Plan – Noise Element
Population and Housing	• Lassen County 2000 General Plan • Lassen County Housing Element • Regional Housing Allocation Plan
Public Services and Utilities	• Lassen County 2000 General Plan • Environmental Enforcement and Training Act of 2002 • California Education Code Sections 52080-52086 • California Public Utility Commission, Energy Division, Resolution E-4909, January 11, 2018 • California Public Utility Code, Section 701, and Section 380 • Federal Power Act 16, U.S.C. Section 791 et. seq. • Energy Policy Act of 1992, Section 714, 16 U.S.C. section 824
Recreation and Open Space	• Lassen County 2000 General Plan
Transportation/Traffic	• Lassen County 2000 General Plan • Lassen County Code Title 10: Vehicles and Traffic • Lassen County Encroachment Permit
Battery Storage System Industry Design Standards and Regulations	• Inverter – UL 1741 • CARB GHG annual inventory documentation (to be submitted to CARB—17 CCR 95121) • IRS Form 637 (Excise Taxation form for certain activities) • Interconnecting Distributed Resources with Electric Power Systems – IEEE 1547 • Seismic Rating – IBC/CBC Zone 3 • Communication – FCC Part 15B Class A • National Electric Code – NEC 2011, ANSI/NFPA 70 with regards to wire sizing, fuses, and circuit breakers. • Sizing of Halon Fire Suppression System – NFPA 2003 • Transportation – UN Manual Section 38.3, DOT, PHMSA Class 9 • Harmonic Control in Electrical Power Systems – IEEE 519 • Signage for Hazardous Materials and Emergency Response – NFPA 704 • Produce Safety Signs and Labels – ANSI 2535 • Transformer Standards – ANSI C57 • Surge Withstand Capabilities – ANSI C37 • Battery Cell Safety – UL1642, IEC62133, EN62133, UN38.3 • Battery Module Safety – UL1973, UN38.3 • Facilities and Quality Procedures – ISO9001, ISO14001, OHSA18001 Lithium Ion Transportation of Batteries – 49 CFR 173.185 – DOT Pipeline and Hazardous Materials Administration

3.4 BACKGROUND AND CONTEXT

Calneva BESS/PSES project, is proposing the construction of a battery energy storage facility and a photovoltaic solar energy system on land owned by the Dr. Charles Hooper, DO, CDR (RET) MC USN. Dr. Charles Hooper, DO, CDR (RET) MC USN will lease the proposed project lease area to an independent power merchant to develop and operate the Calneva BESS/PSES project. The lease area for the proposed Calneva BESS/PSES project is located some four (4) miles north of the intersection of Calneva Road and Fort Sage Road on the east side of Calneva Road, on APNs 137-170-12, (180 acres) and 137-170-13, (98 acres) Lassen County, California. The proposed lease area for the project site consists of approximately 278+/- acres approximately four (4) miles north of the proposed PSREC 120 kV transmission line which will be utilized by the proposed BESS/PSES project to convey power to the grid. (see Appendix D: *Chicago Title Insurance Company Title Report and Map*).

Dr. Charles Hooper, DO, CDR (RET) MC USN, is responding to the California Public Utility Commission (CPUC) to develop cost-effective energy storage projects totaling approximately 567 MW statewide. CPUC Resolution E-4909 adopted January 11, 2018 authorized public utilities in California to procure energy storage to address local deficiencies in the various sub-areas of the public grid system and ensure local reliability. The proposed Calneva BESS/PSES project would provide renewable energy and critically needed flexibility attributes needed to advance California's and Nevada's Renewable Portfolio Standard (RPS) goals, climate policies, and to enhance electrical grid reliability.

CPUC determined that switching from reliance on fossil fuels power peaker plants to renewable energy sources could lead to market distortions and unjust rates for power. Ultimately, this concern lead to the CPUC's passage of Resolution E-4909 under its procurement authority to authorize public utilities to conduct a limited solicitation for resources to fill the local deficiencies and address issues identified by the CAISO. The proposed Calneva BESS/PSES project is responding to CPUC Resolution E-4909, by providing new battery storage resources, thereby eliminating the need for the continuing use of fossil fuel peak power plants, or renewal in subsequent years of the older fossil fuel peaker power plants throughout the state. In addition, the proposed Calneva BESS/PSES project will be subject to must offer obligations (MOO) in the wholesale energy markets for the region.

Several areas of California law give the CPUC authority to act to ensure a safe and reliable energy supply for the state as well as just and reasonable retail rates for such services. The CPUC's authority over utility regulation and supervision arises from the California Constitution, state law and court decisions as well as federal law including, but not limited to, the Federal Power Act, 16 U.S.C. § 791 et seq., and section 714 of the Energy Policy Act of 1992, 16 U.S.C. §824(g). (General Order 167, Section 1; see generally Southern California Edison Company v. Public Utilities Commission (2014) 227 Cal.App.4th 172, 186-196.) Several state statutes direct the CPUC to assure the long-term reliability of California's electric energy supply. Section 380 of the California Public Utilities Code 9 requires the CPUC to establish and enforce resource adequacy requirements to assure "development of new generating capacity and retention of existing generating capacity that is economic and needed." (Section 380, subds. (b)(1); see also subds. (c)-(f).).

The CPUC also exercises authority over electric utilities and in state generation facilities. Section 761.3, subdivision (a) provides that the CPUC "shall implement and enforce standards for the maintenance and operation of facilities for the generation of electricity . . . located in the state to ensure their reliable operation." The CPUC shall enforce the protocols for the scheduling of powerplant outages of the Independent System Operator." The Commission designed General Order (G.O.) 167, *Enforcement of Maintenance and Operation Standards.*

Battery energy storage systems are recognized by the CPUC as fast-responding and reliable and may be constructed in a short timeframe. BESSs are procured at increasing levels to meet local reliability requirements including capacity shortfalls, in lieu of conventional generation. The proposed Calneva BESS/PSES project is a direct response to the CPUC Resolution E-4909, and the plan to mitigate increasing electrical rates for Northern California and Northern Nevada ratepayers.

Data presented in this document reflect relevant data from conceptual BESS plans based on existing, equivalent BESS facilities. These BESS production models were used to determine potential impacts in accordance with CEQA guidelines. The Calneva BESS/PSES project will employ cutting-edge battery storage technologies and processes to produce peaking power in a manner that exceeds traditional production efficiencies. The final facility design would ultimately be provided by the independent power merchant which will enter into a lease agreement with Dr. Charles Hooper, DO, CDR (RET) MC USN, and exact input/output consumption values may vary from assumed values provided herein for purposes of CEQA evaluation.

Lassen County would have primary jurisdiction over the proposed Calneva BESS/PSES project and will act as the CEQA lead agency. The federal regulatory agencies that may have jurisdiction over this project include the U.S. Environmental Protection Agency (EPA), U.S. Army Corps of Engineers (Corps), and U.S. Fish and Wildlife Service (U.S.F.W.S). State and local regulatory agencies involved in the permitting process include the California Department of Fish and Wildlife (DFW), Lassen County Air Pollution Control District, Lahontan Regional Water Quality Control Board, and Lassen County.

3.5 PROJECT NEED

3.5.1 Reduce the Need for RMR Fossil Fuel Peaker Power Contracts and Electrical Costs

All electric utility providers in California must coordinate with the CAISO to ensure that their proposed portfolio will contribute to reducing or eliminating the local grid deficiencies in the subareas serviced by the utilities. Without the proposed Calneva BESS/PSES project, California utilities and CAISO will be forced to pay high costs to continue the existing fossil fuel peaker power operations, which higher costs will be passed on to California and Lassen County ratepayers. The proposed BESS/PSES facility has been evaluated by CAISO and determined to reduce, or eliminate, the local sub-area deficiencies at a reasonable cost. The proposed project development schedule allows for on-line and operational status on or before a date sufficient to ensure that the RMR contracts for the fossil fuel peaker power plants will not be renewed in any year from 2020 through 2022.

3.5.2 Reduction of Greenhouse Gas Emissions

Battery storage is used to reduce greenhouse gas emissions associated with fossil fuel-fired power generation facilities by storing energy during off-peak hours (lower energy usage/demand times) and dispatching this energy on an as-needed basis during peak demand hours. This technology reduces the amount of fossil fuels consumed during peak hours and maximizes usage of energy from renewable sources such as wind and solar facilities that may not be able to produce energy during times of peak demand. The proposed project would increase local electricity peak power storage supply, thereby supporting the stability of the local electrical grid and removing offline the old fossil fuel fired peaker power plants which service Lassen County. The proposed project's location with access to the Plumas-Sierra Rural Electric Cooperative (PSREC) 120kV transmission line which connects the project to the Fort Sage and Herlong substations allows the proposed BESS/PSES facilities to service the deficiencies created by the shutdown of fossil fuel peaker plants and enabling connection to the existing grid both in Lassen County, California, and Nevada. Benefits of the proposed BESS/PSES facility include integration of solar array field with 50 megawatts of power production, reduction of the need to ramp up polluting fossil fuel plants in the late afternoon, increased local reliability in an area that is currently highly reliant on fossil fuel-fired generation, ultimately pushing fossil fuel off the system and moving a step closer to a decarbonized grid in Lassen County, Nevada, and California. The CAISO would control the dispatching of electricity from the project. Electricity dispatched from the battery storage system would supplement the existing peaking capacity available to the CAISO system.

3.5.3 CPUC Adopted Energy Renewable Plan-Goal of 100% Retail Electricity

CPUC approved the California utilities, to deploy large-scale energy storage to replace peaking fossil fuel plants statewide. CPUC issued its approval of three (3) capacity contracts and one power purchase agreement (PPA) for 567.5MW of energy storage capacity to be built across large-scale battery storage systems in California. Significantly, each system will store energy for delivery up to four hours, making them viable capacity resources to replace fossil fuel plants. California has been among the fastest adopters of energy storage in the world, partly due to its prolific adoption of solar energy in past decades. The state now has a policy in place (SB100) to source 100% percent of retail electricity by 2045 from renewable sources. The proposed BESS/PSES project supports California utilities compliance with new regulatory and policy measures, such as the Self-Generation Incentive Program (SGIP), which offers support for solar-plus-storage purchases, and AB2514, which mandates that utilities procure over 1.3GW of behind-the-meter storage by the early 2020s and adds energy storage into utilities' long-term Integrated Resource Planning (IRP).

New state energy policies are ensuring that net metering policies are on their way out and increasing application of time-of-use rates, resulting in the increase peak demands. Generating, then storing power for use at peak demand times (when power becomes expensive) is more financially viable than injecting the power into the grid for diminishing returns. BESS facilities achieve these goals by creating aggregated virtual power plants (VPP) through inter-connection of several BESSs, which pools the capabilities of several such systems and offers more economic, reliable services.

3.6 PROJECT OBJECTIVES

The proposed project's basic objectives are to construct and operate a renewable energy resource with integrated energy storage that would help California and Nevada achieve its ambitious Renewable Portfolio Standard (RPS) and greenhouse gas (GHG) reduction goals and enhance grid reliability through the provision of key operational flexibility and dispatchability attributes. The proposed project would also provide operational support and a more secure electrical power system for the distribution by utilities (LMUD, PSREC, NV Energy, PG&E) and transmission system as a whole, in addition to providing local capacity reserves and energy security benefits for the immediate surrounding Lassen County and Susanville, and Herlong (Sierra Army Depot) areas. With a ready supply of dispatchable reserve energy, existing public utilities could reduce its reliance on fossil fuel-generation peaking power plants to serve peak power demands or possible loss of transmission capacity due to earthquake, landslides, or wildfires within the electrical service sub-area of the grid. The proposed Calneva BESS/PSES project objectives are summarized as follows:

Maximize renewable energy generation through construction of a large-scale, nominal 50-MW solar energy facility to help meet California's renewable energy and climate goals.
California's stated RPS goal is to serve 33 percent of its electric load with renewable energy by the end of 2020, 50 percent by 2026, and 60 percent by 2030. Senate Bill (SB) 100 also requires that retail sellers (investor-owned utilities, publicly owned utilities, electric service providers, and community choice aggregators) procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030. The RPS was established in 2002 under SB 1078, accelerated by SB 107 (2006), expanded by SB 2(1x) (First Extraordinary Session 2011), expanded to increase procurement from eligible renewable energy resources to 50 percent of total procurement by 2026 by SB 350 (2015) as modified by SB 100 (2018), and further expanded to increase procurement from eligible renewable energy resources to 60 percent of total procurement by 2030 by SB 100 (2018). Additionally, in 2006, the state legislature passed the California Global Warming Solutions Act (Assembly Bill [AB] 32), which mandates, for the first time ever in the U.S., the reduction of GHG emissions to 1990 levels by 2050. The Calneva BESS/PSES project if approved, would advance California's RPS and GHG reduction policy objectives by providing

renewable energy and storage.

Help enhance grid reliability through construction of a power facility that provides local area capacity BESS for electrical system reliability.
The BESS portion of the proposed Calneva BESS/PSES project would allow for the storage of electricity during solar production peak hours when this energy is not needed to allow for quick response when the regional electrical system is demanding additional energy when the solar production is winding down or not available. The BESS storage component of the proposed Calneva BESS/PSES project would enhance grid reliability by adding rapid response dispatchable electricity and preferred resources capacity that are much needed for grid operations, thereby enhancing grid reliability and enabling increasing amounts of intermittent renewable energy generating sources to be integrated. The proposed Calneva BESS/PSES project would help meet the State and regional transmission systems need for new (renewable) energy sources for voltage support, frequency regulation, power quality, ancillary services (regulation up and regulation down), and peak capacity support. The proposed Calneva BESS/PSES project would provide flexible, preferred resource capacity to the grid that would store energy during times of over-generation and deliver it back to the grid when needed.

Locate the facility in a high solar resource area
The siting of a renewable facility is critical to its success. Average year-round levels of direct normal solar radiation greater than or equal to 5 kilowatt hours per square meter per day (kWh/m2/day) are generally required for the viability of utility-scale solar photovoltaic (PV) systems according to the U.S. Environmental Protection Agency (USEPA) and the National Renewable Energy Laboratory (NREL), a laboratory of the U.S. Department of Energy (USEPA 2017). The solar resource at the proposed BESS/PSES project lease area is rated at 5.9 kWh/m2/day. The high solar resource means that during times of peak solar energy production, the proposed Calneva BESS/PSES project would be able to store excess energy in the BESS system for later use.

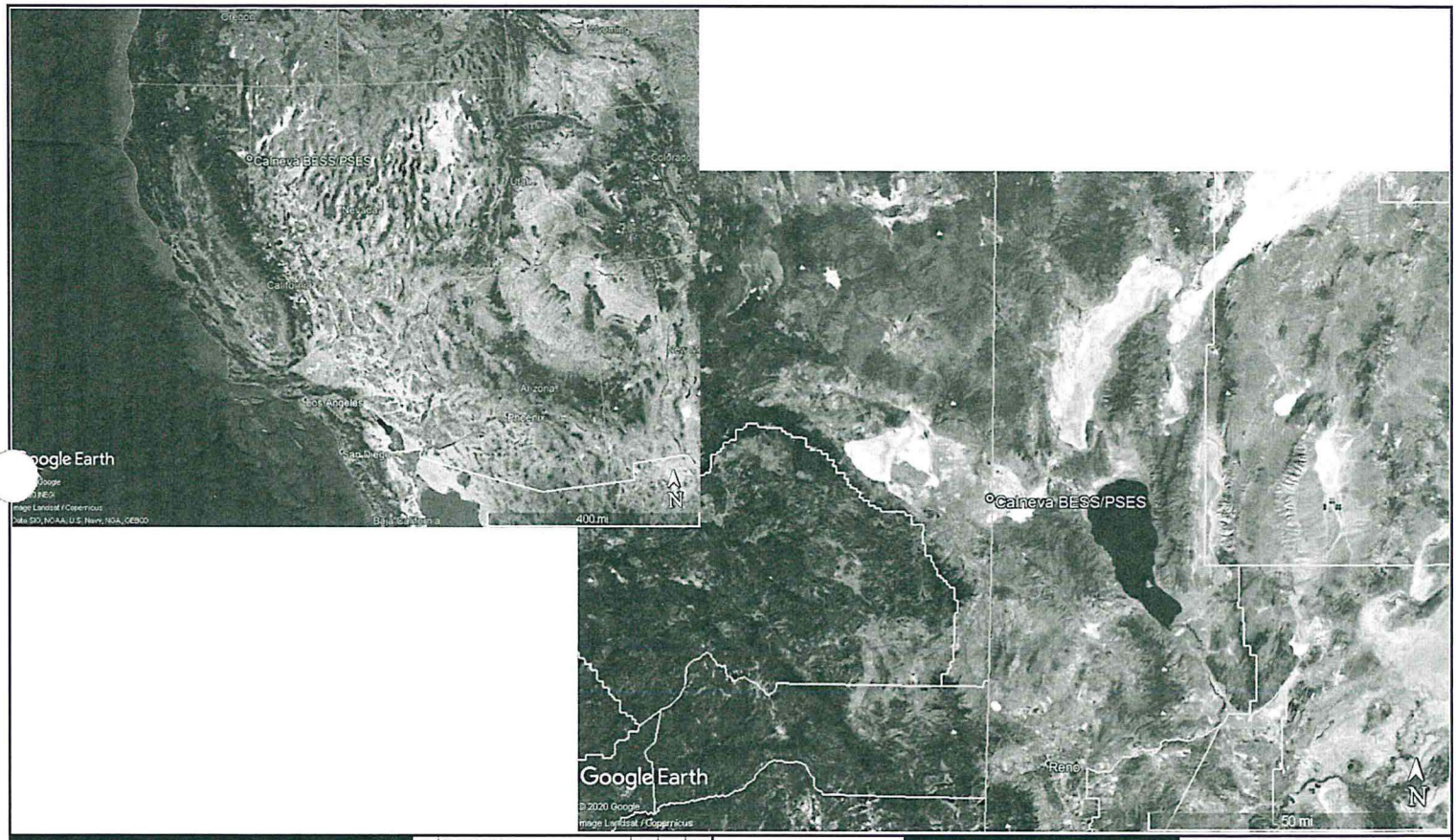
Minimize potential environmental impacts by locating the facility on a site with access to existing infrastructure, including access to available transmission
The California Public Utilities Commission (CPUC) has identified transmission congestion as a major barrier to achieving the RPS goal. Renewable resources are often far from existing transmission lines and load centers, requiring extensive and expensive transmission upgrades. Because of this identified transmission barrier, locating renewable generating facilities on sites that have easy access to existing electrical transmission lines with available capacity is an important component of the viability of a solar facility. A PSREC 120kV transmission line is planned for locating approximately four (4) miles south from the Calneva BESS/PSES project lease area and has available 100 MW of excess capacity to connect to the California Independent System Operator (CAISO)-controlled grid without requiring system upgrades. The proposed Calneva BESS/PSES project would also provide Herlong, Sierra Army Depot, California Department of Corrections, LMUD, PSREC, PG&E, and NV Energy with access to RPS-qualifying renewable energy and storage.

Minimize potential impacts on the community and the environment by locating the facility in an undeveloped location, on previously disturbed land with compatible topography, and outside of sensitive habitat and conservation areas
The most efficient large-scale solar PV project requires relatively level and flat land; thus, it is desirable to have topography with less than a 3-percent slope. Siting a solar PV project on previously disturbed land away from urban population centers, sensitive receptor uses, and outside of parkland and designated habitat conservation areas would reduce or eliminate potential environmental effects.

Achieve commercial operations as soon as practicable (targeted for the end of 2021)
The Calneva project proponent's (Dr. Charles Hooper's, DO, CDR (RET) MC USN) goal is to complete construction on schedule to ensure the timely delivery and procurement of renewable energy to California utilities.

3.7 REGIONAL CONTEXT

The proposed Calneva BESS/PSES project is located off Calneva Road, approximately four (4) miles north of Fort Sage Road, within the unincorporated area of Lassen County known as Calneva. The immediate vicinity of the proposed project lease area is characterized by agricultural land uses, public utilities facilities (Tuscarora Gas Transmission Company Gas Pipeline and Tap Valve Assembly located on northern APN of project lease area, Union Pacific Railroad,) and agricultural grazing, open range land uses. (*See Figure* 3.7-1: *Regional Location Map* and Figure 3.7-2: *Assessor's Map*). The proposed project lease area has historically been used as an agricultural cattle grazing. The PSREC Fort Sage and Herlong power substations are the regional substations which services areas with the PSREC 120 kV transmission line which runs approximately four (4) miles south of the proposed project lease area north of the intersection of Calneva Road and Fort Sage Road. The project lease area is serviced by Calneva Road via Fort Sage Road via Hackstaff Road via Doyle Loop to US Route 395. The project lease area is approximately 16 miles from the US Route 395 following Doyle Loop, Hackstaff Road, Fort Sage Road, and Calneva Road to the proposed project lease area. The nearest urban residential development is located in Herlong approximately 6 miles to the west of the Calneva BESS/PSES project lease area. Calneva Lake is located north approximately .25 mile from the proposed project lease area. The California/Nevada State border is the eastern boundary of the proposed project lease area.

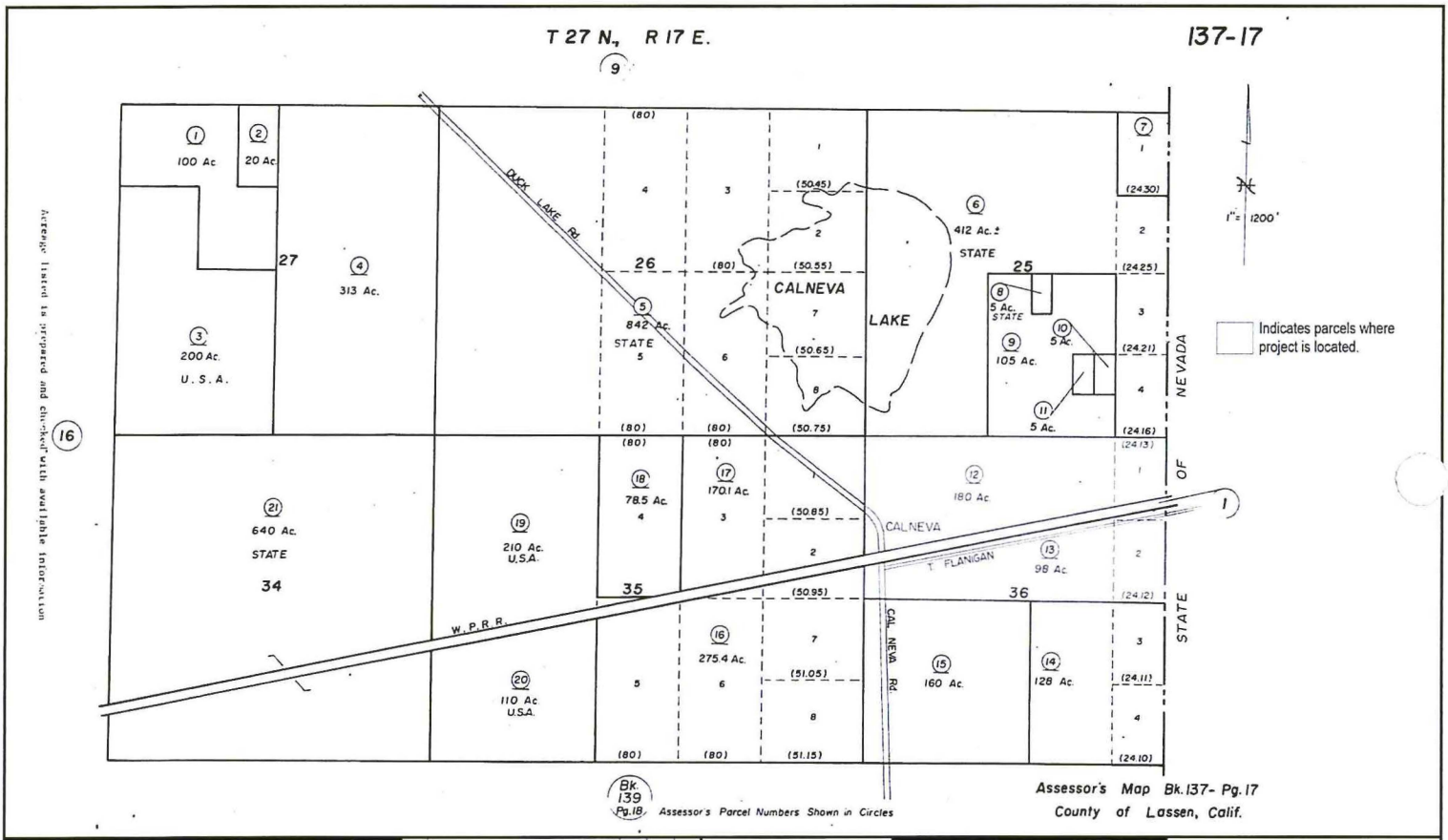


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FIGURE: Regional Location Map	
DATE: 04-09-2020	SCALE: As Shown
BY: AKM	FIGURE: 3.7-1

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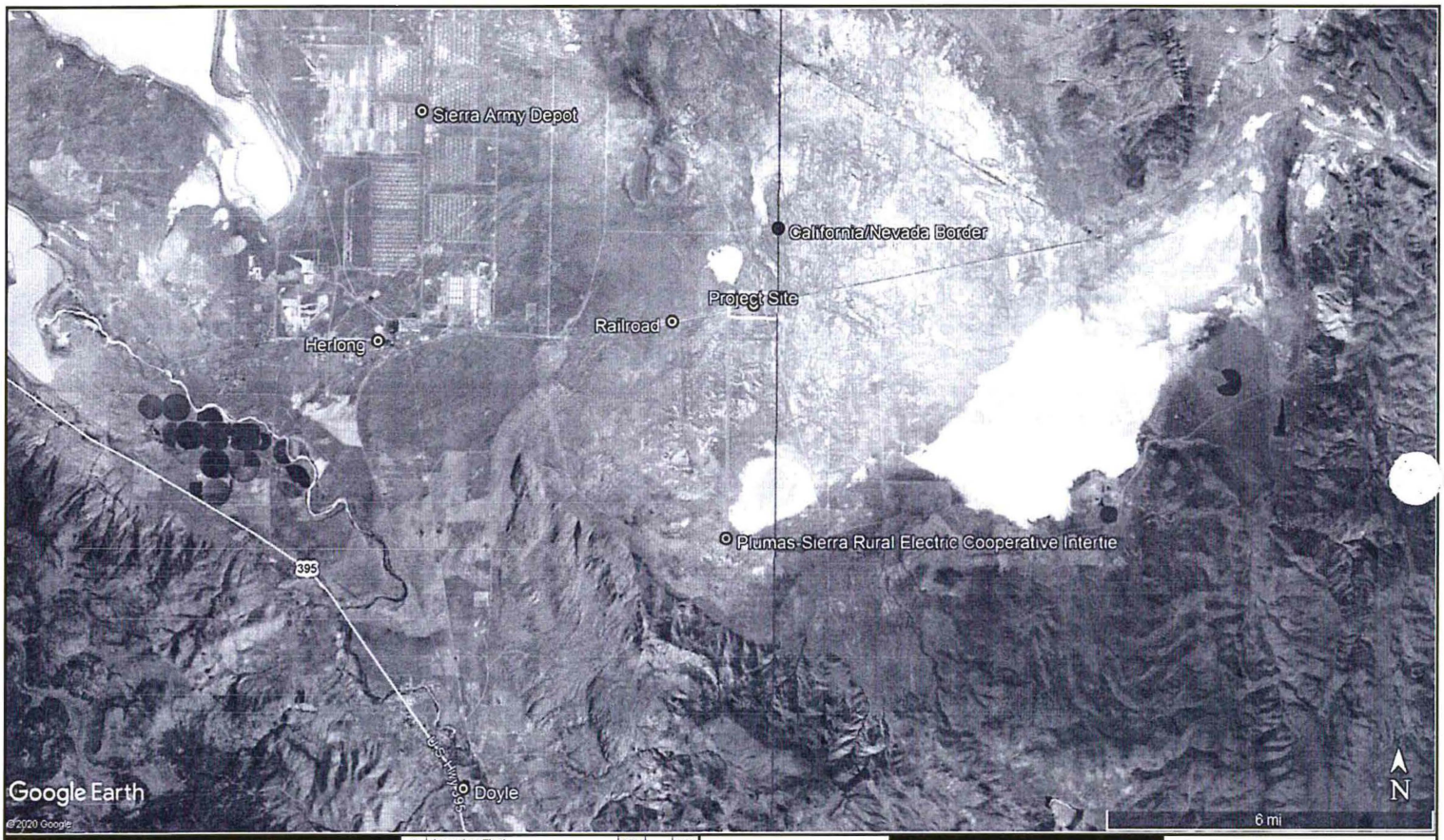
FIGURE: Assessor's Map

DATE: 04-09-2020	SCALE: As Shown
BY: AKM	FIGURE: 3.7-2

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3.8 PROJECT SETTING

The proposed Calneva BESS/PSES project lease area is located four (4) miles north of the Fort Sage Road and Calneva Road intersection on the eastside of Calneva Road, in Lassen County. The proposed project lease area's is approximately 278 +/- acres in size within the parcels identified as Lassen County Assessor's Parcel Numbers (APNs) proposed project lease area north half is 137-170-12 (180 acres) and proposed project lease area south half is 137-170-13 (98 acres). Adjacent to the subject proposed project lease area, are the following properties and associated land uses: North: A 412 acre vacant parcel, owned by the State of California, Calneva Lake, and another vacant parcel owned by the State of California of approximately 105 acres in size. South: Vacant open rangeland with two parcels that abut the southern boundary of the proposed project lease area, one parcel is 160 acres and the other parcel is 128 acres in size; West: is Calneva Road right-of-way and then vacant range land approximately six (6) miles to Herlong and the military installation Sierra Army Depot. Two privately owned parcels border the western half of the proposed project lease area one being 275.4 +/- acres in size and the other being 170.1 +/- acres in size; East: is more vacant range lands and the California/Nevada state border. The entire project lease area for the proposed Calneva BESS/PSES project is vacant range land with a Union Pacific (Historical Western Union) railroad corridor which bisects the site in a general east/west direction and provides rail service to the Sierra Army Depot. The Tuscarora natural gas pipeline runs through a portion of the northern half of the proposed project lease area. The terrain is primarily flat (0-2 percent slopes) throughout the entire proposed project lease area with an approximate elevation above sea level (asl) on the northwest corner of the BESS/PSES project lease area at 4006 feet and then experiencing a very slight slope to the east/southeast toward the Nevada State border where the elevation is approximately 4,000 feet asl on the BESS/PSES project eastern boundary. The railroad tracks which bisect the proposed project lease area in half has an elevation of approximately 4012 feet asl. (See *Figure 3.8-1: Project Setting*, shows the surrounding land uses) Photographs of the view of the proposed project lease area are provided in *Figure 3.8-2: Views of Lease Area/Project Area Photo Log*.



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	REV.	DESCRIPTION	BY	APP.	CHKD

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FIGURE: Project Setting

DATE:	04-09-2020	SCALE:	As Shown
BY:	AKM	FIGURE:	3.8-1

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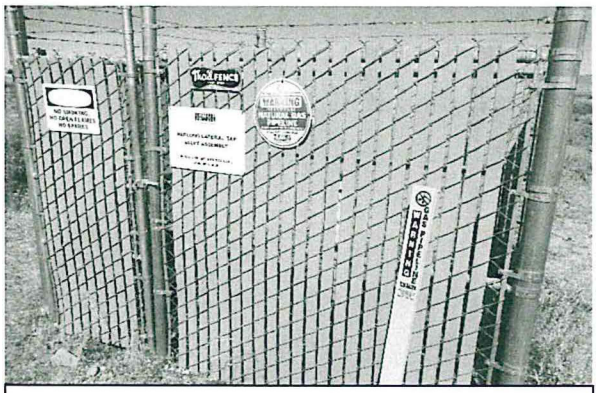
Figure 3.8-2: Views of Lease Area/Project Area Photo Log



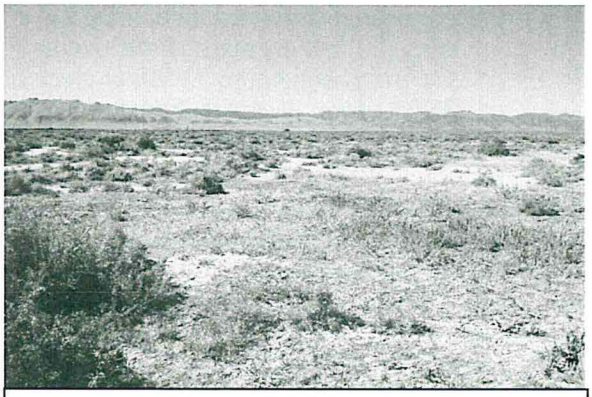
Looking South from railroad tracks along the western boundary of the project lease area along Calneva Road.



Looking North from railroad tracks along the western boundary of the project lease area on Calneva Road.



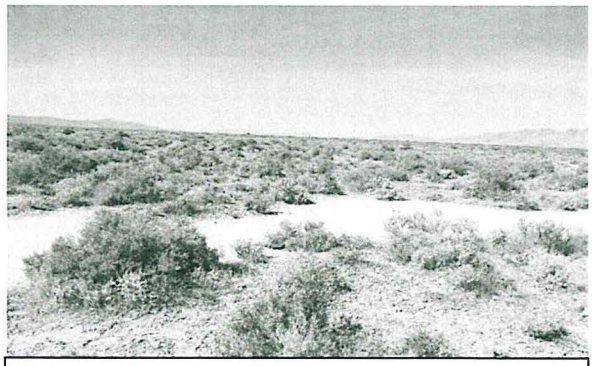
Herlong Lateral Tap Valve Assembly on the Tuscarora natural gas pipeline located on the northern half of the project lease area.



Looking from the Southwest corner of the project lease area toward the northeast corner.



Calneva Road on the western boundary of the project lease area looking south from the middle of the project lease area.



Looking west from the south half of the project lease area across the proposed project lease area on the Nevada/California Border.

3.9 DESCRIPTION OF PROJECT FACILITIES

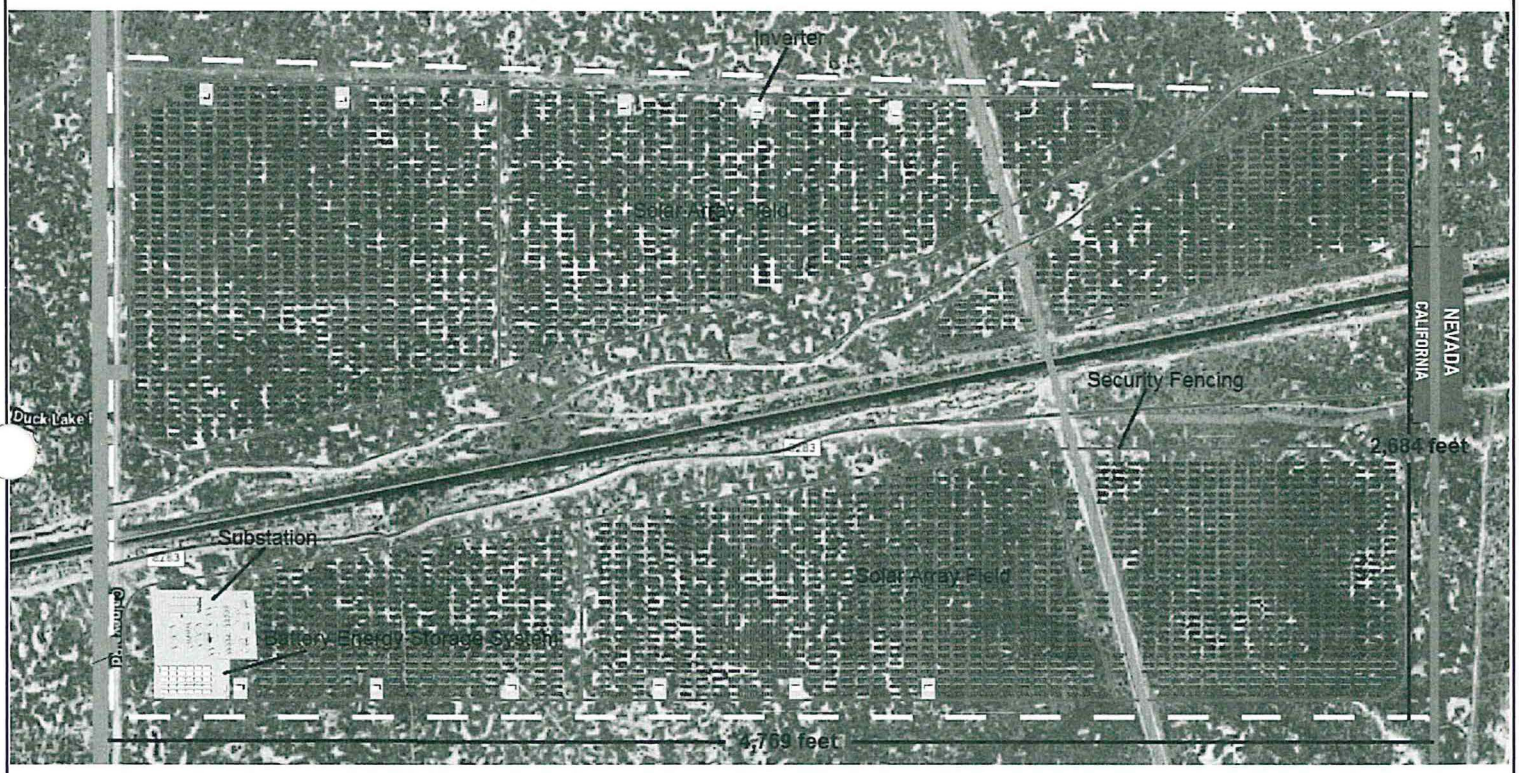
The following describes the major components of the proposed Calneva BESS/PSES project.
An overview of the proposed Calneva BESS/PSES project elements is provided below along with the operational parameters.

3.9.1 Project Components

The proposed project consists of a battery electrical storage system (BESS) that would store up to 25 megawatts (MW) or 100 megawatt hours (MWh) of electricity for dispatch into the local grid via the existing adjacent PSREC 120 kV transmission line. At complete buildout, the BESS would consist of several fully enclosed battery storage enclosures that would each house battery modules mounted in racks and associated electrical equipment. Each battery storage enclosure would have separation to allow for maintenance and inspections. The lease area for the Calneva BESS/PSES project would be fenced for security and to restrict access.
Calneva BESS/PSES project would comprise the following project components located within an approximate footprint of 278 acres:

- Approximately 143,000 to 163,000 solar PV modules
- A single axis track system
- Electrical inverters and transformers
- Battery energy storage system (BESS)
  - thirty (30) battery storage enclosures (i.e., 25 MW of power) store up to 25 megawatts (MW) or 100 megawatt hours (MWh) of electricity for dispatch
  - BESS power inverters, transformers switches, MV switchgear, SCADA enclosure,
- On-site electrical substation
- Meteorological stations
- Remote monitoring system (SCADA)
- Site access roads and maintenance access roads
- Security fencing
- Gen-Tie line structures to interconnect with the PSREC 120kV transmission line south of the site and
- Gen-Tie Laydown Area

These components are described in more detail below. The proposed BESS/PSES layout plan is shown on Figure 3.9-1: *Calneva BESS/PSES Layout Plan.* A typical BESS/PSES module elevation are shown in the following figures: Figure 3.9-2: *Elevation Views (Conceptual Artistic Renderings);* Figure 3.9-3: *Conceptual Artistic Renderings (Isometric Views*); Figure 3.9-4: *Conceptual Artistic Renderings (Isometric Views);* Figure 3.9-5: *Conceptual Artistic Renderings (Isometric Views);* Figure 3.9-6: *Conceptual Artistic Renderings (Isometric Views);* Figure 3.9-7: *Conceptual Artistic Renderings (Isometric Views).*



Scale: 1" = 475'

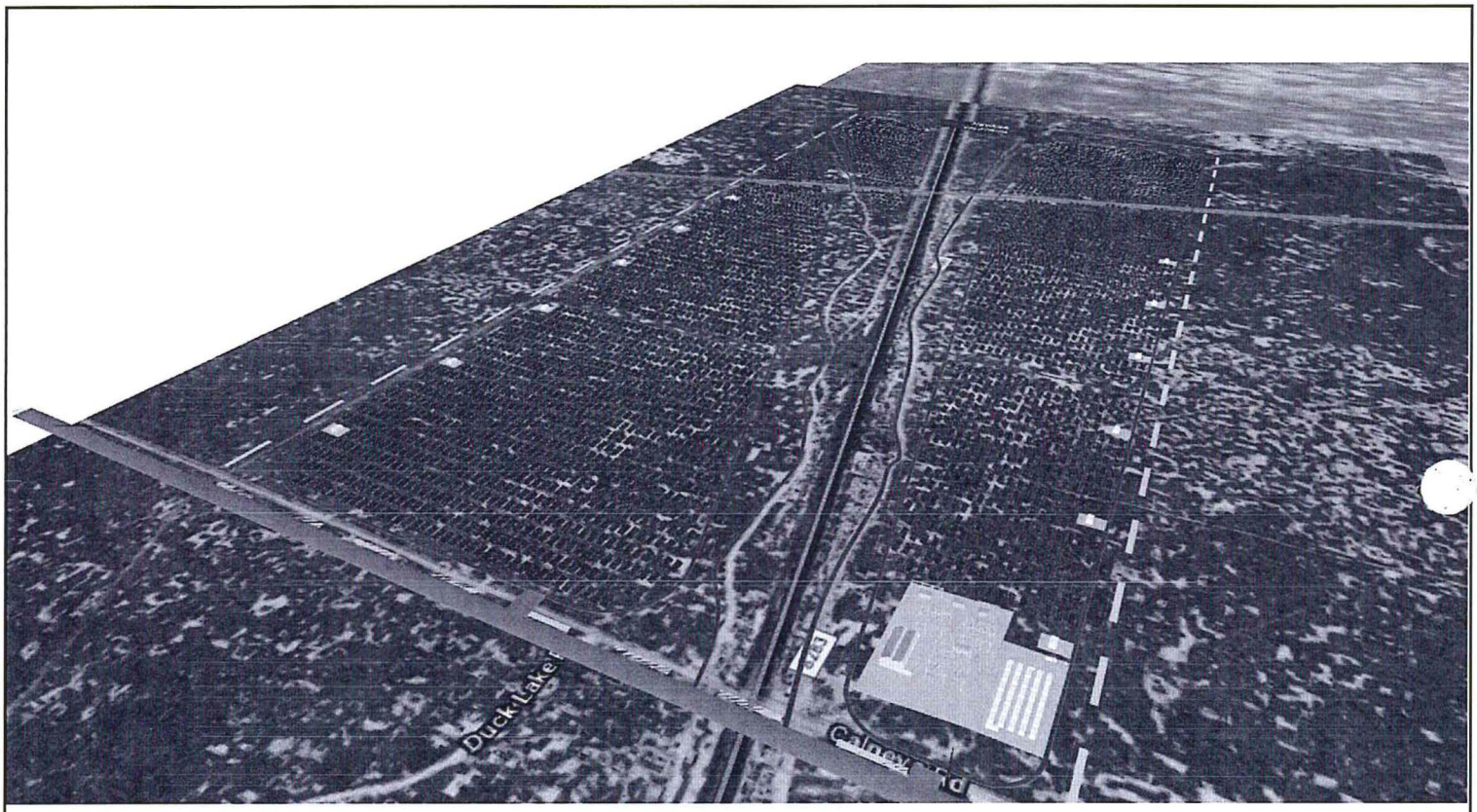
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FIGURE: Layout Plan

DATE: 04-09-2020	SCALE: As noted above (11"x17")
BY: AKM	FIGURE: 3.9-1

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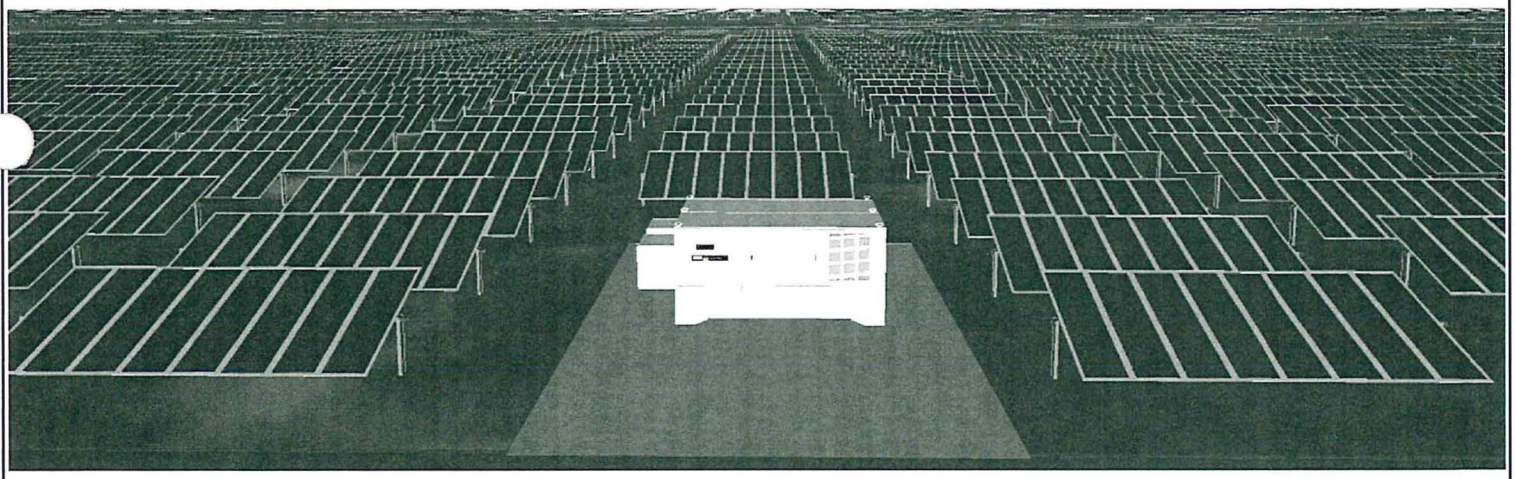
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FIGURE: Conceptual Artistic Rendering (Elevation View)

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BY: AKM	FIGURE: 3.9-2

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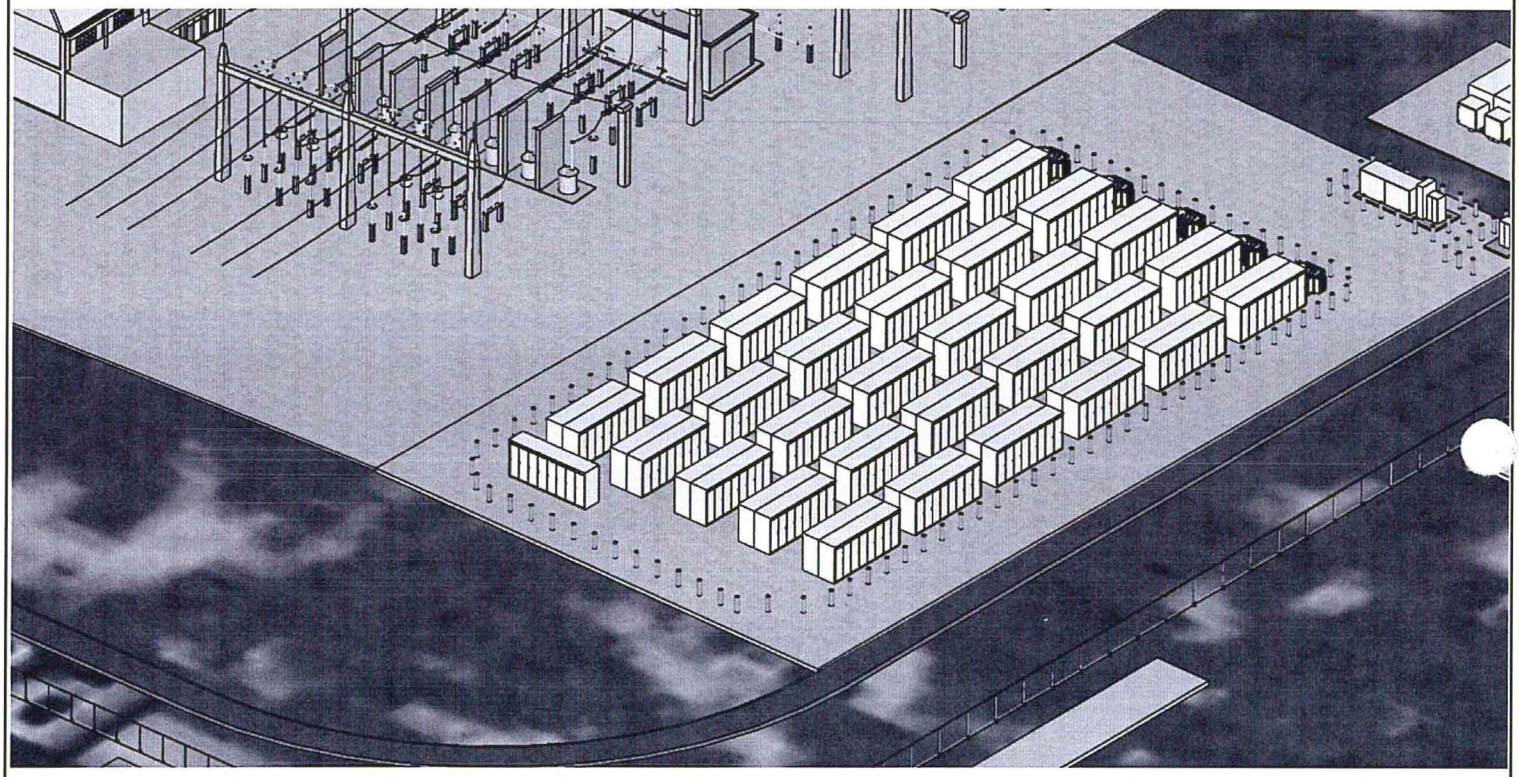


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Calneva, CA	APNs: 137-170-012,013	0	Issued as Final	SCV		BLM

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FIGURE: Conceptual Artistic Rendering	
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BY: AKM	FIGURE: 3.9-3

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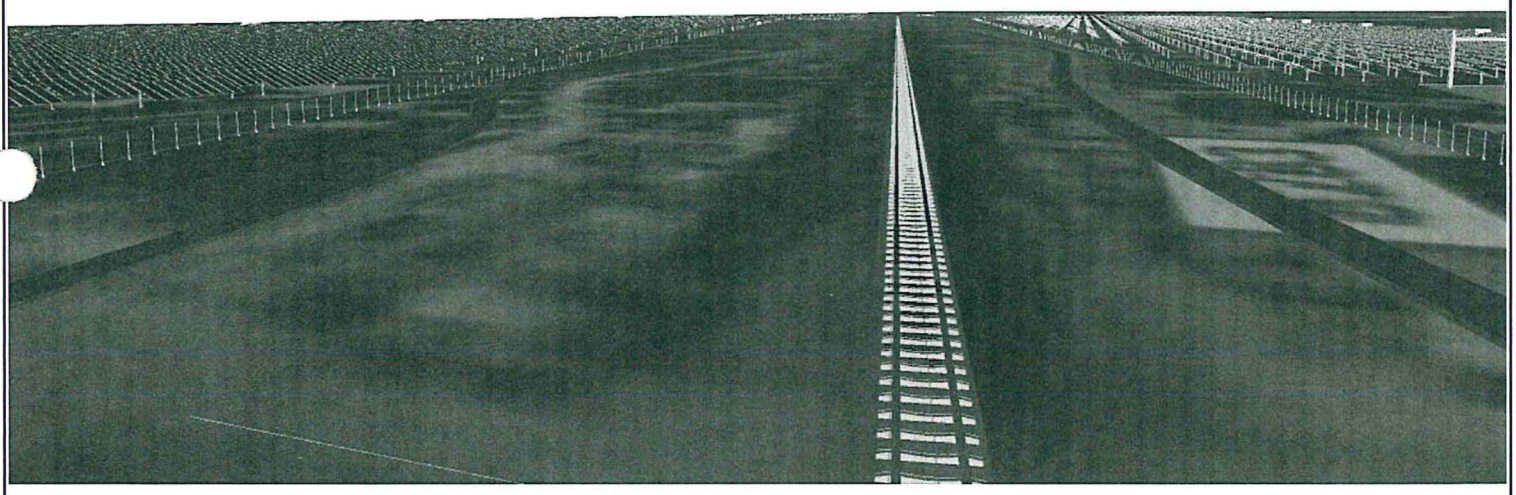
PROJECT: CALNEVA BESS/PSES FACILITY						
Calneva, CA	APNs: 137-170-012,013					
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FIGURE: Conceptual Artistic Rendering

DATE: 04-09-2020	SCALE: As noted above (11"x17")
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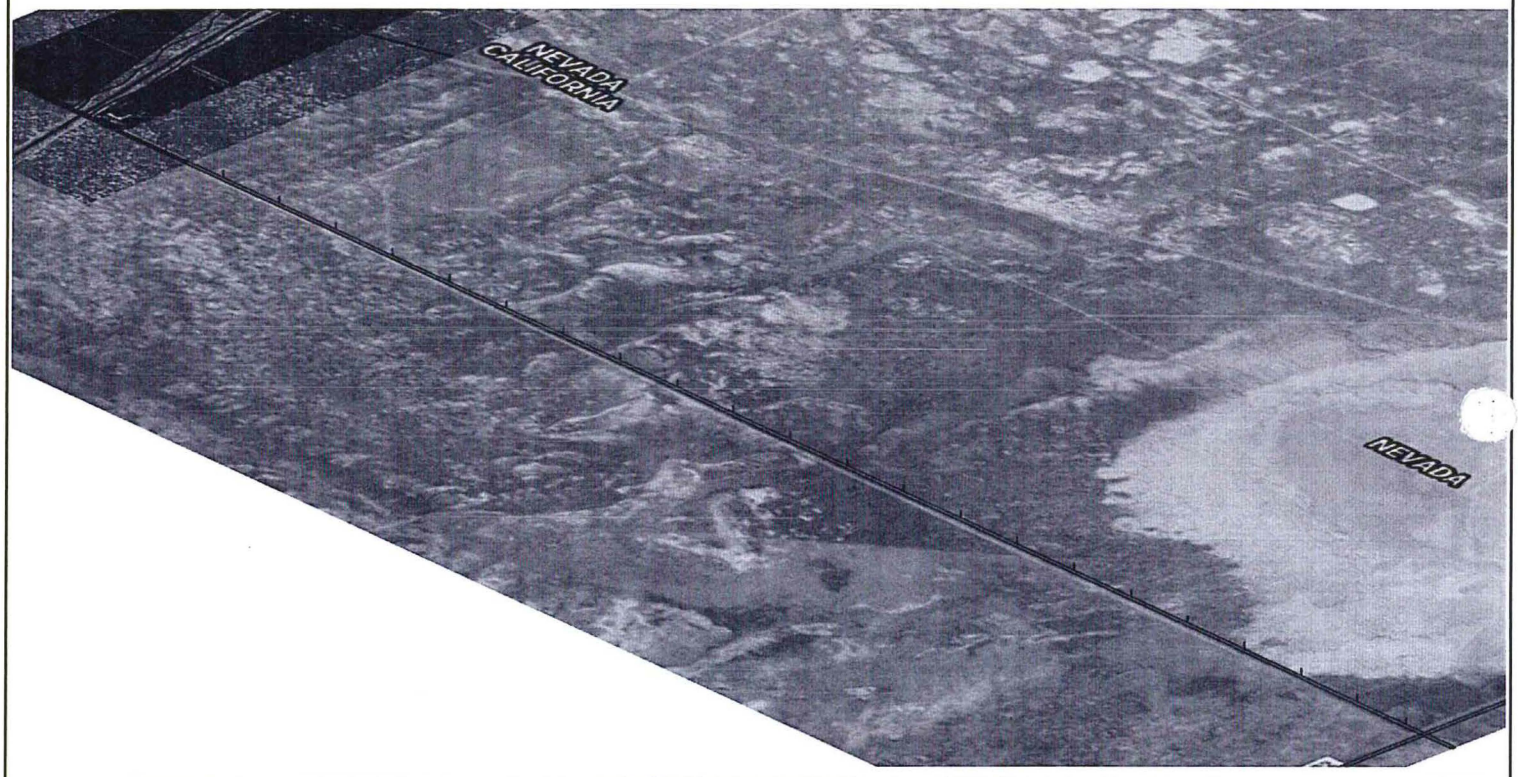
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FIGURE: Conceptual Artistic Rendering

DATE: 04-09-2020	SCALE: As noted above (11"x17")
BY: AKM	FIGURE: 3.9-5

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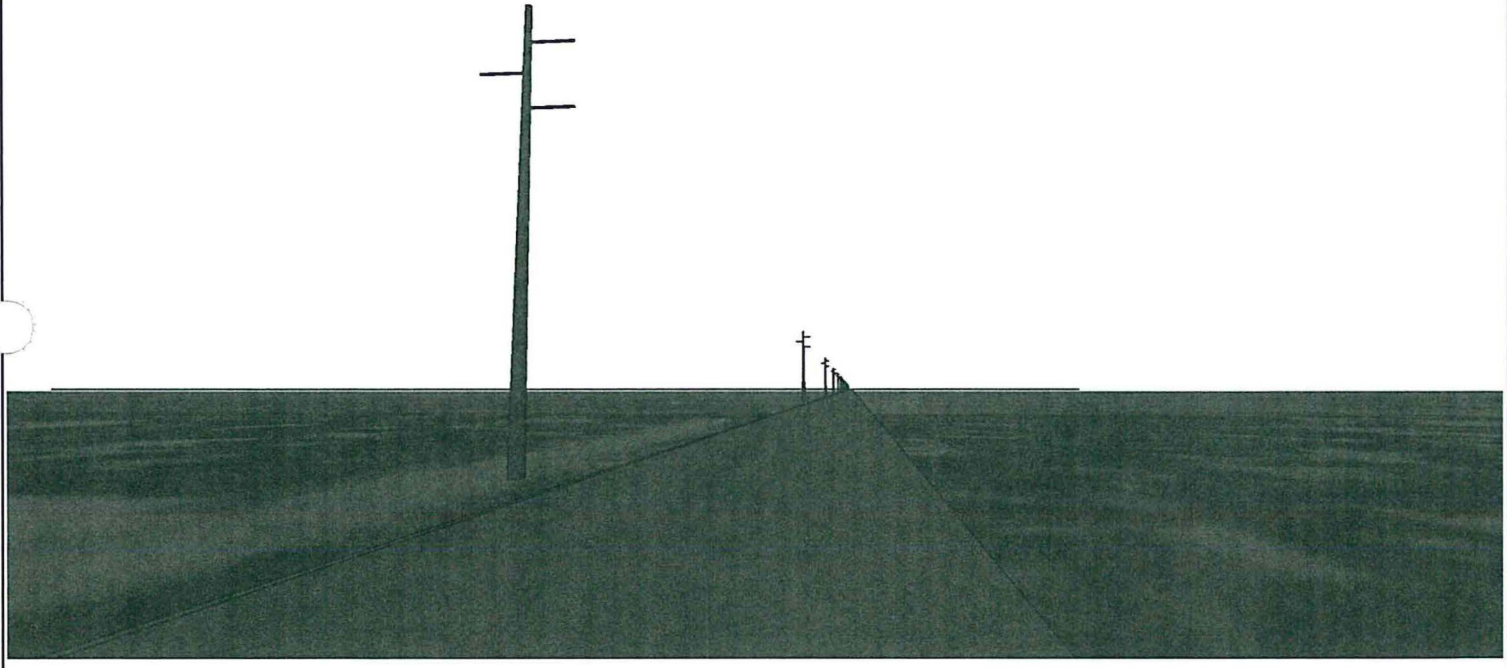
PROJECT: CALNEVA BESS/PSES FACILITY	0	Issued as Final	SCV		BLM
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APNs: 137-170-012,013	REV.	DESCRIPTION	BY	APP.	CHKD

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FIGURE: Conceptual Artistic Rendering

DATE: 04-09-2020	SCALE: As noted above (11"x17")
BY: AKM	FIGURE: 3.9-6

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PROJECT: CALNEVA BESS/PSES FACILITY		REV.	DESCRIPTION	BY	APP.	CHKD
Calneva, CA	APNs: 137-170-012,013	0	Issued as Final	SCV		BLM

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FIGURE: Conceptual Artistic Rendering

DATE: 04-09-2020	SCALE: As noted above (11"x17")
BY: AKM	FIGURE: 3.9-7

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3.9.2 Battery Modules, Lithium-Ion Battery Technology, and Fire Protection

Each battery storage enclosure would be located within a metal frame storage enclosure, which will have insulation, air-conditioning, and fire suppression with separate enclosures for the electronic controls, inverters, and rectifiers. Due to the positive pressure required within each storage enclosure to ensure functionality of the fire suppression system, the enclosures would not be vented. Each storage enclosure would utilize a supply and return thermal management system; this system has a fresh air closed loop system. The mechanics of this type of thermal management system make it compatible with a positive pressure environment and do not require venting. The primary storage components would consist of self-contained electrochemical battery systems using conventional storage technologies with proven safety and performance records. The battery storage enclosures are designed such that the periodic maintenance and replacement of underperforming battery components can be easily performed on an as needed basis without replacing the entire module.

The lithium-ion battery is a high-density battery that is rechargeable. Due to the energy density levels of lithium-ion batteries along with their charge and discharge profiles, these batteries are ideal for a project of this size and proposed project lease area. These batteries will allow a safe and effective installation into an enclosure and be able to perform well under rigorous demand should the need arise.

The proposed BESS facility could use a built-in fire protection system, utilizing suppression through cooling, isolation, and containment which is widely used in the industry. Each battery storage enclosure would include a gaseous fire suppressant agent (e.g., Stat-X® Aerosol Fire Suppression) and an automatic fire extinguishing system with sound and light alarms. Stat-X® fire suppression is an advanced aerosol technology that protects enclosed special hazards. Aerosols are an effective new alternative to traditional special hazard fire protection. Stat-X fire suppression is currently used worldwide in many critical applications. Stat-X fire suppression is an approved halon replacement and hydrofluorocarbon (HFC) alternative. Stat-X® is an environmentally friendly automatic fire suppression product line.

- US EPA Snap Listed for Normally Occupied and Unoccupied Spaces
- Insignificant Global Warming Potential
- Zero Atmospheric Life
- Zero Ozone Depletion Potential
- Non-toxic

The system would be designed in accordance with National Fire Protection Association (NFPA) safety standards including an automatic shut-down system for fans that keep the enclosure sealed when the fire extinguishing system is activated. The fire suppressant agent is released by a releasing panel that uses an aspirating smoke detection system and has a manual release. The aspirating smoke detection system provides for four levels of signaling before release of the fire suppressant agent. A disable switch would be provided for maintenance personnel to allow for work on the enclosures without accidental discharge. In addition, this BESS facility will incorporate passive fire containment methods through engineering design of the cabinets and enclosures for battery storage, which further mitigates fire hazards associated with the BESS facility.

Direct current electricity would be collected from the batteries via a battery management system (BMS) and conveyed to the inverters. Each battery module would be connected with a BMS to form a rack mountable module assembly. Multiple module assemblies are then combined into a rack, or battery-integrated cabinet (BIC) to optimize battery voltage and battery current. A number of series circuits are combined together to form an individual parallel circuit; parallel circuits are grouped together in individual BICs which are sized appropriately, and each BIC contains a rack-level BMS. The number of BICs would vary according to final project specifications and can be sized to accommodate electrical design. BICs combine multiple parallel circuits through a fused bus system to collect the energy into one set of direct current collection cables. The fuses within the BICs create another line of protection from overcurrent.

These cables run from the BICs to the inverters, where they would terminate in the direct current side of the inverter.

The proposed BESS facility would have a Supervisory Control and Data Acquisition (SCADA) system that would allow for remote monitoring and control of inverters and other project components. The SCADA system would be able to monitor project output and availability, and to run diagnostics on the equipment. The project would also have a local overall plant control system (PCS) that would provide monitoring of the BESS facility as well as control of the balance of facility systems. The microprocessor-based PCS would provide control, monitoring, alarm, and data storage functions for plant systems as well as communication with the project's SCADA system. Redundant capability would be provided for critical PCS components so that no single component failure would cause a plant outage. All field instruments and controls would be hardwired to local electrical panels. Local panels would be hard-wired to the plant PCS. Wireless technology would be considered as a potential alternative during final project design. See Appendix C BESS/PSES Equipment Specifications.

3.9.3 Battery Storage System Components

3.9.3.1 Batteries

Individual Li-ion cells form the core of the battery storage system. Cells are assembled either in series or parallel connection in sealed battery modules. The cells would have an operating direct current (DC) voltage ranging from two to six volts, while the battery modules would have a DC voltage range between 40 to 60 volts. The battery modules would be installed in self-supporting racks electrically connected either in a series or parallel to each other. The operating rack-level DC voltage ranges between 700 and 1,000 volts. The individual battery racks are connected in series or parallel configuration to deliver the battery storage system energy and power rating. See Appendix C BESS/PSES Equipment Specifications.

3.9.3.2 Battery Storage System Enclosures and Controller

The battery storage system enclosure would house the batteries described above, as well as the battery storage system controller. The battery storage system controller is a multi-level control system designed to provide a hierarchical system of controls for the battery modules, PCS, medium voltage system, and up to the point of connection with the electrical grid. The controllers ensure that the battery storage system effectively mimics conventional turbine generators when responding to grid emergency conditions. The battery storage system enclosure would also house required heating, ventilation, and air conditioning (HVAC) and fire protection systems. See Appendix C BESS/PSES Equipment Specifications.

3.9.3.3 Power Conversion System

The PCS consists of an inverter, protection equipment, DC and alternating current (AC) circuit breakers, filter equipment, equipment terminals, and connection cabling system. Electric energy is transferred from the existing power grid to the project batteries during a battery charging cycle and from the project batteries to the power grid during a battery discharge cycle. The PCS converts 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. The energy conversion is enabled by a bi-directional inverter that connects the DC battery system to the AC electrical grid. The PCS AC operating voltage would be 480 volts AC nominal and the DC operating voltage would be between 700 and 1,000 volts with a power rating of 500 kW. See Appendix C BESS/PSES Equipment Specifications.

3.9.3.4 2232 kVA Transformer

The 2232 kilovolt amp (kVA) transformer is a pad-mounted transformer that transforms the AC side output of the PCS to medium AC voltage in the range of 16 kV to increase the overall efficiency of the battery storage system and to protect the PCS in the event of system electrical faults. One or more PCS units would be connected to the discharge transformer either in a two-winding or three-winding configuration. The rating range for the discharge transformer is 2232 kVA. See Appendix C BESS/PSES Equipment Specifications.

3.9.3.5 Power Inverter

The 3000-kVA power inverter is a pad-mounted inverter which is 5 feet long, 9 feet wide, and 7.5 feet tall and will be located on the north end of the pervious concrete slab next to the switchgear. The power inverter is an electronic device or circuitry that changes direct current (DC) to alternating current (AC). See Appendix C BESS/PSES Equipment Specifications.

3.9.3.6 Medium Voltage (MV) Switchgear

The MV switchgear for the battery storage system would connect the battery storage system to the existing 16-kVA power distribution system and provide the required level of protection during electrical faults in the system. See Appendix C BESS/PSES Equipment Specifications.

3.9.4 PV Modules and Tracking System

The Proposed Project would require installation of approximately 143,000 to 163,000 PV modules. The total number of PV panels would depend on the technology ultimately selected for the proposed Calneva BESS/PSES project during final design. While all technologies would have similar potential environmental effects as discussed herein, the technology ultimately selected during detailed design would depend on engineering, market conditions, economic considerations, and environmental factors. Technologies that may be used include, but are not limited to:

- Crystalline silicon PV technology: various silicon technologies may be used; all would be reviewed for future recyclability.
- Single axis tracking technology: would allow solar modules to move and track the sun; this would allow for greater efficiency of land used for the Solar Field Area. Tracking technology would require tracker units that would track the sun daily from east to west.
- Each PV module is expected to be approximately 3.25 feet by 6.5 feet. Tracker rows would run in a north-south orientation such that the PV modules would track the daily sun movement from east to west to maximize solar energy production efficiency. Module surfaces would be non-reflective and black or blue in color.
- Rows of trackers/modules would be spaced between 15 and 30 feet apart depending on tracker technology selected, and other site conditions to optimize energy production and minimize shading of adjacent rows. Rows of modules would be ordered into strings and power blocks with a centrally located inverter-transformer station (or Skid) located at each block. Each power block is estimated to be 600 feet by 1,100 feet and would contain sufficient modules required to match the inverter station power rating. The number of modules would depend on the wattage of the modules ultimately selected for the final design. The number of rows per power block is estimated to be between 110 and 130.
- The single axis trackers would be mounted on direct-driven steel support piles that would be embedded in the ground to a depth that would be determined during the detailed engineering phase (typically between 7 and 10 feet). The top of the piles would be between four (4) and eight (8) feet above grade. The steel support structures would be fabricated using corrosion-resistant galvanized coating. The piles would be inserted/driven directly into the ground, so concrete foundations would not be required. A small number of piles may require an alternative method of installation such as pilot hole or drilled hole and grout due to unknown subsurface conditions.

3.9.5 Electricity Collection System and Inverter Stations (Skids)

Solar energy is converted into electrical energy in the form of direct current (DC) by the PV modules. The PV modules would be organized into "blocks." Each block would encompass approximately 15 acres of PV modules (approximately 3 to 5 MWdc each) and would include an inverter station (Skid). The size of each block would depend upon the capacity of the block's inverter station, which in turn would depend upon the type and size of inverters available for purchase and other detailed electrical design considerations. Within each block, the PV modules are connected in series which are called "strings." Typically, a string would

have between 27 and 32 modules connected together to reach the 1,500V (DC) operating voltage of the system.

The modules in each string are connected in series by prefabricated electrical cables that are hung under the PV modules and extend, in some cases, underground to a combiner box. A combiner box is an electrical enclosure, which would be mounted on, or next to, the PV tracking system and would allow multiple strings to be connected in parallel, increasing the amount of current going to the inverter without increasing the voltage. Multiple strings would then be combined in combiner boxes and routed in cable-trays and/or underground to the block central inverter station (Skid). Inverters take the DC output of the PV modules in the solar field and convert it to alternating current (AC) for delivery to the transmission grid via the project medium voltage AC collection system. The inverter Skid would also contain tracker controls, monitoring/communication equipment, and a step-up transformer specific to each block. The Skid step-up transformer would be liquid insulated and cooled, outdoor rated, and would step up the AC electricity voltage from the inverter output level to the AC collection system voltage level (e.g., 480V to 34.5kV). Transformer liquid would be vegetable based environmentally benign FR3 type. From each inverter Skid transformer electricity would be conveyed via the AC collection system circuits to the project's substation. Inverter Skids would be centrally located at each block and internal access roads would be constructed for maintenance access. The project would use between 8 and 14 combiner boxes per power block depending on the technology used. The Project would also have approximately 10 to 14 inverter Skids. Each Skid would be mounted on concrete piers or footings, with the entire structure being approximately 12 feet wide by 35 feet long by 15 feet high.

3.9.6 Project Electrical Substation

The electrical substation is the central hub for the 34.5kV (AC) collection system and where the produced solar electricity voltage would be stepped up from 34.5kV to 120kV to match the transmission grid voltage at the point of interconnection (POI) with PSREC. The proposed Calneva BESS/PSES project's substation would be located inside the Solar Field Area (see Figure 3.9-1: *Calneva BESS/PSES Layout Plan* for solar substation location). A new, on-site, access road would be constructed to serve the solar substation. The solar substation would cover an approximately two-acre area and would include the following major components:

- 34.5kV bus and associated switchgear and protection devices
- 120kV bus and associated switchgear and protection devices
- 125 Mega Volt-Ampere (MVA), 34.5/230kV Generator Step-up Transformer (GSU)
- 34.5kV capacitor bank
- Revenue meter and protection equipment
- Steel support and dead-end structures up to 90 feet in height
- Grounding grid
- Prefabricated modular control building (unoccupied)
- Perimeter chain link fence topped with 3 strands of barbed wire

The substation equipment would range in height from 8 feet to 30 feet; the dead-end steel structure may be up to 90 feet tall. The substation area would be graded and compacted to an approximately flat and level grade. Precast and/or cast in place concrete pads would be used as foundations for substation equipment, and the remaining area would be graveled per industry standards. Electrical transformers, switchgear, and related substation facilities would be designed and constructed to transform medium-voltage power from the Calneva BESS/PSES project's collection system 34.5kV to the 120kV transmission grid voltages at PSREC. The substation GSU transformer would contain approximately 10,000 gallons of environmentally benign, vegetable based (FR3) insulating oil, and the transformer foundation would be designed to accommodate an accidental spill of transformer oil by the use of secondary containment. No polychlorinated biphenyl (PCB)-containing fluids would be used. A modular prefabricated control building would be installed in the substation, where metering, control, communications, protection equipment, and battery backup systems would be located.

3.9.7 Meteorological (MET) Stations

Meteorological stations (MET Stations) are used to collect weather and solar radiation data. MET Station information would be used to optimize the energy production of the Calneva BESS/PSES project. Typical instrumentation on a MET Station includes sensors for ambient air temperature, relative humidity, wind speed and direction, barometric pressure, a rain gauge, and global horizontal and plane of array solar irradiance using pyranometers in a horizontal position and at an orientation consistent with the solar modules. A PV reference cell may also be installed at the MET station(s) to be used for performance optimization. MET Stations can have an instrument mast approximately 20 feet tall and would be located across the project lease area. Up to four MET Stations are anticipated to be installed for Calneva BESS/PSES project.

3.9.8 Solar Facility Monitoring System

A monitoring system is an essential part of a solar PV project. Automatic data acquisition and monitoring technology is utilized during the operational phase in order to maintain a high level of performance, reduce downtime and ensure rapid detection of faults or system/component failure. For Calneva PSES the monitoring would be done using a remote monitoring station that would likely be located in the solar power substation.

The monitoring system allows the actual yield of the proposed Calneva BESS/PSES project to be monitored and compared with theoretical calculated yield on a real-time basis and if performance is not meeting expectations issues can be detected and performance optimized quickly before they have an appreciable effect on production. Without a reliable monitoring system, it could take months for a poorly performing system or element to be identified.

The key to a reliable monitoring and fault detection methodology is to have good simultaneous measurements of the solar irradiance, environmental conditions, and plant power output. This monitoring is achieved by incorporating one or more meteorological (MET) station(s) on site to measure the plane of array irradiance, module temperature, and global horizontal irradiance, ambient air temperature, relative humidity, wind speed, and direction. Actual voltage and current would typically be monitored at the inverter, combiner box or string level, each offering more granularity than the previous.

Data from the MET Station(s), inverters, combiner boxes, meters, and transformers would be collected in data loggers and transmitted, in real time, to the remote monitoring station, typically via wireless or fiber optic link. A separate SCADA system would be installed at the proposed project's substation or BESS to monitor and control the required revenue metering and transmission system protection equipment. This system would be specified and monitored by the transmission provider (PSREC) and the CAISO.

3.9.9 Access Roads and Site Maintenance Roads

3.9.9.1 Solar Field Area Internal Roads

Three (3) types of roadways would be utilized for the Solar Field Area: a site entrance road, interior access/maintenance roads, and perimeter roads. The site entrance road would connect to Calneva Road and would be the primary point of access to the proposed project lease area. The proposed project lease area entrance road, perimeter road, and central fire road would be 26 feet wide and constructed of compacted native soil and gravel per the County's specifications and approved engineering drawings. A security gate would be installed. The interior access/maintenance roads would be designed to meet County requirements for emergency vehicles, which consists of in-situ soil, compacted to a minimum of 85 percent standard proctor and gravel. See Figure 3.9-1: *Calneva BESS/PSES Layout Plan* for proposed alignments for the on-site roadways.

Perimeter access roads would be located inside the Solar Field Area and adjacent to the perimeter fence

surrounding the project lease area and would also run north/south through the middle of the site. These perimeter and center roads are provided for emergency vehicle response to allow them to readily access all areas of the project lease area during an emergency event.

The perimeter roads would be 26 feet wide and constructed of compacted native soil and gravel. Internal access roads would be provided to access critical equipment for ongoing operations and maintenance activities. These roadways would be 20 feet wide and constructed of compacted native soil and gravel. Site access roads (Calneva Road/Fort Sage Road) would provide adequate ingress and egress to and from the project lease area for emergency vehicles.

3.9.9.2 Calneva BESS/PSES Construction Access Road

Construction access to the proposed Calneva BESS/PSES project's Solar Field Area and BESS Area would be via Highway 395 to Doyle Grade Road, to Doyle Loop, to Hackstaff Road to Fort Sage Road to Calneva Road. All roads to the Calneva BESS/PSES project lease area are county maintained and allow all weather travel with no weight limits, except Calneva Road segment from Fort Sage Road to the project lease area is an unpaved public roadway, measures approximately four (4) miles, and is under the jurisdiction of Lassen County. Portions of this segment of Calneva Road would be improved to allow pothole free and safe access for large trucks and heavy loads to facilitate delivery of equipment and materials to the Solar Field Area, and BESS Area. Proposed improvements would be limited to blading, adding road base material, and compacting, as needed. Proposed improvements would only occur where the existing road condition is deteriorated, such as areas that contain potholes, ruts, soft and unstable road surfaces, and/or corrugation (washboarding). All road improvements would occur within the existing improved portion of the unpaved roadway and would not extend into undisturbed areas. Proposed improvements would likely require an encroachment permit from Lassen County. During the construction phase the contractor would water this segment of Calneva Road to prevent fugitive dust.

3.9.10 Calneva BESS/PSES Site Security and Fencing

Primary ingress/egress for the Solar Field Area and the BESS Area would be from Calneva Road, which is an unpaved public roadway. The Calneva BESS/PSES facilities would be surrounded by a perimeter chain link security fence measuring 7 feet in height with a 1-foot barbed wire section with a gate at each site entrance. The fencing would consist of chain link fence topped with a one-foot-high (3 strands) barbed-wire section. Storm water runoff would flow through the fencing. Security lighting for the Calneva BESS/PSES facilities would be minimal. Shoebox type light fixtures mounted on poles would be installed at the primary site entrance as well as at the BESS entrance and the substation entrance. There would be no lighting within the solar arrays or around the perimeter fence. Portable lights would be used for maintenance activities at inverter skids that occur at night. Temporary fencing would be placed around construction staging areas. All materials would be industrial-grade galvanized steel.

3.9.11 Project Fire Protection

For fire protection of the proposed Calneva BESS/PSES project the following measures have been incorporated into the design:

1) The project will comply with all current Building and Fire Code requirements based on occupancy classification.
2) The project will provide a twenty-six-foot-wide fire access road down the center and around perimeter of the Calneva BESS/PSES facilities and twenty-foot interior around array blocks.
3) The Calneva BESS/PSES project's minimum road construction will be native material and gravel, compacted to a minimum of 85 percent; and
4) The Calneva BESS/PSES project will provide a twelve-inch address sign on the main gate along Calneva Road, provide a Knoxbox™ or switch at the main access gates, and provide a secondary emergency egress gate with Knoxbox™. Fire response access to the Calneva BESS/PSES facilities would be available via Calneva Road only.

3.9.12 Gen-Tie Line (Interconnection Facilities)

The 120kV electricity from the proposed Calneva BESS/PSES project lease area facilities would be conveyed to the PSREC point of interconnect (POI) near the intersection of Calneva and Fort Sage Road using an overhead Gen-Tie line. The Gen-Tie line would be placed in the existing Calneva Road right-of-way by encroachment permit with Lassen County for utility placement in County roadways. The Gen-Tie poles would be tubular steel structures approximately 130 feet tall placed approximately 800 feet to 900 feet apart along the Gen-Tie route (24 poles). A manual disconnect (air) switch would be located on the last pole of the Gen-Tie to provide means of manually isolating the Gen-Tie and solar facility from the PSREC 120kV transmission line.

3.9.13 Site Design and Engineering

3.9.13.1 Site Disturbance

Solar Field Area

Permanent disturbance to the Solar Field Area would result from construction of internal roads, the substation, the BESS, equipment pads, PV tracker steel piles, fencing, and grading of areas with slopes greater than 5 percent. Temporary disturbance to the site would result from trenching for electrical conductors, construction staging areas, and temporary access roads.

The proposed project design confines the solar arrays, BESS, substation, and internal access roads to a footprint of approximately 275 acres, for a total disturbance of approximately 95 percent. The remaining areas within the Solar Field Area would be left undeveloped. Undeveloped areas would include on-site drainages.

Only limited grading is expected to be required because of the low impact development (LID) approach and nearly flat terrain. Grading would be required on slopes greater than 5 percent for PV power blocks. Project grading requirements are anticipated to be approximately 200 acres, of the Solar Field Area and in the locations of the substation, BESS, and laydown areas, resulting in approximately 175,000 cubic yards of cut-and-fill and no cubic yards of export.

Interconnection Facilities

Permanent disturbance to the Interconnection Facilities area would result from the placement of Gen-Tie tower structure foundations, and road construction to upgrade Calneva Road to meet roadway standards necessary for safe travel and construction. Temporary disturbance would result from tower construction work areas at each Gen-Tie tower sites along Calneva Road. Temporary disturbance would also result from the maintenance of existing road.

3.9.13.2 Erosion Control

A Storm Water Pollution Prevention Plan (SWPPP) outlining the various Best Management Practices (BMPs) for minimizing erosion and runoff would be prepared prior to proposed project construction. Typical erosion control BMPs would be used. The site would be stabilized according to the SWPPP requirements. Existing vegetation would remain in place and be mowed and kept to a height of less than 18 inches.

3.9.13.3 Utilities

Electricity during construction and operations would be obtained from portable, fuel-powered on-site generators. Water would be trucked in from nearby water agencies. Portable sanitary facilities would be required during construction. Sanitary waste would be hauled off site to appropriate treatment facilities by a properly licensed contractor. Solid waste/rubbish would be hauled to appropriate recycling centers or landfills by the contractor. A SCADA/monitoring system would be used for proposed project communications. This system would allow for complete control and access to the inverter skids, weather stations, site security, solar substation, telecom system, and all other systems of communication.

3.9.13.4 Water

Construction Water Requirements

Water usage for the proposed project lease area for construction related activities would be approximately 200 acre-feet total during the 10- to 14-month construction period with most of it being used for dust control, grading, and compaction purposes including dust control for the Calneva Road the main access road. To the extent practicable, the proposed project would use reclaimed water for dust control and earthwork purposes and all other uses except for drinking and sanitation.

Potable water would be trucked into the site during the construction period for drinking water, hand washing, and other personal uses. It is estimated that approximately 1,000-1,250 gallons/day would be needed for about 200-250 workers during the peak construction period. Potable water would be provided for personnel use only.

- Drinking water – 4 gallon/person/day (800-1,250 gallons/day at peak)
- Hand washing/miscellaneous – 1 gallon/person/day (200-250 gallons/day at peak)

Portable (chemical) toilets would be used for sanitary facilities during construction.

Operational Water Requirements

Water use during facility operation would be for cleaning of the PV modules. It is anticipated that cleaning would occur once annually, if warranted, due to excessive soiling resulting in degrading performance. Module cleaning would use approximately 88,000 gallons of potable water per cycle, assuming approximately 143,000 modules and would be trucked to the site. Because the facility would not be staffed, there would be no restrooms or need for a permanent water supply to the project lease area. Module cleaning requires water that is low in minerals and dissolved solids to prevent spotting and hazing on module surfaces to keep module efficiency at optimal level. Module cleaning water would be delivered to the site by truck. No module cleaning water would be stored on site.

Potential Water Sources

Possible water sources for construction include:

- Reclaimed and potable water agencies in the Proposed Project vicinity and trucked to the project lease area.

3.9.13.5 Site Traffic Circulation

The design and construction of all internal maintenance roads (perimeter and interior) would be approved by the County: a total of (26 and 20 feet respectively) in width, native soil compacted to 85 percent and gravel base. Internal power-block aisle ways would be 12 feet in width. Overhead obstructions, if any, would have a minimum vertical clearance of 15 feet.

Outside of the perimeter fence for the Solar Field Area, the proposed Calneva BESS/PSES project would improve a section of Calneva Road to be used as the main access road. All road and access designs would be reviewed and approved by the Lassen County and the Doyle Fire Prevention District prior to final design submittal/approval.

3.9.13.6 General Safety

Site-specific emergency response plans would be developed for construction and operations. On-going training for construction, materials handling, and operations would occur per OSHA regulations. All emergency response plans would be developed in consultation with the Doyle Fire Prevention District, Lassen County Environmental Health, and any additional local, State, or federal agencies with jurisdiction over emergency response at the project lease area.

3.9.13.7 Hazardous Materials Waste Handling

A Spill Prevention, Control, and Countermeasure (SPCC) Plan for project construction and for facility operation would be prepared for the proposed project. The SPCC Plan for project construction would address fuels, lubricants, and hydraulic fluids expected to be used for construction equipment. Such equipment would be properly maintained to minimize leaks, and to prevent spills, vehicle service and repair would be performed offsite at an appropriate facility. The SPCC Plan for facility operation would address the oil that may be contained in each transformer. The SPCC Plan for facility operation would be updated on a regular basis as new equipment is commissioned and turned over from construction to operations. The oil contained in each transformer would be FR3, vegetable based, environmentally benign and does not require regular replacement. If needed, replacement would be accomplished by either transporting the entire transformer off-site or by transferring the FR3 oil to a tanker truck for transport off-site. Oil disposal would be managed in accordance with Department of Toxic Substances Control hazardous waste regulations.

The PV modules and inverters produce no waste during operation. However, the PV panels may include solid materials that are hazardous. To address management of such materials, the Applicant's contract with the selected PV panel manufacturer would include a provision requiring the manufacturer to receive and recycle or dispose of any broken or defective modules. Because such materials are in a solid and non-leachable state, broken PV panels would not be a source of pollution to storm water.

Similar to the PV modules, the BESS batteries produce no waste during operation, but may contain solid materials that are considered hazardous. Also, the fire suppressant agent used for the BESS enclosures may be considered hazardous, although most used suppressant agents in the marketplace today are considered to be environmentally friendly. To address management of such materials, the Applicant's contract with the selected BESS vendors and suppliers would include a provision requiring the vendor or supplier to receive and recycle or properly dispose of any such components or materials that were taken out of service for any reason.

The facility does not present significant potential for introducing pollution to storm water, and operation of a solar PV facility is not subject to stormwater permitting authority. All use, storage, transport, and disposal of hazardous materials used in construction or operation of the solar facility would be in strict accordance with federal, State, and local laws, ordinances, regulations, and standards (LORS). No extremely hazardous materials (i.e., governed under 40 CFR 335) are anticipated to be produced, used, stored, transported, or disposed of as a result of the proposed project. During construction and operation of the proposed project, Safety Data Sheets (SDS) for all applicable materials present on-site would be kept on site and made readily available to on-site personnel and regulatory agencies and inspectors.

During construction of the facility, non-hazardous construction debris would be generated. Such debris would be recycled or disposed of in local facilities and landfills consistent with required salvage and recycling LORS. During construction of the facility, sanitary waste would be managed using portable toilets and hand washing stations located at reasonably accessible on-site locations.

3.9.13.8 Fire Safety

Project Substation

Substation building fire suppression would follow PSREC standards for fire suppression, subject to local permit official approval.

BESS Enclosures

All battery, electrical, and instrumentation enclosures and structures would be provided with an integral (built-in) fire suppression system that is appropriate for the type of equipment inside. Fire suppression systems would be subject to review and approval of the Lassen County Fire Marshall.

3.9.14 Interconnection and Network Upgrades

3.9.14.1 Interconnection Facilities

The primary interconnection facility for the proposed Calneva BESS/PSES project would be a 120kV line tap to the existing PSREC 120kV transmission line at a location north of the intersection of Calneva Road and Fort Sage Road, approximately four (4) miles south of the proposed project lease area. (See Figure 3.9-8: *Gen-Tie Line Interconnection Route and PSREC Intertie Location*) Routing the Gen-Tie circuit to the PSREC 120kV transmission line would require approximately 24 new Gen-Tie tubular steel poles, each of which would be between 90 and 130 feet in height and placed 800 to 900 feet apart.

The project power substation is likely to cover an area of approximately 2 acres within the Solar Field Area fence line. The substation would be built to accommodate the entire proposed project production with the nominal 50 MW connecting to the PSREC 120kV system.

At build-out, the solar substation would include 120kV circuit breaker(s) and related equipment arranged in a "Tap, single breaker" configuration. The substation would also include a GSU transformer, switchgear, a prefabricated substation control building, and dead-end steel structures that would be approximately 90 feet in height. Additionally, the substation could include a step-down transformer and associated 12.47kV bus, switchgear, and protection equipment if power service contracts are signed in the future for local power consumers such as Herlong Army Depot or the California Department of Correction to provide dedicated Service Lines to such customers of Calneva BESS/PSES power.

3.9.14.2 Secondary Communication Circuit Routing

In addition to the primary communication circuit that will be routed with the 120kV Gen-Tie line via an Optical Ground Wire (OPGW), a secondary communication circuit will be connected to the Calneva BESS/PSES project's proposed substation. This secondary circuit would be designed to handle all the communication data traffic associated with system protection and monitoring and control required by the Transmission Provider (PSREC), and the California Independent System Operator (CAISO). In addition to providing backup communications for the Transmission Provider and the CAISO, the secondary communication circuit would also handle primary communications for the Supervisory Control and Data Acquisition (SCADA) data traffic for the plant's remote Operator Station located off-site.

The intent of the Calneva BESS/PSES project is to route the secondary communication circuit using a route that is mostly diverse from the primary communication circuit to maintain reliable communication in the event of a physical disturbance, severing or other failure of the primary circuit OPGW. The secondary communication circuit route will be determined during the detailed engineering design for the Calneva BESS/PSES project.

3.9.14.3 Transmission System Upgrades

The proposed Calneva BESS/PSES project would interconnect to the regional electricity grid at the PSREC 120kV transmission line located approximately four (4) miles south of the proposed project lease area. The Applicant retained Bob Balzar, PE, to conduct an electrical engineering fatal flaw review to assess the nearest transmission options to the proposed project lease area that would provide export of renewable energy production out of the Calneva area of Lassen County and to potential electric markets. An evaluation of the existing transmission grid and proposed projects were conducted on a fatal flaw level, and it was determined feasible to export Calneva renewable and stored energy via PSREC 120kV transmission line. Upon receiving the Use Permit and CEQA certification the Applicant will submit a Generator Interconnection Request (GIR) to interconnect the nominal 50 MW of the proposed project's output to the PSREC 120kV transmission line and finalize engineering and recommended upgrades

.

The fatal flaw electrical transmission review indicated that the transmission system should cause no capacity and concluded that the proposed project causes no overloads or voltage violations, which will be confirmed during Calneva BESS/PSES owner's generator interconnection request with PSREC. Dynamic

stability study results, when completed is anticipated to confirm the fatal flaw engineering review conclusions that the transmission system's transient performance would not be significantly affected by the proposed project. Also, the downstream substation fatal flaw engineering review found no overstressed equipment by the interconnection of the proposed project. It is anticipated that a System Impact Study (SIS) will not identify any significant network upgrades that would be a fatal flaw to the proposed project. Since the proposed project anticipates utilizing available capacity at the existing interconnection, no upgrades to the PSREC system is anticipated to be required to accommodate the electrical generation of the proposed Calneva BESS/PSES project.



PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA

APNs: 137-170-012,013

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

FIGURE: Gen-Tie Line Interconnection Route and PSREC Intertie Location

DATE: 04-09-2020	SCALE: As Shown
BY: AKM	FIGURE: 3.9-8

SIERRA GEOTECH

3.9.15 Project Construction

3.9.15.1 Pre-Construction

Prior to construction there would be activities occurring at the site to support detailed design and to prepare for construction. Geotechnical study would be performed at the Solar Field Area and along the Interconnection Facilities approximately 8 months prior to construction and would include borings up to depths of 50 feet, thermal and electrical resistivity testing, soil corrosivity testing, possibly a few test pits about 10 feet deep, some potholing to verify exact locations of existing underground utilities and services, and pile pull tests. Only preliminary Geotechnical engineering has been conducted at this time for the purposes to provide enough information for preliminary design work and CEQA documentation. Topographic and boundary surveys of the same areas would be performed approximately 12 months prior to construction. A few weeks prior to commencement of grading activities the following pre-construction activities would be performed:

- A pre-construction meeting that includes safety and environmental training would be held on-site for pertinent project staff, all construction personnel, and environmental monitors
- The site would be surveyed and marked/staked for construction
- Biological and cultural resources monitors, as appropriate.

3.9.15.2 Construction Sequence

Construction of the facility is estimated to be completed over an 8 to 10-month period and would require a peak workforce of approximately 200-250 management, supervisory, and craft workers. Temporary construction staging/laydown would include craft worker parking, office trailers, storage CONEX boxes, and equipment laydown areas. Temporary workspaces would be graded and graveled to mitigate fugitive dust and mud during rain events. Temporary sanitary facilities (portable toilets) would be provided during construction. The sanitary facilities would be serviced by a licensed contractor and waste would be disposed off-site. The temporary construction workspaces would likely be located near the primary site entrance inside the fencing of the Solar Field Area off Calneva Road; additional temporary staging areas may be located throughout the Solar Field Area to facilitate a phased construction approach. As construction of the site is nearing completion, the temporary construction facilities would be removed, and the area(s) would be utilized as part of the solar field. A separate laydown area for construction of the Gen-Tie would also be designated. The Gen-Tie Laydown Area would encompass approximately 4 acres, be temporarily fenced and would be located on a vacant parcel of land adjacent to the Calneva BESS/PSES facilities.

During the estimated 8 to 10-month construction period, activities would include:

1. Installation of perimeter security fence
2. Construction of substation and Gen-Tie line
3. Simultaneous grading of the site to include construction of staging areas, grading of access roads, solar field, and substation, BESS, as well as stormwater facilities
4. Shakeout and insertion of the steel support piles
5. Shakeout and installation of tracker system
6. Shakeout and installation of PV modules
7. Installation of the AC and DC collection system and monitoring system
8. Installation of central inverter and transformer stations (one per block)
9. Start-up, commissioning, and testing activities
10. Restoration of temporary laydown areas
11. Restoration of Gen-Tie construction roads

All materials for construction of the proposed Calneva BESS/PSES project would be delivered to the site by trucks. The majority of truck traffic would occur on designated truck routes and major streets in

consultation with the County's Public Works Department. It is anticipated that delivery trucks traveling north along US Highway 395 would exit right at Doyle Grade Road and travel to Lassen County 361 and turn right to a left on Hackstaff Road, then take a right on Fort Sage Road and a left onto Calneva Road. All truck deliveries will enter the proposed project lease area from Calneva Road. The deliveries for the Gen-Tie would also be made to the Gen-Tie Laydown Area off Calneva Road. It is anticipated that there could be up to 30 deliveries per day during the peak of construction.

Construction activities would generally be performed Monday through Friday from 6 a.m. to 6 p.m., work over the weekend may be performed as well in order to meet the proposed project's schedule. Construction would be conducted block by block and would be sequenced or staggered to allow multiple crews to work simultaneously on the project lease area.

Following are the anticipated number of pieces of major equipment that would be delivered to the site:

- PV modules – 143,000 to 163,000
- Trackers – 2,000
- Steel support piles – 35,000
- Inverter Skids with associated equipment – 18
- Combiner boxes – 250
- 34.5/120kV transformer – 1
- Prefabricated substation control building – 1
- Tubular steel pole structures for the Gen-Tie – 18

3.9.15.3 Substation Construction

The substation would be constructed by a contractor selected by the Independent Power Merchant in accordance with its Engineering, Procurement, and Construction (EPC) contract specifications. The substation would occupy an area of approximately 2 acres and would be graded flat and level. Four to 6 inches of gravel would be installed on the entire area to keep down dust and mud and make for easier housekeeping. Precast or cast in place concrete foundations would be built for the substation equipment and structures.

Foundation would be drilled pier or spread footing. Foundations type and size would be determined during the detailed engineering phase. The substation would be enclosed with a security fence and would be within the Solar Field Area.

3.9.15.4 Gen-Tie Line Construction

The Gen-tie Line would be constructed by a contractor selected by the Independent Power Merchant in accordance with its Engineering, Procurement, and Construction (EPC) contract specifications. Gen-Tie Line construction would generally follow the sequence outlined below, but may vary depending on final engineering designs:

- Contractor mobilization of equipment and personnel
- Staging yard preparation
- Access road construction and site preparation
- Foundation construction and anchor installation
  - The Gen-Tie would typically consist of drilled pier reinforced concrete foundations. No guys or anchors would be installed on the Gen-Tie.
- Assembly and erection of tubular steel poles for the Gen-Tie Line
- Wire stringing and sagging
- Testing and commissioning
- Cleanup and restoration

Construction would require heavy equipment including, but not limited to, pick-up trucks, water trucks, haul trucks, bucket trucks, bulldozers, graders, compactors, backhoe, excavator, drill rig, concrete trucks,

cranes, puller and tensioner, reel trailer, splice trailer, and air compressors. Helicopters may also be utilized to support wire stringing operations.

3.9.15.5 Battery Energy Storage System

The BESS would be constructed by a contractor selected by the Independent Power Merchant in accordance with its EPC contract specifications. The BESS would occupy an area of approximately 2 to 3 acres and would be graded flat and level. Precast or cast in place concrete foundations would be built for the BESS equipment and container/structures. Foundations type and size would be determined during the detailed engineering phase. The BESS would be enclosed with a security fence, within the Solar Field Area.

3.9.15.6 Tracker Modules Installation

The tracking system components would arrive on site, at an estimated rate of approximately 10 to 20 MW per month, to be assembled and installed at the site. PV modules would arrive on site and be placed in a staging area inside shipping containers. Modules would be distributed out to the blocks and put in place manually and secured to the tracker per vendor specifications and approved engineering plans. Each tracker would be populated with modules, wired in series, to create strings, and connected to a DC combiner box, which would deliver DC power to the block's inverter station.

3.9.15.7 Laydown Areas, Staging Areas, Work Areas, and Stringing Sites

The laydown area would be near the main site entrance at Calneva Road and would have the contractor site trailers/offices as well as fabrication areas, worker break area, sanitation and parking, material staging area, and storage (CONEX) boxes. This area would cover approximately 5 to 7 acres. Temporary power for the main laydown area would be provided by a temporary drop from the nearby PSREC system or from temporary mobile generators. Potable water for drinking and sanitation would be trucked in as needed. Secondary materials staging/laydown areas may be located closer to work areas and would be moved periodically as the site builds out.

The Gen-Tie and Service Line would have work areas around each structure location which may require grading and vegetation removal for various construction activities. Stringing sites would support required equipment to perform wire stringing and sagging operations.

3.9.15.8 Construction Personnel

Construction personnel over the 8 to 10-month construction period would include:

- Civil/earthwork personnel
- Fencing personnel
- Tracker support pile driver personnel
- Tracker and PV mechanical installation personnel
- PV electrical personnel
- Monitoring system personnel
- Project management personnel
- Biological and archaeological monitors
- Start-up, commissioning, and testing personnel
- Substation mechanical personnel
- Substation electrical personnel
- Substation start-up and testing personnel
- Gen-Tie Line access road construction personnel
- Gen-Tie Line foundation construction personnel
- Gen-Tie Line construction personnel

The workforce projection is based on assembling and installing arrays at an average rate of approximately 10 MW per month. The peak number of construction personnel is expected to be approximately 200 workers per day. Table 3.9-1: *Estimated Construction Work Force*, presents the anticipated on-site construction workforce for each quarter.

Table 3.9-2: Estimated Daily Construction Work Force by Month

Construction Month	Workers
1	50
2	75
3	90
4	155
5	155
6	250
7	200
8	155
9	90
10	50

On-site work hours would generally be daylight hours, typically 6:00 a.m. to 7:00 p.m., or as specified by the building permit and according to applicable Lassen County ordinance. During the installation period, construction would be performed five days per week (weekend work may occur occasionally if construction milestones are not met on schedule), year-round, except for standard U.S. holidays. Security personnel would be on site 24/7 during construction, working in 8- or 10-hour shifts. The proposed Calneva BESS/PSES project could be operational (block by block) as early as 6 months into the installation period, with each subsequent block coming online as start-up and commissioning activities progresses. There would be no on-site temporary workforce housing, and parking of employee recreational vehicles or trailers would be prohibited.

3.9.15.9 Construction Traffic

Construction of the proposed Calneva BESS/PSES project substation may require temporary street closure, or partial closure, of perimeter road around the line tap site.

Personnel Traffic

An average construction workforce of 165 workers per day is anticipated, and the peak number of workers is estimated at 250 workers. If all construction personnel were to use personal vehicles, construction-related traffic would include an estimated one round trip per worker per day on average during the 8 to 10-month construction period. The Independent Power Merchant would work with the EPC contractor to encourage worker carpooling to the extent possible.

It is anticipated that the majority of construction jobs for the proposed Calneva BESS/PSES project would be filled by workers from the Susanville, and Reno region (Reno, Sparks, Carson City, and Susanville) with some specialty trade contractors likely coming from the Sacramento or San Francisco Bay regions. This assumption is based on labor and demographic data showing the Lassen County region having a construction workforce surplus. Economic data show that Lassen County and Reno region has the capacity to supply workers for the temporary construction jobs that would be created by the proposed Calneva BESS/PSES project.

Commute distances for construction workers originating from within the Lassen County region can be up to 30 miles (one-way). Commute distances for construction workers originating from out of region workers (Reno and Sacramento) can be approximately 50 miles to 175 miles (one-way). The main proposed project staging area would accommodate employee parking, delivery trucks, construction equipment, office trailer, and other activities. Ingress and egress to the site would be located at each laydown area along Calneva Road.

Delivery Traffic

Routes for trucks hauling materials and construction equipment would primarily follow the Highway 395 corridor to Doyle Grade Road, Doyle Loop Road, Hackstaff Road, Fort Sage Road and then onto Calneva Road allowing for safe travel by larger container trucks and wide-load trucks carrying heavy equipment. Material delivery would include all components of the substation, control building, fencing, PV modules, support piles, tracker components, inverters, and additional miscellaneous items. Material deliveries would originate at manufacturing sources within California and neighboring states, and from shipping ports along California's coast. Some specialty equipment may be sourced throughout the country and possibly Canada or Mexico and would be delivered to the site overland via truck or rail. It is anticipated that material deliveries would occur via Interstate 15, U.S. Highway 395, and surface streets.

Material deliveries would be on-going throughout construction. Much of the heavy construction equipment would arrive to the site early and stay for the duration of construction. Table 3.9-2: *Delivery Truck Type by Project Component*, describes the delivery truck type for each proposed project component. Table 3.9-3: *Projected Number and Length of Daily Truck Deliveries*, describes the projected number and length of daily truck deliveries. Table 3.9-4: *Construction Traffic Specifications*, describes the daily and average traffic trips during construction for each proposed Calneva BESS/PSES project component that would require transport to or from the project lease area.

Table 3.9-2: Delivery Truck Type by Project Component

Project Component	Truck Type
Solar Panels	Standard width, 53' van/container
Inverters	Standard width, 48' flatbed /lowboy trailer
Steel Mounts	Standard width, 48' flatbed trailer
Gen-Tie Line Poles	Standard width, 48' flatbed trailer/oversize
Substation Steel	Standard width, 48' flatbed trailer
Substation Circuit Breakers	Standard width, 48' flatbed trailer
Substation Transformers	48' lowboy trailer with pilot cars
Auxiliary Substation Equipment	Standard width 48' flatbed trailer
Crane (60 to 100 ton)	48' lowboy trailer with pilot cars
BESS Battery Storage Containers	Standard width, 53' van/container
Ready-mix Concrete	Concrete mixer truck

Table 3.9-3: Projected Number and Length of Daily Truck Deliveries

Description of Purpose (Miles)	Approximate Distance (Miles)	One-Way Trips Per Day (Trips)
Material Delivery	40 to 500	30
Worker Vehicle	30 to 100	300 to 400

Table 3.9-4: Construction Traffic Specifications

Traffic Type	Total One-Way During Construction	Average Daily One-Way Construction	Remote ≥ 40 Miles
Water Trucks, Dust Control	16,500	47	Local
Concrete Raw Material	250	1	Local
PV Panel Delivery	1,032	6	Remote
Substation Equipment	300	1	Remote
Electrical Materials	400	2	Remote
BESS Battery Storage Enclosures	30	2	Remote
Total During Construction	**18,512**	**55**	-

Onsite Vehicle Movement During Installation

Vehicles entering and traversing the site during construction, traffic would enter the site at the specified areas access along Fort Sage Road and Calneva Road. Table 3.9-5: *Construction Vehicles and Equipment*, describes construction vehicles and equipment that would generate emissions.

During solar field installation, vehicles needed for installation of solar field components would travel on both permanent and temporary maintenance roads of compacted native soil and gravel. These vehicles would include buggies, pickup trucks, bobtail flatbed trucks, pile-driver rigs, fork-lifts, water trucks, and cranes for lifting inverters onto piers/foundations.

Drainage Crossings within the Project Area

Roads that require a drainage crossing would be engineered to the specifications that allow for the weight of vehicles to cross without causing destabilization in the drainage areas and riprap would be placed on the downstream side of the road to minimize erosion. Drainage crossings would be kept to a minimum.

Table 3.9-5: Construction Vehicles and Equipment

Vehicle Traffic Use	Vehicle Type	Max Weight (lbs.)	Max Power (hp)	Tread Type	Frequency of Use (hrs./day)	Quantity Onsite
On-road equipment (grading & travel on main roads)	Scraper	77,800	313	Dual Axle	8	1
	Grader	30,000	174	Dual Axle	6	1
	Dozer	44,582	357	Tractor	6	1
	Backhoe Loader	13,046	108	Dual Axle	8	1
	Roller	27,340	95	Dual Axle	8	1
	4,000-gallon Water Truck	55,000	189	Triple Axle	8	3
Off-road equipment (between PV power blocks and for panel installation)	Excavator	36,000	168	Tractor	8	4
	Roller	27,340	95	Dual Axle	8	1
	Backhoe Loader	13,046	108	Tractor	8	1
	Trencher	5,500	63	Dual Axle	8	1
	Pile Driver	55,000	291	Track	8	4
	Crane	28,800	399	Dual Axle	8	1
	Forklifts	20,000	93	Dual Axle	8	4
	Generators	N/A	549	N/A	8	3
	Multiple Grader	30,000	174	Dual Axle	6	1
	Plate Compactor	N/A	8	Pad	8	2
	Pickup Trucks	10,000	250	Dual Axle	16-24	8
	Welders	N/A	45	N/A	8	2

3.9.16 Project Operations and Maintenance

The entire proposed Calneva BESS/PSES project is expected to be operational in the end 2020 or first quarter 2021 and would require an estimated two (2) to three (3) permanent employees. The proposed Calneva BESS/PSES project is expected to be in operation for at least twenty-five (25) to thirty-five (35) years.

3.9.16.1 Operations

Operation Personnel

Only authorized personnel would be permitted onsite and generally would be limited to the employees monitoring and maintaining the facility. Operation and security would be conducted from an offsite location, and maintenance crews would be dispatched to the site (as needed) during operations.

Facility maintenance would include the periodic maintenance of PV modules, structures and BESS components. Traffic would be limited to scheduled and emergency maintenance visits and infrequent delivery vehicles. Regular maintenance performed would consist of equipment inspection and replacement and would occur primarily during daylight hours. Emergency maintenance could occur at any time, as needed for the situation; however, maintenance and emergency service during daylight hours would be encouraged to maximize worker safety. Operation and maintenance vehicles would include trucks (pickups, flatbeds, and dump trucks), forklifts, and loaders for routine and unscheduled maintenance. Large heavy-haul transport equipment may be brought to the site infrequently for equipment repair or replacement.

The proposed Calneva BESS/PSES project would be operated according to the requirements of the party or parties that contract for the output of the solar facility and the BESS. The full-time staff of the proposed Calneva BESS/PSES project is expected to consist of one electrical engineer to plan and coordinate operations and maintenance (O&M) activities, and two (2) to three (3) instrumentation and controls technicians to perform maintenance and troubleshooting/repair activities. Periodic module cleaning would be contracted to a specialty contractor as well as any high voltage work in the solar substation. The operations staff would consist of approximately two (2) to three (3) persons.

The current plan is for the proposed Calneva BESS/PSES project to operate seven days per week to produce electricity during daylight hours and using the BESS to keep sending energy to the grid during peak demand time after daylight hours. Operational activities would consist of monitoring system operational status, performance, and diagnostics from the solar facility control console. System production forecasting and scheduling with PSREC and CAISO will be implemented as directed by the party or parties receiving the output of the solar project and the BESS, along with operational planning and required reporting for all federal and state agencies. Operations activities would include meter reading and production reporting by the monitoring system/SCADA, production analytics, troubleshooting, along with updating O&M manuals and periodic predictive maintenance (PM) activities.

3.9.16.2 Site Access, Security, and Lighting

Security would consist of a proposed 7-foot-high security fence with barbwire topping that would be installed around the perimeter of the BESS/PSES facilities. Controlled-access gates would be located at the two entrances (Main Entrance and Emergency Access Only Entrance) off Calneva Road. The Emergency Access Only Entrance will be directly off Calneva Road and would only allow access for emergency vehicle responders. Access gates would be sliding gates, with a minimum width of 26 feet, as required to access and maintain the facility. This access would be keyed, and a KNOX box installed to prevent unauthorized access to the BESS/PSES facilities. Additional site security measures may include a monitored camera system designed to cover the entire BESS/PSES facilities. This system would be remotely monitored, and security breaches would be reported to emergency responders as well as site operations. An intrusion detection system may be installed along perimeter fences to alert monitors of fence breaches. A camera working in conjunction with the fence intrusion system would decrease the number of false positives reported. Furthermore, the proposed project would comply with North American Energy Reliability Corporation and Western Electricity Coordinating Council requirements for regulatory control and security systems.

Low-level lighting would be installed at the gate and at strategic locations around the BESS/PSES facilities. All project lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties. Lighting would conform to National Electric Safety Code (NESC) requirements and all applicable Lassen County outdoor lighting standards. Photocell-controlled overhead lighting will be provided throughout the proposed BESS/PSES facilities.

3.9.16.3 Maintenance

Preventative Maintenance

The solar PV field would be inspected quarterly for degrading wires, modules, and combiner boxes. The SCADA/monitoring system would also identify underperforming system components. These components

would be inspected and repaired as required. Industry standard measures, like forward-looking infrared imaging (FLIR), would also be used to detect hot spots in the solar field and point out electrical issues not visible to operators. There would also be preventative maintenance on the substation equipment (e.g., transformers, breakers, inverters, and batteries).

Routine Maintenance

Damaged or underperforming PV modules and mechanical fasteners would be replaced as required. Under-performing inverters would be repaired or replaced as required. Inverters are generally guaranteed by their manufacturers for ten years; however, inverters are expected to be operational for a longer duration.

Module Cleaning

To optimize performance of the proposed Calneva BESS/PSES project, the PV modules surfaces are expected to be cleaned annually during the dry season. Performance monitoring may prompt more frequent module cleaning in case of adverse atmospheric events such as dust storms or other conditions that may increase soiling. The module cleaning would be performed by an outside specialty contractor. Cleaning crews would traverse the site in small all-terrain vehicles, or light pickup trucks which would be fitted with a water tank and pump to operate a high-pressure sprayer.

3.10 SUMMARY OF MITIGATION MEASURES

Mitigation measures identified during planning for the proposed Calneva BESS/PSES facilities and identified during the Initial Study Review to reduce potential significant impacts to a less than significant level are summarized below.

3.10.1 Aesthetics (Visual Resources)

None recommended

3.10.2 Agriculture and Forestry Resources

None recommended

3.10.3 Air Quality

AQ-1: Suspend excavation and grading activity when sustained winds exceed 20 miles per hour or when gusts exceed 25 miles per hour.

AQ-2: Use alternative fuel or catalyst-equipped diesel construction equipment.

AQ-3: Minimize idling time (e.g., 10-minute maximum)

AQ-4: Replace fossil-fueled equipment with electrically driven equivalents when possible.

AQ-5: Limit or curtail construction activity during periods of high ambient pollution.

3.10.4 Biological Resources

BIO-1: Prior to ground-disturbing activities, a qualified biologist shall be retained to act as an environmental monitor for all measures requiring environmental mitigation. Their responsibilities will include: (1) ensuring that procedures for verifying compliance with environmental mitigations are implemented; (2) conducting biological surveys prior to site disturbance; (3) coordinating with contractors to avoid potential sensitive habitat areas; (4) conducting compliance monitoring; (5) conducting crew training for environmentally sensitive areas; and (6) maintaining authority to stop work if a sensitive resource could be impacted by the work.

BIO-2: Prior to ground-disturbing activities, the qualified biologist shall conduct an environmental awareness training for all construction personnel. This training shall include discussions of special-status plant species, American badger, and nesting birds. Topics of discussion shall include: description of the species' habitats; general provisions and protections afforded by FESA, CESA and CEQA; measures implemented to protect special-status species; review of the project boundaries and conditions; the qualified biologist's role in Project activities; lines of communication;

and procedures to be implemented in the event a special-status species is observed in the work area.

BIO-3: Prior to any vegetation removal for the Project that occurs during the nesting season (February 15 to September 15), the qualified biologist shall conduct a nesting bird survey no more than two weeks prior to construction to determine presence/absence of nesting birds within the disturbance area. If active nests are observed, work activities will be avoided within 100 feet of active passerine nests and 300 feet of active raptor nests until young birds have fledged and left the nest. The nests shall be monitored weekly by a qualified biologist with expertise on nesting birds. The buffer may be reduced if deemed appropriate by the qualified biologist. Readily visible exclusion zones will be established in areas where nests must be avoided. Bird nests, eggs, or young covered by the MBTA and CFGC will not be moved or disturbed until the end of the nesting season or until young fledge, nor will adult birds be killed, injured, or harassed at any time. Pursuant to CFGC Section 3503.5, nests of raptors (e.g., owls, hawks, falcons, eagles) shall not be removed prior to coordination with and approval from the CDFW. If a nest of any special-status avian species is identified, all Project-related activities will cease within 500 feet of the active nest/burrow until the qualified biologist has coordinated with the USFWS and CDFW to determine an appropriate monitoring plan for working in the vicinity of the nest/burrow.

BIO-4: Prior to ground-disturbing activities, the qualified biologist shall conduct a preconstruction survey for American badger dens. The badger survey should be conducted no more than 2 weeks prior to construction. If the survey results are negative (no badger dens observed), no additional work would be necessary. If the results are positive (badger dens observed), the qualified biologist shall install a game camera at the den(s) for three (3) days and three (3) nights to determine if the den is in use. If the game camera does not capture an individual entering/exiting the den, the den can be excavated by hand. If the camera captures badger use of the den, the qualified biologist shall install a one-way door in the den opening and continue use of the game camera. Once the camera captures the individual exiting the one-way door, the den can be excavated by hand.

BIO-5: Grading plans shall clearly show the location of special-status plants and delineation fencing that excludes the special-status plant species from disturbance. The fencing shall consist of highly visible construction fence supported by steel T-stakes that are driven into the soil. The qualified biologist shall field-fit the placement of the delineation fencing to ensure that special-status plant species are excluded from the disturbance areas. The delineation fencing shall remain in-place and functional throughout the duration of the Project and no work activities shall occur outside the delineated work area. The grading plans shall clearly show all staging areas, which shall be located within the construction area and situated to avoid disturbances to special-status plant species. In some cases, avoidance of the plants may not be feasible and mitigation for the plants removed shall be implemented. The qualified biologist shall document the exact number of plants that are removed and establish the final impact quantities. If the special-status plant species cannot be avoided, the following measures shall be implemented:

a) If the plant species to be impacted is not listed under the CESA but is listed under FESA and/or has been assigned California Rare Plant Ranks 1A, 1B, 2A, 2B, or 3, Project activities shall be delayed long enough for the qualified biologist to prepare and implement a rare plant mitigation program.
b) If the Project will impact annual special-status plant species, the rare plant mitigation program shall include collecting seed of the annual special-status plant species, storing the seed off-site, and redistributing the seed in suitable habitat on the property in the fall following Project completion.
c) If the Project will impact perennial special-status plant species, the rare plant mitigation program shall include salvaging all perennial special-status plant occurrences that would be impacted, maintaining the salvaged specimens in containers off-site, and replanting the salvaged specimens in suitable habitat on the property in the fall following project completion. Supplemental irrigation shall be applied to the salvaged plantings as needed for two years following installation of the plantings.

3.10.5 Cultural Resources

CR-1: In the event that unanticipated archaeological resources should be accidentally discovered during project construction, a qualified archaeologist or paleontologist will be retained for evaluation of the find. If the find is determined to be a historical or unique archaeological resource, appropriate mitigation or avoidance measures will be taken in accordance with CEQA Guidelines 15064.5(f). During mitigation of unanticipated archaeological resources, it would not be necessary for work to halt in construction areas not affected by such finds. Any historically significant cultural materials discovered during project construction will be the subject of professional scientific analysis and a report to be prepared by a qualified archaeologist. In the event that such a discovery should contain human remains, the following steps shall be taken as outlined in CEQA Guidelines 15064.5 (e)(1):

(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

(A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and

(B) If the coroner determines the remains to be Native American:

1. The coroner shall contact the Native American Heritage Commission within 24 hours.
2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in Public Resources Code Section 5097.98 or

(2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

(A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

(B) The Descendant identified fails to make a recommendation; or

(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

3.10.6 Energy

None recommended

3.10.7 Geology and Soils

None recommended

3.10.8 Greenhouse Gas Emissions

None recommended

3.10.9 Hazards and Hazardous Materials

HM-1: **Contingency Plans.** Calneva BESS/PSES facility contingency plans shall be prepared to address potential contingency situations associated with the battery storage systems. These existing contingency plans include: Fire Protection Plan, Emergency Response Plan, and Hazardous Materials Business Plan. In addition, the plans will include where fire suppression material is stored on the site, how the Doyle Fire Prevention District will access the material, what the material is, and where copies of the plan are stored. All updates will occur in coordination with applicable agencies, including but not limited to the Doyle Fire Prevention District, and the Lassen County Environmental Health Department-CUPA. Contingency plans shall be stored onsite.

Plan Requirements and Timing: Contingency plans shall be completed prior to the initiation of construction activities for the proposed battery storage system, in order to ensure that appropriate contingency plans are in place through all project phases. The Lassen County Planning and Building Services, or their designee, shall ensure completion of contingency plans and approval by Doyle Fire Prevention District and Lassen County Environmental Health Department-CUPA.

Monitoring: The Doyle Fire Prevention District, or their designee, shall inspect the contingency plans on an annual basis, and following any emergency or unanticipated situation during which contingency plan procedures are required to be implemented, in order to ensure that contingency plans remain relevant and applicable to the Calneva BESS/PSES facilities and surroundings. Calneva BESS/PSES shall pay Doyle Fire Prevention District inspections fees as may be adopted by the District from time to time.

3.10.10 Hydrology and Water Quality

WQ-1: Calneva BESS/PSES owner and/or contractor will develop and implement an SWPPP and adopt BMPs prior to beginning construction activities.

WQ-2: Spill prevention kits shall always be in close proximity when using hazardous materials (e.g. crew trucks and other appropriate locations).

WQ-3: For equipment that must be fueled on-site, containment shall be provided in such a manner that any accidental spill of fuel shall not be able to enter the water or contaminate sediments that may come in contact with water.

WQ-4: Calneva BESS/PSES owner, or construction contractor will prepare a pollutant control plan that specifies logistics and schedule for construction activities that will minimize the potential for erosion and standard practices that include monitoring and maintenance of control measures.

3.10.11 Land Use and Planning

None recommended

3.10.12 Mineral Resources

None recommended

3.10.13 Noise

None recommended

3.10.14 Population and Housing

None recommended

3.10.15 Public Services

None recommended

3.10.16 Recreation

None recommended

3.10.17 Transportation

TT-1: A traffic control plan will be developed in coordination with the Lassen County Public Works Department for any work requiring a County Encroachment Permit.

TT-2: Start times and end times of the construction day will be offset from identified peak traffic hours to mitigate traffic congestion on local streets and highways. Construction personnel will typically arrive at the project lease area around 6:00 AM, before the morning peak hour (7:00 AM to 8:00 AM). Construction employees will typically leave between 3:00 PM and 4:00 PM, before the evening peak hour (4:00 PM and 5:00 PM).

3.10.18 Tribal Cultural Resources

CR-1: In the event that unanticipated archaeological resources should be accidentally discovered during project construction, a qualified archaeologist or paleontologist will be retained for evaluation of the find. If the find is determined to be a historical or unique archaeological resource, appropriate mitigation or avoidance measures will be taken in accordance with CEQA Guidelines 15064.5(f). During mitigation of unanticipated archaeological resources, it would not be necessary for work to halt in construction areas not affected by such finds. Any historically significant cultural materials discovered during project construction will be the subject of professional scientific analysis and a report to be prepared by a qualified archaeologist. In the event that such a discovery should contain human remains, the following steps shall be taken as outlined in CEQA Guidelines 15064.5 (e)(1):

(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

(A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and

(B) If the coroner determines the remains to be Native American:

1. The coroner shall contact the Native American Heritage Commission within 24 hours.
2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in Public Resources Code Section 5097.98 or

(2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

(A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

(B) The Descendant identified fails to make a recommendation; or

(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

3.10.19 Utilities and Service Systems

UTL-1: Employ an approved Solid Waste Diversion and Recycling Plan. Calneva BESS/PSES owners, will develop a solid waste diversion and recycling plan in accordance with AB 341 (Solid Waste Diversion), which requires industrial and commercial construction efforts to recycle fifty percent of their industrial wastes. In addition to the requirement of diverting commercial and construction debris, Calneva BESS/PSES owners, will submit a Diversion Report within 30 days of completing the project to Lassen County.

3.10.20 Wildfire

None recommended

3.10.21 Mandatory Findings of Significance

Recommended Mitigations Above will reduce all impacts regarding Mandatory Findings to less than significant.

4.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "potentially significant impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agricultural / Forestry Resources	☑ Air Quality
☑ Biological Resources	☑ Cultural Resources	☐ Energy
☐ Geology/Soils	☐ Greenhouse Gas Emissions	☑ Hazards and Hazardous Materials
☑ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☑ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☑ Transportation	☐ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance

Based on the analysis presented in this IS, it has been determined that for all resource areas, the proposed Calneva BESS/PSES project would not result in any significant impacts that cannot be mitigated to a less-than-significant level. In addition, the project may result in potentially significant impacts, but proposed Calneva BESS/PSES, project-specific mitigation measures would reduce the effect of such impacts to a level that no significant impacts would occur. On the basis of the IS and implementation of all proposed Calneva BESS/PSES, project-specific mitigation measures, there is no substantial evidence that the project as mitigated would have a significant impact on the environment which would trigger the necessity to prepare an EIR. The proposed MND is presented in Appendix A of this document.

5.0 DETERMINATION

On the basis of the IS evaluation that follows, I find that:

☐ The proposed project is exempt from CEQA pursuant to the general exemption (CEQA Guidelines, 15061(b)(3)), a statutory exemption, and/or a categorical exemption, and that if a categorical exemption, none of the exceptions to the exemption apply. A NOTICE OF EXEMPTION will be prepared.

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☑ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental document is required. FINDINGS consistent with this determination will be prepared."

Signature Maurice L. Anderson, County Environmental Officer, Lassen County Planning and Building Services	June 22, 2020 Date

6.0 DISCUSSION OF ENVIRONMENTAL SETTING, POTENTIAL IMPACTS, AND MITIGATION MEASURES

The Environmental Checklist is used to assist in evaluating the potential environmental impacts of the proposed Calneva BESS/PSES project. The Environmental Checklist identifies potential project effects as follows:

(1) **Potentially Significant Impact**: An effect that is substantial based on significance criteria. If there are one or more "potentially significant impact" entries in the Environmental Checklist, an EIR is required.

(2) **Less than significant with Mitigation Incorporated**: An effect that, with the incorporation of mitigation measures, is reduced from a "potentially significant impact" to a "less than significant impact." The Initial Study includes mitigation measures and briefly explains how these measures reduce the associated effect to a less-than-significant level.

(3) **Less than Significant Impact**: No significant impacts will result.

(4) **No Impact**: The project will not create an impact in the category.

Included in each discussion is a summary of relevant setting information and identified potential impacts and mitigation measures that apply to the proposed Calneva BESS/PSES project. Substantiation and clarification for each Environmental Checklist response is also provided in the following resource discussions.

CEQA provides the following guidance for evaluation of impacts:

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   - Earlier Analyses Used. Identify and state where they are available for review.

   - Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   - Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant toa project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and
   b) the mitigation measure identified, if any, to reduce the impact to less than significance.

6.1 AESTHETICS (VISUAL RESOURCES)

The aesthetics section addresses the potential effects of the proposed Calneva BESS/PSES project on aesthetics (visual resources). This section describes existing regional visual character, visual resources, views of the project area from important vantage points, and the changes in these views that would occur with the implementation of the proposed Calneva BESS/PSES project.

Visual resources are the natural and cultural features of the landscape that can be seen and that contribute to the public's appreciative enjoyment of the environment. Visual resources, or aesthetic impacts, are generally defined in terms of a project's physical characteristics and potential visibility, and the extent to which the project's presence would change the perceived visual character and quality of the environment in which it would be located.

This section describes the visual resources setting of the project and the appearance of the proposed Calneva BESS/PSES project after construction and analyzes the potential effects of the project on visual resources in terms of changes to the viewshed from Key Observation Points (KOPs) near the project. KOPs are strategic viewing points where there are significant numbers of public (sensitive) viewers and from which there would be a clear view of the project after construction. This analysis considers the existing visual setting and its visual character and scenic quality, the potential sensitivity of likely project viewers to changes in the viewshed, and the visibility or dominance of the project after construction.

6.1.1 Background

6.1.1.1 Regional Setting

The proposed project is located adjacent a public county roadway known as Calneva Road, in a rural section of Lassen County, and is situated on approximately 278+/- acres project lease area of unimproved range land. The proposed project lease area is in the southern end of the Honey Lake Valley along the California and Nevada state line and is situated five miles east of Herlong, six miles north of Fort Sage Mountain/Off Highway Vehicle Trails, and as such, the proposed project lease area is located on flat lands which do not possess significant natural topographic variation. The immediate surrounding area of the proposed project lease area is characterized by open range lands in all directions which allows for unobstructed views to the horizons or nearby mountains. In the surrounding area of the proposed project lease area, several natural gas line facilities, electrical transmission lines, and elevated railroad exist. Just south and west of the proposed project lease area is the Tuscarora transmission power line which has utility infrastructure with heights that reach over the range lands approximately 100 feet and can be seen from a distance, such as transmission line towers. The proposed project lease area has been used in the past as cattle grazing range land and is disturbed only by natural gas line easements. The proposed project lease area is located approximately five miles from any residential, military, commercial, or industrial land uses centered in the community of Herlong. US Highway 395 is located approximately 9 miles west of the proposed project lease area and has no view of the site due to obstructions such as Fort Sage Mountain and other topographic features which limits sight distance from this highway. To the south of the project lease area Fort Sage Mountain can be seen in the background and the base of the mountains are located approximately five miles south of the proposed project lease area. The top of the Adams Peak at 8,200 feet above sea level and Crystal Peak at 7,900 feet above sea level are approximately 15 miles from the proposed project lease area and can also be viewed from the site on a clear day. Local regional land uses which affect the visual character include: Union Pacific Railroad elevated rail bed (cuts through the middle of the proposed project lease area) and open cattle range lands/sage brush (west/south/north/east of the proposed project lease area) and Sierra Army Depot with associated structures and storage of military equipment (west of the proposed project lease area) and public utilities facilities (High Power Transmission Lines, High Pressure Natural Gas Pipelines) (south/north/west of proposed project lease area).

6.1.1.2 Local Setting

The proposed Calneva BESS/PSES project lease area is located four (4) miles north of the intersection of Calneva Road and Fort Sage Road in rural Lassen County. The lease area is dissected in the middle by a raised railroad bed which carries the Union Pacific Railroad across the lease area approximately 5 to 7 feet higher than the surrounding elevation of the lease area. The lease area is roughly rectangular in shape, with a width of approximately 4,721feet and length of 2,643 feet and is approximately 278 +/- acres in size within the parcel identified as Lassen County Assessor's Parcel Numbers (APNs) proposed project lease area north half is 137-170-12 (180 acres) and proposed project lease area south half is 137-170-13 (98 acres). The proposed project lease area is not in close proximity to any development or manmade improvement or alteration of the landscape within a distance of approximately four (4) to five (5) miles in any direction. The landscape surrounding the proposed lease area in all directions is characterized by basin in range sage brush landscape with various mountain ranges in the distance. The entire proposed project lease area is natural sage brush range lands with only four easements which disrupt the natural landscape of sage brush for the railroad and natural gas pipelines. The proposed project lease area is located within an area that is primarily undeveloped open rangeland for cattle grazing in Lassen County. In general, prominent adjoining land uses are as follows:

- **West**: Undeveloped open rangeland and Sierra Army Deport a military storage complex some five (5) miles west of the property
- **North**: Undeveloped open rangeland and Calneva dry lake bottom.
- **East**: Undeveloped open rangeland, California/Nevada State Boundary Line, and the Tuscarora Gas Line
- **South**: Undeveloped open rangeland.

The landforms in and around the proposed project lease area range from relatively flat or slightly undulating in the foreground, to low hills in the middle ground, to mountainous in the distance. The proposed project lease area is vegetated with a variety of weeds and native plants (sagebrush) and grasses. Colors and textures in the landscape would vary somewhat by season, but consist primarily of shades of green, tan, and brown in vegetation with shades of gray and black in the exposed earth. The dry lakebed bottoms provide a lighter almost white shade of soils associated with Calneva Dry Lake immediately north of the proposed project lease area.

The proposed project lease area is being repurposed from cattle open range land to a lithium battery storage area and photovoltaic energy production facilities. The proposed lease area is located within the basin and range with ostensibly null topographic relief. The estimated direction of gradient on the property slants down very gradually toward the northeast of approximately three (3) to five (5) feet across the entire site. See *Figure 3.8-1: Project Setting*, which shows the surrounding land uses to the proposed project lease area.

6.1.1.3 Regulatory Context

Federal Regulations

No federal regulations apply to the proposed Calneva BESS/PSES project 's visual resource issues.

State Regulations

California Scenic Highway Program

California's Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The State laws governing the Scenic Highway Program are found in the Streets and Highways Code Section 260, et seq. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code. A list of California's scenic highways and a map showing their locations may be obtained from the California Department of Transportation's Scenic Highway Coordinators. There

are no designated State scenic highways in the immediate vicinity of the proposed Calneva BESS/PSES project.

Local Regulations

Lassen County Scenic Resources Evaluation System

Lassen County utilizes an evaluation system to classify scenic resources. The class designations combine several evaluation elements including:

- Judgement of inherent scenic quality.
- Character and diversification.
- Sensitivity in regard to the amount and type of public exposure to the particular landscape.
- The distance at which the landscape is perceived (foreground, middle ground, or background); and
- The existing extent to which an area's scenic quality has already been impacted.

The first three (3) classifications, Classes I through III, are relative to each other and are employed to highlight landscapes having the most significant scenic resource values. The fourth classification, Class IV, is used to indicate areas in which visual elements are related more to urban-type development than to essentially natural landscape oriented scenic elements.

Class I

Class I classification is given to areas having the greatest scenic resource value because of one or more of the following features:

1. Contains distinctive landscape feature(s).
2. Is subject to significant amounts of public exposure, especially in foreground and middleground zones (i.e., along State or U.S. highways).
3. Large percentage of observers have high expectations and sensitivity for scenic quality (e.g., recreational tourists).

Class II

Class II classifications are areas having one or both of the following scenic resource characteristics:

1. Scenic value relatively common to the region.
2. Average sensitivity due to location near local travel routes and residential areas.

The scenic values of Class II areas are more-or-less common or characteristic of the region. Public exposure may be considerable, but the areas fall into a far middleground or background distance zone.

Class III

Class III classification areas have one or both of the following scenic resource:

1. Landscapes have relatively minimal scenic distinction from average scenery characteristics of the region.
2. Have low visual sensitivity because of very low levels of public exposure due to isolation of the area.

Because of topography and the lack of roads in Class III areas, the Class III areas have relatively minor amounts of public exposure. Landforms and vegetation are also generally common to the immediate region and generally lack distinctive scenic features.

Class IV

Class IV classification areas are generally "urbanized" to the extent that qualities of the natural landscape are largely secondary, visually, to the urban landscape. Visual elements are related largely to structural improvements or other man-made elements including such features as subdivisions, shopping centers, and industrial areas (unless the man-made element is of significant scenic value, e.g., a golf course or reservoir).

Lassen County General Plan

The Lassen County General Plan sets out policies for countywide land use, rural communities, growth areas, rural planned communities, industrial/commercial and employment corridor, and implementation programs. Goals and policies from the Lassen County General Plan that pertain to the Calneva BESS/PSES project area are listed below. Discussions under the general plan which may be applicable to the proposed project concerning aesthetics/visual resources are as follows:

GOAL N-23: Scenic resources of high quality which will continue to be enjoyed by residents and visitors and which will continue to be an asset to the reputation and economic resources of Lassen County.

NR78 POLICY: The County has identified areas of scenic importance and sensitivity along state highways and major County roads and has designated those areas as "Scenic Corridors". (Refer to the General Plan land use map and related designations in various area plans, which may also be regarded as "scenic highway corridors".) The County will develop and enforce policies and regulations to protect areas designated as scenic corridors from unjustified levels of visual deterioration.

Implementation Measures:

NR-U The County shall adopt policies to minimize adverse impacts which will significantly deteriorate the scenic qualities of visually sensitive areas.

NR-V Areas designated and zoned for development in scenic corridors shall be zoned as "Design Review Combining Districts" or otherwise regulated to require review and management by the County of the visual impacts of proposed development.

NR79 POLICY: The County shall continue to use "Design Review Combining Districts" to review the visual impacts of development in designated areas to minimize significant adverse impacts.

Implementation Measure:

NR-W The County shall adopt design and development standards for use in "Design Review" areas and scenic corridors to guide the consideration and management of potential significant impacts to scenic resources.

NR80 POLICY: In the course of adopting policies pertaining to scenic resources in other general plan elements and area plans, the County may consider additional and more particular policies and measures to protect scenic resources and prevent or reduce the adverse visual impacts of development in visually sensitive areas.

GOAL N-24: Protection of the scenic qualities of the county's night sky.

NR81 POLICY: The County shall maintain and enforce policies, development standards and mitigation measures to control lighting generated by development and to minimize the unnecessary adverse impacts of such lighting in the vicinity of the development and on the general scenic qualities of the night sky in the area.

NR82 POLICY: The County will encourage projects within Lassen County but outside the County's jurisdictional authority to include provisions to minimize the adverse intrusion of lighting on the surrounding area and the night sky in general.

6.1.1.5 Required Permits and Approvals

No visual resource permits are required for the proposed Calneva BESS/PSES project.

6.1.2 Methodology

A qualitative assessment of the existing and future visual environment within the project area was conducted to determine whether there would be significant impacts resulting from the construction of the Calneva BESS/PSES project. Visual elements of the proposed Calneva BESS/PSES project were evaluated in relation to the existing visual character in the vicinity of the project. Potential KOPs were reviewed within the project area and viewer sensitivities were identified.

6.1.2.1 Viewer Sensitivity

Visual perception is the basic act of seeing or recognizing an object. Physical conditions that affect perception and ability to discern details are: (1) observer distance and (2) speed. As observer distance increases, the ability to see the details of an object decreases. As observer speed increases, the sharpness of lateral vision decreases, and the observer tends to focus along the line of travel. Vehicle passengers are able to focus on the passing landscape for longer periods than the driver. Viewer groups are differentiated by the physical factors that modify perception.

6.1.2.2 Viewer Response

Changes to the visual environment are subjectively evaluated by the affected viewers. To understand and predict viewer response to the changes resulting from project construction, it is necessary to make assumptions about the viewers who may see the project and the aspects of the visual environment to which they are likely to respond. Table 6.1-1: Viewshed Ratings, below explains viewshed ratings and descriptions.

Table 6.1-1: Viewshed Ratings

Rating	Description
Outstanding Visual Quality	A rating reserved for landscapes with exceptionally high visual quality. These landscapes will be significant regionally and/or nationally. They usually contain exceptional natural or cultural features that contribute to this rating. They will be what we think of as "picture postcard" landscapes. People will be attracted to these landscapes to be able to view them.
High Visual Quality	Landscapes that have high quality scenic value. This may be due to cultural or natural features contained in the landscape or to the arrangement of spaces contained in the landscape that causes the landscape to be visually interesting or a particularly pleasing place for people. These are often landscapes which have high potential for recreational activities or in which the visual experience is important.
Moderately High Visual Quality	Landscapes which have above average scenic value but are not high scenic value. The scenic value of these landscapes may be due to manmade or natural features contained within the landscape, to the arrangement of spaces in the landscape, or the two-dimensional attributes of the landscape.
Moderate Visual Quality	Landscapes which have average scenic value. They usually lack significant manmade or natural features. Their scenic value is primarily a result of the arrangement of spaces contained in the landscape and the two-dimensional visual attributes of the landscape.
Moderately Low Visual Quality	Landscapes that have below average scenic value but not low scenic value. They may contain visually discordant manmade alterations, but the landscape is not dominated by these features. They often lack spaces that people would perceive as inviting and provide little interest in terms of two-dimensional visual attributes of the landscape.
Low Visual Quality	Landscapes with low scenic value. These landscapes are often dominated by visually discordant manmade alterations or they are landscapes that do not include spaces that people will find inviting and lack interest in terms of two-dimensional visual attributes.

6.1.3 Environmental Setting

6.1.3.1 Regional Overview

The proposed project lease area is in a historic lake bottom just south of the Calneva dry lakebed in the southern end of the Honey Lake Valley. The major natural visual characteristics of the area include a flat topography, dry lake beds, sagebrush rangeland and scattered dirt roads located along the various county roadways. Distant views of the Basin and Range mountain ranges (Fort Sage Mountain to the South), and the Sierra Nevada's are visible throughout the region.

The proposed Calneva BESS/PSES project is located within the southern end of the Honey Lake Valley region of California, which is very flat with open range lands that provide unobstructed views and unlimited sight distance in the area. Due to the cattle grazing rangeland and military industrial developed nature of the area, minimal topographic relief, and lack of natural vegetative features, the existing land uses are the strongest determining factor for visual character. The dominant visual features of the area are Sierra Army Depot military facilities and public utilities structures. The Off-Road Vehicle Trails on Fort Sage Mountain approximately six miles south of the project lease area, provides the highest point within the region to view the surrounding area and the proposed project lease area for the BESS/PSES facilities.

The high-power electric transmission lines, power substations, Sierra Army Deport military equipment storage and facilities, Union Pacific railroad through the proposed project lease area, making up the man-made visual aspects of the area. Union Pacific railroad with its raised railroad bed of approximately five feet blocks many ground views of the proposed project lease area. The isolation and limited access to the proposed project lease area restricts the number and locations of possible sensitive viewers and known observation points (KOPs). Other residential, commercial, and military areas associated with Herlong and Sierra Army Depot are located west and north approximately four miles from the proposed project lease area which also have limited views of the BESS/PSES facilities due to distance and topographic features such as the raised railroad tracks.

Because this portion of the County is developed with military installations, and public utilities infrastructure, within the remaining land being open sagebrush rangelands, the military and utilities features take on the dominate visual focus of sensitive viewers. The relative visibility of the proposed project lease area from residences, industrial, institutional, and commercial properties is low. The vantage points with the clearest views of the proposed project lease area are distant elevated locations such as from the Fort Sage Mountain Off-Road Vehicle Trails. Furthermore, the general viewshed is highly disrupted by existing man made public utilities, military installations or transportation infrastructure, ranging from the US Route 395, to military equipment stored on nearby Sierra Army Depot, high power electric transmission lines, electric distribution lines, Fort Sage and Herlong power substations, dry lake bottoms, train tracks, undeveloped cattle grazing rangelands, etc.). The minimal topographic relief does not provide the viewers with a vivid viewshed or long sight distances while in the valley area close by the proposed project lease area. As a result of the existing development in the nearby vicinity (Herlong, Sierra Army Deport), the viewer sensitivity remains low to moderately low for agricultural, military, residential, and industrial viewers, and moderate to more distant recreational viewers. As such, these viewers, who are already in an impacted viewshed, and will receive minimal, if any, impact from the proposed Calneva BESS/PSES project.

6.1.3.2 Potential Project Visibility

Identification of the proposed project's viewshed was based on review of Calneva BESS/PSES project engineering drawings, visual simulations of the project's appearance from a bird's-eye view, study of topographic maps and air photos, and extensive field observations (*See Figure* 6.1-1: *Site Elevation Plan*). The viewshed map indicates two categories of view areas: (1) those in which the proposed project lease area would likely be generally visible; and (2) those in which views toward the proposed project lease area and its ancillary facilities would likely be blocked for the most part, although it may be visible from specific locations. The boundaries of the viewshed were set to the south of the proposed lease area from the Fort Sage Mountains and associated Off-Road Vehicle Trails, where views were not otherwise blocked by

topography or other obstructions. This distance was selected because it was the only area with enough topographic relief to provide elevation to get a clear line of vision on the proposed project lease area. However, due to the distance (six miles) elements of a views will be considered part of the background—the landscape zone in which little color or texture is apparent, colors blur into values of blue or gray, and individual visual impacts become least apparent (USDA Forest Service 1973, pp. 56-57).

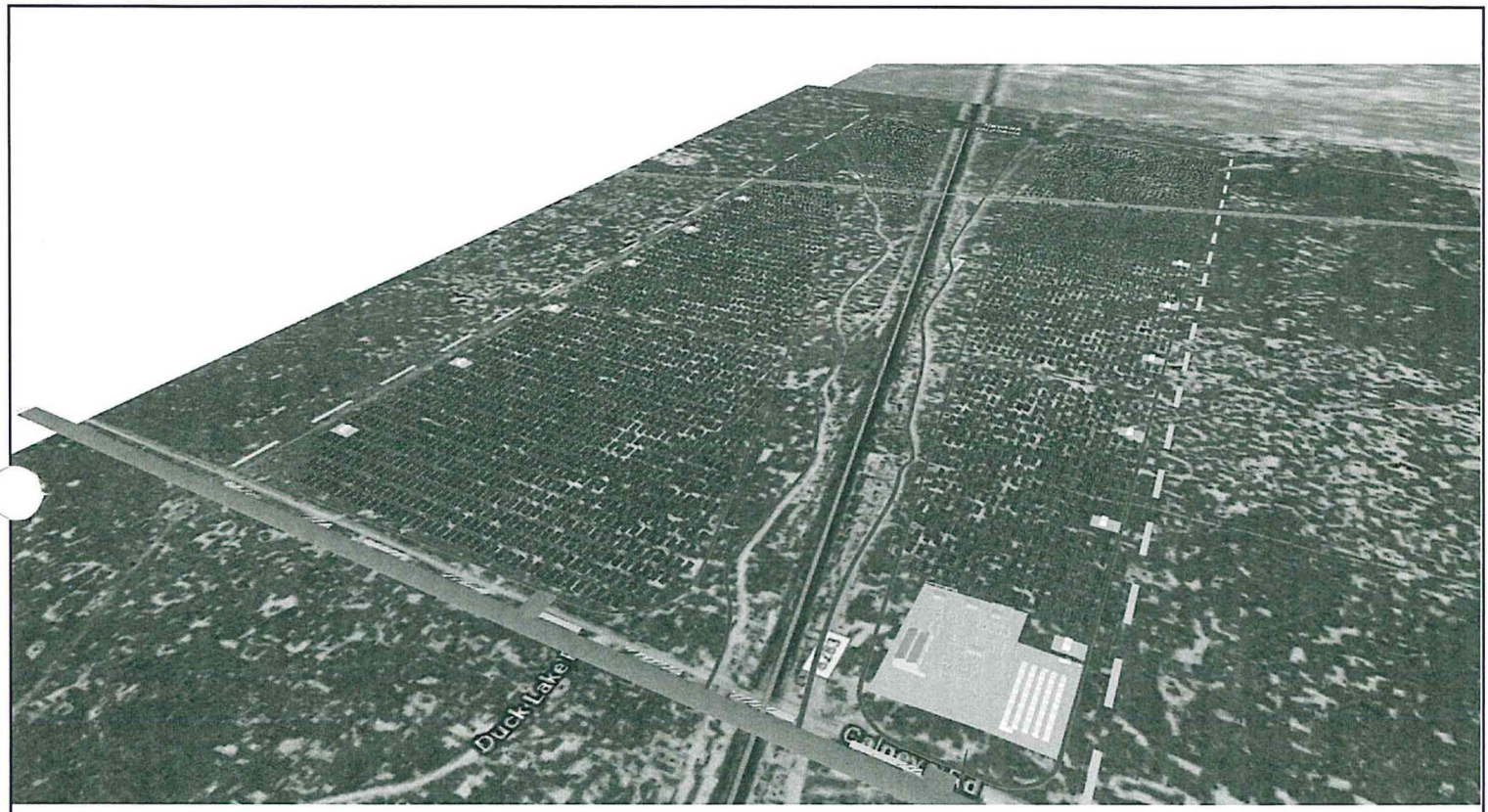
The proposed Calneva BESS/PSES project facilities due to isolation, and lack of development surrounding the proposed project lease area for a distance of four miles in all directions have no other potential sensitive viewers and thus no other KOPs. In most cases, views of the BESS/PSES facilities near the immediate vicinity would be completely or partially blocked by intervening structures (Sierra Army Depot), elevated railroad tracks, and natural features (flat terrain and sagebrush) of the area.

6.1.3.3 Sensitive Viewing Areas

Views of the proposed project lease area are limited due to flat terrain, sagebrush, vegetative growth, and surrounding military storage and elevated railroad tracks. Unobstructed views of the proposed project lease area are limited to locations of higher elevations to the proposed project lease area. The nearest sensitive viewers with potential to experience a visual impact from the proposed BESS/PSES facilities are recreational users of the off-road vehicle trails located in Fort Sage Mountains. For the purpose of determining potential visual impacts to sensitive receptors in the project vicinity, the following Key Observation Point (KOPs) was identified:

KOP - State Line Peak and Fort Sage Mountains Off-Road Vehicle Trails: All views from this KOP are in the background and will be dominated by the Sierra Army Depot, Tuscarora High-Power Transmission Line, Sierra-Plumas Rural Electric Cooperative transmission and distribution lines, Fort Sage power substation, Union Pacific Railroad, Calneva Dry Lake Bottom, and county roads in the immediate vicinity of the project area extending through the middle ground into the background. Sensitive viewers are likely to have the most substantial (defined as duration of view and predominance of the proposed BESS/PSES infrastructure) at the top of peaks such as State Line Peak. Off-road recreational drivers and hikers on Fort Sage Mountain would have unobstructed views of the BESS/PSES facilities for limited lengths of time while on ridges located south of the proposed project lease area.

Sensitive viewers traveling the Fort Sage Mountain trails would have the most direct view of the BESS/PSES facilities. From this perspective the facilities of the adjacent Sierra Army Deport, Herlong, Fort Sage Power Substation, and military buildings and equipment storage with reflective solar panels are also plainly visible in the middle ground and background, as well as large power substation structures; the towers of the high tension electric transmission line protruding from the background. Additionally, any viewer arriving at this KOP would have extended, unobstructed views of the Fort Sage power substation facilities located south of the project lease area and in the middleground of the KOP viewers, featuring numerous steel structures, insulators, box structures, chain link fencing, and poles of different shapes and sizes, and various substation equipment including transformers, switching gears, overhead power lines, etc. Due to the nature of the existing middle and back ground of this viewshed, the proposed Calneva BESS/PSES project is consistent with the visual nature of existing facilities (bulk, shape, color, texture, etc.) in the area and would not represent a significant impact to any potential viewer and no mitigation measures will be required for KOP – State Line Peak and Fort Sage Mountains Off-Road Vehicle Trails viewers. (*See Figure 6.1-2: Calneva BESS/PSES project KOP Views*)



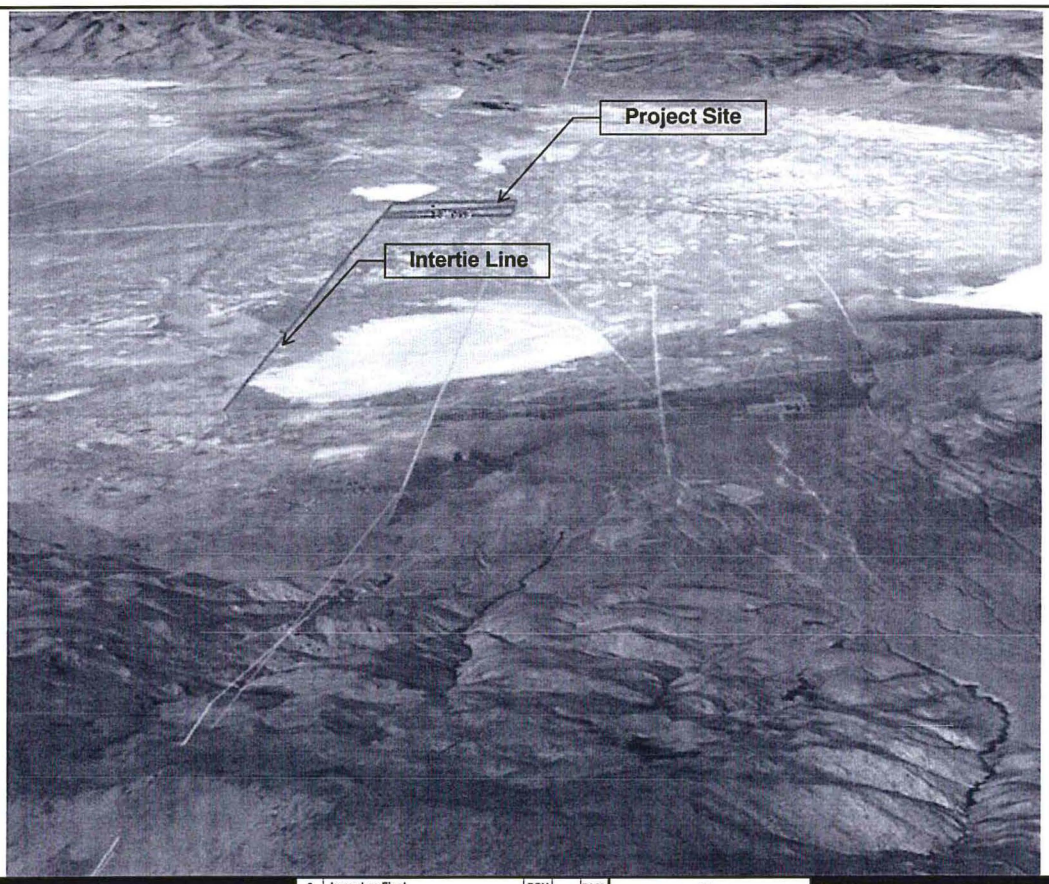
PROJECT: CALNEVA BESS/PSES FACILITY	0	Issued as Final	SCV		BLM
Calneva, CA	APNs: 137-170-012,013				
	REV.	DESCRIPTION	BY	APP.	CHKD

N
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S

FIGURE: Site Elevation Plan

DATE: 04-09-2020	SCALE: As noted above (11"x17")
BY: AKM	FIGURE: 6.1-1

SIERRA GEOTECH



KOP looking down from State Line Peak and the Fort Sage Mountains Off-Road Vehicle Trails. (Six Miles South of Calneva BESS/PSES Project Lease Area) Project Lease Area and Interconnect 120kV Line outlined in Red.

PROJECT: CALNEVA BESS/PSES FACILITY							
Calneva, CA	APN: 137-170-012, 013	0	Issued as Final	SCV		BLM
		REV.	DESCRIPTION	BY	APP.	CHKD

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FIGURE: Calneva BESS/PSES Project KOP View	
DATE: 04-11-2020	SCALE: NTS
BY: SCV	FIGURE: 6.1-2

SIERRA GEOTECH

6.1.4 Standards of Significance

An impact to aesthetics would be considered significant if the project would:

- Prove to be inconsistent with the goals and policies of the *Lassen General Plan and* the *Lassen County Scenic Resources Evaluation System*.
- Have a substantial adverse effect on a scenic vista.
- Substantially damage a major landform or scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State or County scenic highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

6.1.5 Impacts and Mitigation Measures

No significant impacts to aesthetics or visual resources were identified as a result of the proposed Calneva BESS/PSES project. As a result, project-specific mitigation measures to reduce visual impacts are not recommended.

6.1.6 Aesthetics Initial Study Responses

Table 6.1-2: Aesthetics Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☑
c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☑
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.	☐	☐	☑	☐

6.1.7 Responses to Initial Study Questions

6.1.7.1 Scenic Vistas: No Impact

The proposed Calneva BESS/PSES project would not interfere with any scenic vistas or damage any scenic resources. The existing visual character in the vicinity of the proposed project lease area is not considered scenic, and, therefore, there would be No Impact to scenic vistas.

6.1.7.2 Damages to Scenic Resources: No Impact

The proposed Calneva BESS/PSES project would not damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway. The proposed project lease area has no trees, rock outcroppings, historic structures, or other scenic resources. Lassen County utilizes a "Scenic Resources Evaluation System" which is described in the Lassen County General Plan for evaluating impacts to county scenic resources. Lassen County scenic resources evaluation system classifies scenic resources into four major scenic resources classifications Class I through Class IV. According to the Lassen County Scenic Resources Evaluation System the proposed Calneva BESS/PSES project lease area would be considered a Class III. Class III states the following:

1. Landscapes have relatively minimal scenic distinction from average scenery characteristics of the region.
2. Have low visual sensitivity because of very low levels of public exposure due to isolation of the area.

The proposed Calneva BESS/PSES project lease area is located miles from any known observation point and would be in the background for most viewers due to the isolation of the location. Only potential sensitive viewers of the proposed project lease area are from recreation users of the Fort Sage Mountain Off-Highway Vehicle Trails which is located approximately six plus miles south of the proposed lease area, which will put the proposed project in the background for these sensitive viewers. Due to the topography of the raised railroad bed running through the proposed lease area it also acts as a barrier of views, obstructing views from the foreground, and midground ranges. Due to the lack of roads (Calneva Road Only near proposed lease area), isolation and lack of sensitive viewers, landscape, landform, and vegetation of the site are common to the region with little distinction, the site is considered a Class III area under the Lassen County Scenic Resources Evaluation System. Since the existing visual character of the vicinity of the proposed lease area is not considered scenic, there will be no impact to scenic vistas or scenic resources.

6.1.7.3 Visual Character: No Impact

The proposed project lease area is currently occupied by cattle grazing range land, utility easements for natural gas pipelines, railroad trackage to adjacent Sierra Army Depot which stores military equipment and transports such equipment through the proposed project lease area, and the existing visual character will not be changed by the proposed Calneva BESS/PSES project compared to nearby Sierra Army Depot. The proposed Calneva BESS/PSES project calls for improvements with similar scale, density, and building materials as existing military-buildings, military storage yards, and nearby public utilities facilities (High Power Transmission Lines, High Pressure Natural Gas Pipelines) surrounding the proposed project lease area. There is no State or County scenic highway near to or affected by the proposed Calneva BESS/PSES project. The existing visual character of the proposed project lease area is not considered scenic; therefore, there would be No Impact.

6.1.7.4 Light and Glare: Less than Significant

The proposed Calneva BESS/PSES project would include parking, access roadway, perimeter fencing, vegetative hedge, and security lighting. No additional glare will occur from the proposed BESS/PSES facilities. The nearest sensitive receptor (Fort Sage Mountain Off-Highway Vehicle Trails) is located approximately six (6) miles south from the proposed project lease area. The Sierra Army Deport, utility facilities, uses adjacent to the proposed project lease area are existing sources of light and glare which would also be seen by sensitive viewers from the Fort Sage Mountain Off-Highway Vehicle Trails. In addition, car and truck lights associated with vehicles on Fort Sage Road produce additional sources of light and glare within the proximity of the proposed project lease area. A significant increase in light or glare in the area would not be occasioned by this BESS/PSES facilities. All lighting for the proposed Calneva BESS/PSES project would be designed so that it does not adversely impact adjacent areas. Exterior lighting will be designed with shields and light directed only onto the BESS/PSES facilities. Only lighting that is necessary for safety and operation purposes will remain on at night. Therefore, the impact is considered less than significant.

6.2 AGRICULTURE AND FORESTRY RESOURCES

This section describes the proposed Calneva BESS/PSES project as it could affect agricultural and forestry conditions and describes applicable federal, state, and local farmland conservation policies.

6.2.1 Background

6.2.1.1 Regulatory Context

California Department of Conservation's Farmland Mapping and Monitoring Program Lands

The Farmland Mapping and Monitoring Program (FMMP) was designed by the Soil Conservation Service in 1982 as a non-regulatory system that categorizes important farmland through the State of California. The goal of the program is to provide maps and data to various stakeholders to assist them in making land planning decisions about the best utilization of California's farmlands. The important farmland categories are Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance.

Williamson Act Farmlands

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments that are much lower than normal because they are based upon farming and open space uses as opposed to full market value.

6.2.2 Methodology

Information related to agricultural resources and zoning was obtained from California Department of Conservation maps, and Lassen County General Plan and Zoning District maps. Site inspection of the proposed project lease area confirmed the existing conditions of the area and the surrounding land uses.

6.2.3 Environmental Setting

6.2.3.1 Regional Overview

All parcels within a four-mile radius of the proposed project lease area are designated as non-enrolled land, meaning land not enrolled in a Williamson Act Contract and not mapped by Farmland Mapping and Monitoring Program (FMMP). The proposed project lease area consists of approximately 278 +/- acres of existing range land. These lands have a relatively low productivity of forage because of the lack of rainfall, the short growing season, and severe winters. Agricultural land is a resource of limited availability in Lassen County. Because of climatic and soil conditions of the area, farmers grow mainly forage crops such as hay or alfalfa. However, due to limited water and poor soil conditions no land within four miles of the proposed project lease area supports an agricultural crop. No land within four miles of the proposed project lease area can be considered crop land or prime grazing land. The proposed project lease area does not abut agricultural productive property or designated Williamson Act contracted land.

6.2.3.2 Study Area Setting

The Lassen County General Plan designates the proposed project lease area with "Extensive Agriculture" land use designation. The zoning classification for the proposed project lease area is A-1 General Agriculture District (A-1). The A-1 zoning district is applied to all unincorporated territory in the County not indicated specifically for other precise zoning districts. The Lassen County Zoning Code Chapter 18.16.050 "Uses Allowed by Use Permit" subsection 10 "*Uses allowed by use permit in an A-1 district shall be as follows: (10) Uses allowed by use permit in the following zones: R-1, U-C, U-C-2, and E-A.*" In Chapter 18.66.040 the E-A Exclusive Agricultural District, Uses Allowed by Use Permit states *"(7) Commercial electrical generating facilities utilizing…. solar…. if the produced power is intended for sale or distribution off premises.*" The A-1 zoning district is consistent with Extensive Agriculture land use designation of the General Plan.

The proposed project lease area has never supported agricultural production nor cattle grazing. The proposed project lease area has never supported forestry resources. The two parcels on which the proposed project lease area is of size, poor soils, and lack of water, which is not conducive to viable agricultural production. All property immediately surrounding the proposed project lease area is utilized for non-agricultural production purposes: East is access roadway and Tuscarora Natural Gas Pipeline; West is Calneva Road, a county roadway; South is open rangeland; and North is Calneva Dry Lake bottom not viable for agricultural commercial production. The proposed project lease area was historically used for non-agricultural uses, which precludes the project lease area from qualifying for Williamson Act Contract.

6.2.4 Standards of Significance

An impact to agriculture would be considered significant if the project would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

- Conflict with existing zoning for agricultural use or a Williamson Act contract; and/or

- Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use.

6.2.5 Impacts and Mitigation Measures

The construction and operation of the proposed Calneva BESS/PSES project would not require the conversion of prime agricultural land to non-agricultural uses, nor would it affect forestry resources. The proposed project lease area is situated on two parcels that have been designated as an area deemed acceptable for non-agricultural production land uses such as the proposed Calneva BESS/PSES project. The proposed project lease area is not within a Williamson Act contract for agricultural land preservation. Furthermore, there are no existing forest lands within the vicinity that would be affected by the construction of the proposed Calneva BESS/PSES project. Developing the proposed Calneva BESS/PSES project at this location would make optimal use of the existing infrastructure and public services of the County while conserving prime agricultural lands and timberlands. Locating the Calneva BESS/PSES project at this location best serves the electric grid and peaking power demands of this section of Lassen County and Northern Nevada and the Fort Sage/Herlong sub-area.

6.2.6 Agriculture and Forestry Initial Study Responses

Table 6.2-1: Agriculture and Forestry Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
AGRICULTURAL RESOURCES/FORESTRY RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☑
d) Result in the Loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☑

6.2.7 Responses to Initial Study Questions

6.2.7.1 Convert Designated Farmland: No Impact

There would not be any changes in the existing environment that could result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. The proposed Calneva BESS/PSES project would not convert farmland as none exists in the proposed project lease area. Therefore, there would be No Impact.

6.2.7.2 Zoning Conflict and Williamson Act Contract: No Impact

The proposed Calneva BESS/PSES project is zoned as A-1 General Agriculture District (A-1). The A-1 zoning district is applied to all unincorporated territory in the County not indicated specifically for other precise zoning districts. The proposed project lease area was historically used for non-agricultural uses (Railroad Corridor, Natural Gas Pipelines, County Road, Vacant Land). Therefore, there would be No Impact.

6.2.7.3 Conflict with Existing Forest Land, Timberland, or Timberland Production Zones: No Impact

The proposed Calneva BESS/PSES project would not involve other changes in the existing environment that, due to their location or nature, could result in conversion of forest land, timberland, or timberland zoned Timberland Production. The spatial relationship of the proposed project lease area relative to any such land, is such that the two land uses would not conflict. The nearest forest area is over 35 miles from the proposed project lease area, and the nearest timberland would be no closer. The proposed Calneva BESS/PSES project would therefore not involve other changes in the existing environment that could result in conversion of timberland or forest land. Therefore, there would be No Impact.

6.2.7.4 Result in the Loss of Forest Land: No Impact

The proposed Calneva BESS/PSES project is zoned as A-1 by Lassen County Zoning Code and possesses no forestlands. Furthermore, the nearest forest resources are in the Plumas National Forest which is well over 35 miles from the proposed project lease area. Therefore, there would be No Impact.

6.2.7.5 Involve Changes that Could Result in Conversion of Farmland or Forestland: No Impact

As discussed above, throughout this section, there is no existing forest or farmland under Williamson Act Contract in the nearby vicinity of the proposed project lease area that could be converted. In addition, the parcels from which the proposed project lease area is partitioned from is not eligible for a Williamson Act Contract and is buffered from the nearest suitable agricultural land by several miles, which ensures no conflicts or influence to convert agricultural lands within Lassen County. Therefore, there would be No Impact.

6.3 AIR QUALITY

This section describes the impacts of the proposed Calneva BESS/PSES Project on local and regional air quality. Sources of odor and air contaminants associated with a typical project consist of construction-related emissions (i.e., particulate matter from surface disturbance activities, such as grading and site preparation, and other short-term emissions from fuel combustion in equipment, including semi-trucks, trenchers, pavers, backhoes, and other construction equipment) and operational emissions (emissions produced in the course of operation after implementation of the completed project). Dust and fumes from increased traffic associated with construction can also reduce air quality. Presence of contaminants does not constitute an environmental or health risk unless minimum established thresholds are exceeded. Air contaminants released from construction and operational activities may include gases, particulate matter (dust), gases in diesel exhaust such as nitrous oxide, nitrogen dioxide, formaldehyde, benzene, sulfur dioxide, hydrogen sulfide, carbon dioxide, and carbon monoxide can also create health problems.

6.3.1 Background

6.3.1.1 Regulatory Context

Federal Regulations

The United States Environmental Protection Agency (EPA) is responsible for enforcing the many federal environmental and hazardous waste laws. California is under the jurisdiction of EPA Region IX, with offices in San Francisco. The federal Clean Air Act (CAA), established in 1970 and last amended in 1990, authorized the establishment of national health-based air quality standards, set deadlines for their attainment, and established actions required of areas in the nation that exceeded these standards. Under the CAA, state and local agencies in areas that exceed the National Ambient Air Quality Standards (NAAQS) are required to develop state implementation plans (SIP) to show how they will achieve the NAAQS. The EPA's responsibility to control air pollution in individual states is primarily to review submittals of SIPs that are prepared by each state. The following federal regulations and standards would apply to the proposed Calneva BESS/PSES project:

National Ambient Air Quality Standards

The EPA has set NAAQS for several air pollutants based on human health and welfare criteria. Two types of NAAQS have been established: primary standards, which protect public health; and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction. Primary NAAQS were established for the following several "criteria" air pollutants listed in Table 6.3-1.

State Regulations

In California, the California Air Resources Board (CARB) is responsible for preparing and enforcing the federally required state implementation plan (SIP) in an effort to achieve and maintain NAAQS and California Ambient Air Quality Standards (CAAQS), which were developed as part of the California Clean Air Act (CCAA) adopted in 1988. CAAQS for criteria pollutants are equal to or more stringent than NAAQS and include other pollutants for which there are no NAAQS. In addition, CARB is responsible for assigning air basin attainment and nonattainment designations in California. Air basins are designated as being in attainment if the levels of a criteria air pollutant meet the CAAQS for the pollutant and are designated as being in nonattainment if the level of a criteria air pollutant is higher than the CAAQS.

Table 6.3-1: National Ambient Air Quality Standards

Air Pollutant	Primary/ Secondary	Averaging Time	Units	NAAQS	Attainment Status
Ozone	both	8-hour	ppm	0.075	Unclassified/Attainment
Carbon monoxide (CO)	primary primary	8-hour 1-hour	ppm ppm	9 35	Unclassified/Attainment
Nitrogen dioxide (NO_2)	primary both	Annual 1-hour	ppm ppm	0.053 0.1	Unclassified/Attainment
Sulfur dioxide (SO_2)	primary secondary	1-hour 3-hour	ppm ppm	0.075 .5	Unclassified/Attainment
Fine particulate matter ($PM_{2.5}$)	primary secondary both	Annual Annual 24-hour	$\mu g/m^3$ $\mu g/m^3$ $\mu g/m^3$	12 15 35	Unclassified/Attainment
Respirable particulate matter (PM_{10})	both	24-hour	$\mu g/m^3$	150	Unclassified/Attainment
Lead (Pb)		3-month	$\mu g/m^3$	0.15	Unclassified/Attainment

[1]ppm = parts per million; $\mu g/m^3$ = microgram per cubic meter

CARB is the agency responsible for regulating statewide air quality, but implementation and administration of CAAQS is delegated to 35 regional air pollution control districts (APCD) and air quality management districts. These districts have been created for specific air basins, and have principal responsibility for:

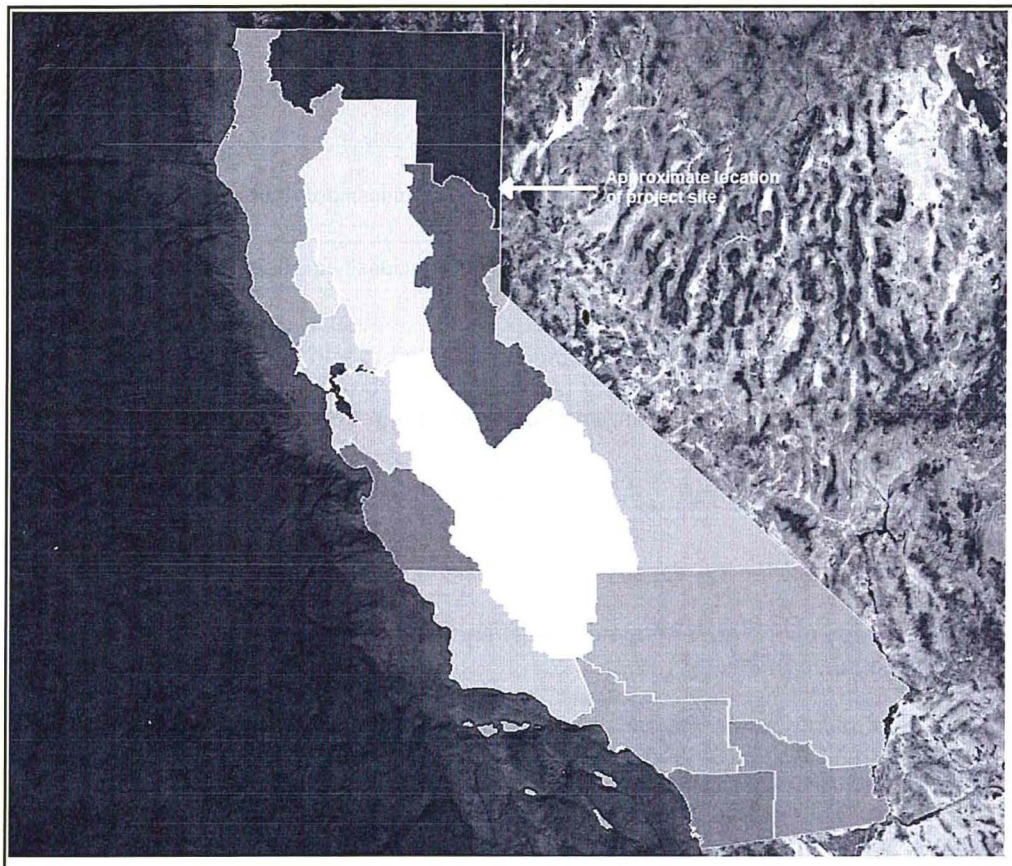
- Developing plans to meet CAAQS and NAAQS.
- Developing control measures for non-vehicular sources of air pollution necessary to achieve and maintain CAAQS and NAAQS.
- Implementing permit programs established for the construction, modification, and operation of air pollution sources.
- Enforcing air pollution statutes and regulations governing non-vehicular sources; and,
- Developing employer-based trip-reduction programs.

To regulate air pollutant emissions within California, the state has been divided into 15 air basins based upon similar meteorological and geographic conditions and consideration for political boundary lines whenever practicable. The proposed Calneva BESS/PSES project is in the Northeast Plateau Air Basin (Air Basin) which is defined generally by the Cascade and Sierra Nevada mountains to the West, extending to the border with Nevada (*See Figure* 6.3-1). This Air Basin includes Modoc, Lassen, and Siskiyou Counties, each of which having their own Air Pollution Control District (APCD). The proposed Calneva BESS/PSES project is located in a portion of the Air Basin managed by the Lassen County Air Pollution Control District (LCAPCD).

The proposed project would be subject to CARB's air quality legislation.

California Ambient Air Quality Standards

States may establish their own standards, provided the state standards are at least as stringent as the NAAQS. California has established CAAQS pursuant to California Health and Safety Code (CHSC) [§39606(b)] and its predecessor statutes. The CAAQS are provided in Table 6.3-2. The CHSC [§39608] requires CARB to identify and classify each air basin in the state on a pollutant-by-pollutant basis. Subsequently, CARB designated areas in California as nonattainment based on violations of the CAAQSs.



Legend

BASIN_NAME

- GREAT BASIN VALLEYS
- LAKE COUNTY
- LAKE TAHOE
- MOJAVE DESERT
- MOUNTAIN COUNTIES
- NORTH CENTRAL COAST
- NORTH COAST
- NORTHEAST PLATEAU
- SACRAMENTO VALLEY
- SALTON SEA
- SAN DIEGO COUNTY
- SAN FRANCISCO BAY AREA
- SAN JOAQUIN VALLEY
- SOUTH CENTRAL COAST
- SOUTH COAST

PROJECT: CALNEVA BESS/PSES FACILITY					
Calneva, CA	APNs: 137-170-012,013				
REV.	DESCRIPTION	BY	APP.	CHKD	
0	Issued as Final	SCV		BLM	

N W E S

FIGURE: California Air Basin Map

DATE: 04-09-2020	SCALE: NTS
BY: AKM	FIGURE: 6.3-1

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Table 6.3-2: California Ambient Air Quality Standards

Air Pollutant	Averaging Time	Units	CAAQS	Attainment Status
Ozone (O_3)	8-hour 1-hour	ppm ppm	0.07 0.09	Nonattainment Nonattainment/Severe
Carbon monoxide (CO)	8-hour 1-hour	ppm ppm	9 20	Attainment/Unclassified
Nitrogen dioxide (NO_2)	Annual average 1-hour	ppm ppm	0.03 0.18	Attainment
Sulfur dioxide (SO_2)	Annual average 24-hour 1-hour	ppm ppm ppm	------- 0.04 0.25	Attainment
Respirable particulate matter (PM_{10})	Annual average 24-hour	$\mu g/m^3$ $\mu g/m^3$	20 50	Nonattainment
Fine particulate matter ($PM_{2.5}$)	Annual average 24-hour	$\mu g/m^3$ $\mu g/m^3$	12 ------	Nonattainment
Sulfates	24-hour	$\mu g/m^3$	25	Attainment
Lead (Pb)	30-day average	$\mu g/m^3$	1.5	Attainment
Hydrogen Sulfide	1-hour	ppm	0.03	Unclassified
Vinyl Chloride	24-hour	ppm	0.01	Unclassified
Visibility-reducing particulates (VSP)	8-hour	-------	see note[a]	Unclassified

Note: In enough to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent

Local Regulations

The Lassen County General Plan includes the following applicable goals, policies, and implementation measures related to air quality:

Goal N-22
Air quality of high standards to safeguard public health, visual quality, and the reputation of Lassen County as an area of exceptional air quality.

NR74 Policy
The Board of Supervisors will continue to consider, adopt and enforce feasible air quality standards which protect the quality of the County's air resources. Implementation Measures:

NR-P: The County will continue to regulate the emission of pollutants within its jurisdiction through the regulations and procedures adopted for the Lassen County Air Pollution Control District.

The Lassen County Air Pollution Control District (LCAPCD) is the lead air quality regulatory agency for Lassen County, located in the Northeast Plateau Air Basin. The LCAPCD has jurisdiction over all point and area sources except mobile sources (such as motor vehicles), consumer products, and pesticides in the county. In addition to planning responsibilities, the LCAPCD possesses permitting authority over stationary sources. The LCAPCD and CARB have joint responsibility for attaining and maintaining the NAAQS and CAAQS in the Air Basin.

The LCAPCD is a CEQA Responsible Agency for the proposed Calneva BESS/PSES project. The LCAPCD sets forth rules and regulations aimed at improving basin-wide air quality. Specific rules applicable to the proposed project may include, but are not be limited to:

RULE 4:2 Nuisance
A person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury to damage to business or property.

Rule 4:3 Particulate Matter
A person shall not discharge from any single combustion source whatsoever particulate matter in excess of 0.2 grains per cubic foot of gas at standard conditions, as defined in Rule 1:2u., nor from any non-combustion source whatsoever particulate matter in excess of 0.3 grain per cubic foot of gas at standard conditions, as defined in Rule 1:2u., over a period of one hour. Compliance with this rule shall be determined by testing procedures that are in accordance with EPA Method 5.

Rule 4:11 Solid Particulate Matter
A person shall not discharge into the atmosphere from any source, solid particulate matter at a rate in excess of that stipulated by LCAPCD.

Rule 4:18 Fugitive Dust Emissions
Reasonable precautions shall be taken to prevent particulate matter from becoming airborne, including, but not limited to, the following provisions:

a. Covering open bodied trucks when used for transportation materials likely to give rise to airborne dust.
b. Installation and use of hoods, fans, and other fabric filters to enclose and vent the handling of dusty materials. Containment methods may be employed during sandblasting and other similar operations.
c. The application of asphalt, oil, water or suitable chemicals to dirt roads, material stockpiles, land clearing, excavation, grading or other surfaces which can give rise to airborne dusts.
d. The prompt removal of earth or other material from paved streets onto which earth or other material for earth moving equipment, erosion by water, or other means has been deposited.
e. The provisions of this rule shall not apply to agricultural operations

Rule 6:4 Requirements

a. Best Available Control Technology Requirements - An applicant shall apply BACT to a new source or modification of an existing source, except cargo carriers, for each affected pollutant emitted, including halogenated hydrocarbons (as defined in Section 6:3(m) of this rule).

There are no active ambient air quality monitoring stations in Lassen County; therefore, local ambient concentrations of toxic contaminants are not available. The only active ambient air quality monitoring station located in the Northeast Plateau Air Basin is the Yreka-Foothill Drive Monitoring Station (See

Table 6.3-3), located in Yreka, Siskiyou County, California, approximately 175 miles northwest of the proposed Calneva BESS/PSES project lease area. Consideration of data from "regional sites" impacted by similar natural and man-made sources is an accepted practice by the EPA. However, being located immediately adjacent to a major interstate freeway, conditions at this monitoring site are not consistent with those of the proposed Calneva BESS/PSES project lease area, a summary of ambient air quality monitoring data collected by the Yreka-Foothill Drive Monitoring Station for O3, PM2.5, and PM10 is provided in Table 6.3-3 as it is the only available "regional site".

Table 6.3-3: Ambient Air Monitoring Sites near the Proposed BESS/PSES facility

Site Name	ARB Number	Agency	Address	Pollutants Monitored[1]	Approximate Distance from Site
Yreka-Foothill Drive Monitoring Station	47861	Siskiyou County APCD	530 South Foothill Drive Yreka CA 96097	O_3, $PM_{2.5}$	175 miles

[1] O_3 = ozone; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particles; CO = carbon monoxide; NO_2 = nitrogen dioxide; TAC = toxic air contaminants

LCAPCD Thresholds of Significance

The LCAPCD has established thresholds for determining whether proposed projects in the county would have significant adverse air quality impacts. However, these thresholds, as delineated in LCAPCD Rules and Regulations Rule 6:4, apply only to stationary sources. This same rule establishes the standard to which mobile sources will be held is up to the discretion of the Air Pollution Control Officer. The only foreseeable emissions associated with the implementation of the proposed Calneva BESS/PSES project would be those associated with the construction phase and occasional, incidental vehicle travel for operations and maintenance activities. Both of which are considered mobile sources under established standards are therefore not subject to the established thresholds. However, although the Air Basin has not been shown to be in nonattainment for any criteria pollutants and the proposed Calneva BESS/PSES project does not meet the criteria to be held to statutory emissions ceilings, the established stationary source thresholds adopted by the LCAPCD have been used for context. These thresholds are provided in Table 6.3-4.

Table 6.3-4: LCAPCD Control District Thresholds of Significance

Pollutant	Threshold of Significance
Reactive organic gases	150 pounds/day
Nitrogen oxides	150 pounds/day
Sulfur oxides	150 pounds/day
Carbon monoxide	550 pounds/day
Particulate Matter ($PM_{2.5}$, PM_{10})	150 pounds/day

Required Permits and Approvals

The proposed Calneva BESS/PSES project is not subject to the LCAPCD Authority to Construct or Permit to Operate processes because the facility will have no operational emissions other than an occasional vehicle trip and therefore would not constitute an "article, machine, equipment or other contrivance, the use of which may cause the issuance of air contaminants (LCAPCD, Rule 2:0 Permits required)." Again, the

rules established by the Air District apply only to stationary sources. As a result, any emissions that might be generated during construction have no bearing on LCAPCD permit requirements.

6.3.2 Methodology

Emissions from the proposed Calneva BESS/PSES project construction and operations were estimated using appropriate methodology provided by the CARB, and EPA. To determine whether the calculated emissions and the impacts to air quality are significant environmental effects, CEQA guidelines have been addressed.

The California Emissions Estimator Model (CalEEMod) version 2016.3.2 was used to estimate construction and operations emissions. CalEEMod was developed by California Air Pollution Officers Association (CAPCOA) in collaboration with the California Air Districts and is used by jurisdictions throughout the state to quantify criteria pollutant emissions. Maximum daily pollutant emissions include emissions from worker trips, hauling trips, construction vehicle emissions and fugitive dust. The construction schedule, equipment, and numbers used to model emissions with CalEEMod reflect project plans as outlined in the project description section of this document with auto-populated default values for a project of the scale of and nature of the Calneva BESS/PSES project being used where consistent with planned project phases and limited modifications made where necessary to reflect specific BESS/PSES facility attributes.

6.3.3 Environmental Setting

Air quality is an important factor in the health and the quality of life of a community. Air pollutants have the potential to adversely affect human health, wildlife, climate, visibility, and agriculture. In recent years, awareness of the global effect of air quality has increased, and as a result, many regulations have been developed in an effort to limit air pollutant emissions, particularly in California.

AB 32 requires California to reach 2000 levels of greenhouse gas (GHG) emissions by 2010, reach 1990 levels by 2020, and have 80 percent less emissions than 1990 levels by 2050. CARB, together with the California Energy Commission and other agencies, has been developing and revising the regulation, and as of January 1, 2012, the new policies became legally enforceable.

The pollutants regulated by either the CAA or CCAA are known as criteria pollutants. Non-criteria air pollutants are not regulated by these Acts but are of concern as they may be precursors to criteria air pollutants or could also have other adverse impacts. Criteria pollutants include particulate matter, ozone (O_3), NO_x, CO, SO_2, and lead (Pb).

6.3.3.1 Regional Overview

The Northeast Plateau Air Basin, where the proposed Calneva BESS/PSES project is located, is a predominately rural area in the northeastern corner of the state of California and is generally subject to favorable air quality conditions. For most of the year, Lassen County's air quality index in is classified as "Good". Occasional events such as wildfires or inversion layers can occasionally degrade regional air quality. Primary emission sources in the region generally include motor vehicles, wood burning stoves, wildfires, prescribed fires, and fugitive dust from unimproved roads and sparsely vegetated or unvegetated lands, including dry lakebeds. Periodic emissions may also occur from agricultural activities.

6.3.3.2 Air Quality Pollutants

Ozone

Ozone is the most prevalent of a class of photochemical oxidants formed in the urban atmosphere. O_3 is formed via chemical reactions between volatile organic compounds (VOCs are referred to as ROGs throughout) and nitrogen oxides in the presence of ultra-violet radiation or sunlight. Unlike other criteria pollutants, O_3 is not emitted directly into the atmosphere by any sources; it is only formed when the precursor compounds are present. These precursor compounds (reactive hydrocarbons and NO_x) are generated by combustion sources such as factories and automobiles as well as evaporation of solvents

and fuels. The health effects of O_3 are eye irritation and deterioration of lung tissues. O_3 can damage materials such as rubber, and also harm plants, crops, and marine life.

Carbon Monoxide

Carbon monoxide is a colorless, odorless gas emitted from combustion processes. Nationally and, particularly in urban areas, the majority of CO emissions to ambient air come from mobile sources. CO can cause harmful health effects by reducing oxygen delivery to the body's organs and tissues. At extremely high levels, CO can cause death.

Particulate Matter

Particulate matter consists of solid and liquid particles of dust, soot, aerosols, and other matter that are small enough to remain suspended in the air for a long period of time. Particulate matter is regulated in two categories, based upon diameter. Course particles (PM_{10}) are between 2.5 and 10 microns in diameter and arise primarily from natural processes such as wind-blown dust. $PM_{2.5}$ are fine particles less than 2.5 microns in diameter and are produced mostly from combustion or burning. Fine particles typically have more adverse health effects, because they are small enough to absorb into the lung tissue. Particulate matter in the air is from both natural sources (wind-blown dust and pollen) and manmade sources (combustion, automobiles, field burning, factories, and road dust). A portion of the particulate matter in the atmosphere is also a result of photochemical processes. The effects of high concentrations on humans include aggravation of chronic diseases, including heart/lung disease.

Greenhouse Gases

Greenhouse gases are heat-trapping compounds that absorb and emit radiation within the thermal infrared range. This process is the fundamental cause of the greenhouse effect, which results in global climate change. The primary GHGs in the Earth's atmosphere include water vapor, carbon dioxide (CO_2), methane, nitrous oxide, O_3, and fluorinated gases (hydrofluorocarbons and perfluorocarbons). The primary sources of these GHG are as follows:

Carbon Dioxide

Carbon dioxide enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions (e.g., manufacture of cement). CO_2 is also removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

Methane

Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.

Nitrous Oxide

Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.

Fluorinated Gases

Hydrofluorocarbons (HCFCs), perfluorocarbons, and sulfur hexafluoride are synthetic, powerful greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, HCFCs, and halons). These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as High Global Warming Potential gases.

Ozone

See above definition of Ozone.

Reactive Organic Gases

ROGs are photochemically reactive gases that play a role in ozone formation. This definition excludes methane, CO, CO_2, carbonic acid, metallic carbides or carbonates, ammonium carbonates, methylene chloride, methyl chloroform and various chlorofluorocarbons, but includes VOCs. VOCs are a group of carbon-containing compounds that evaporate readily at room temperature. Examples of VOCs include trichloroethane; trichloroethylene; and *benzene, toluene, ethylbenzene, and xylene*. These contaminants typically are generated from metal degreasing, printed circuit board cleaning, gasoline, and wood-preserving processes.

VOCs can cause, eye, nose, and throat irritation; headaches, loss of coordination, nausea; and damage to the liver, kidney, and central nervous system. Some organics can cause cancer in animals; some are suspected or known to cause cancer in humans. Key signs or symptoms associated with exposure to VOCs include conjunctival irritation, nose and throat discomfort, headache, allergic skin reaction, dyspnea, declines in serum cholinesterase levels, nausea, emesis, epistaxis, fatigue, and dizziness.

The ability of organic chemicals to cause health effects varies greatly from those that are highly toxic to those with no known health effect. As with other pollutants, the extent and nature of the health effect depends on many factors, including level of exposure and length of time exposed. Eye and respiratory tract irritation, headaches, dizziness, visual disorders, and memory impairment are among the immediate symptoms that some people have experienced soon after exposure to some organics.

Sulfur Oxides

Sulfur oxides refer to a group of highly reactive gasses that includes, SO, SO_2, SO_3 S_nO, S_7O_2, and S_6O_2. Among these gasses, SO_2 is the most common and typically used as an indicator for SO_x. The largest sources of SO_2 emissions are from fossil fuel combustion at power plants (73 percent) and other industrial facilities (20 percent). Smaller sources of SO_2 emissions include industrial processes such as extracting metal from ore, and the burning of high-sulfur-containing fuels by locomotives, large ships, and non-road equipment. SO_2 is linked with a number of adverse effects on the respiratory system.

Current scientific evidence links short-term exposures to SO_2, ranging from 5 minutes to 24 hours, with an array of adverse respiratory affects, including bronchoconstriction and increased asthma symptoms. These effects are particularly important for asthmatics at elevated ventilation rates (e.g., while exercising or playing).

Studies also show a connection between short-term exposure and increased visits to emergency departments and hospital admissions for respiratory illnesses, particularly in at-risk populations such as children, the elderly, and asthmatics.

Nitrogen Oxides

The sum of nitric oxide and nitrogen dioxide is commonly called nitrogen oxides. Other oxides of nitrogen, including nitrous acid and nitric acid are part of the nitrogen oxide family. While the EPA's NAAQS covers this entire family, NO_2 is the component of greatest interest and the indicator for the larger group of nitrogen oxides. NO_2 forms quickly from emissions from cars, trucks, and buses; power plants; and off-road equipment. In addition to contributing to the formation of ground-level ozone and fine particle pollution, NO_2 is linked with a number of adverse effects on the respiratory system.

NO_x reacts with ammonia, moisture, and other compounds to form small particles. These small particles penetrate deeply into sensitive parts of the lungs and can cause or worsen respiratory disease such as emphysema and bronchitis, and can aggravate existing heart disease, leading to increased hospital admissions and premature death.

6.3.3.3 Hazardous Air Pollutants

Hazardous Air Pollutants (HAPs) are air contaminants that are known or suspected to cause acute, chronic, or carcinogenic effects to human health. They are known in some sources as TACs. According to the EPA Technology Transfer Network Air Toxics Web Site, almost 200 HAPs have been identified. The sources of

HAPs are mostly of human origin, including refineries, automobiles, gasoline stations, and painting operations.

6.3.4 Standards of Significance

An impact to air quality would be considered significant if the proposed project would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standards or contributes substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Create objectionable odors affecting a substantial number of people.

To determine whether a project has the potential to impact air quality according to any of the above criteria LCAPCD has established thresholds of significance for new and modified stationary emissions sources within the County. Should a project be found to exceed these standards, LCAPCD Rule 6:4 requires the implementation of Best Available Control Technology Requirements. The Air Basin is not classified as being in nonattainment for any criteria pollutants, therefore, more comprehensive mitigation measures have not been codified into Air District rules.

6.3.5 Impacts and Mitigation Measures

This section details potential Air Quality impacts that might arise from the construction and operation of the proposed Calneva BESS/PSES project and the mitigation measures to be implemented in association with said impacts.

6.3.5.1 Construction Impacts

Construction of the proposed Calneva BESS/PSES project is anticipated to begin in the third quarter of 2020 and would be completed by the second quarter of 2021 with the overall construction period, including commissioning and testing expected to last up to 10 months. The construction phase consists of pre-construction Best Management Practices (BMPs) site preparation, including stormwater runoff containment systems; clearing driveway and foundation areas of existing vegetation, gravel, etc.; compaction and the addition of gravel to driveway surface as needed; pour-in-place concrete footing and pad foundation installation; installation of subterranean conduit banks; delivery and placement of the battery enclosure to prepared foundation; installation of PCS, PDS, photovoltaic panels, and pad-mounted transformers; running conduit to existing utility poles; installation of safety features and security lighting; cleanup and demobilization. The system components are prefabricated. No onsite coating applications are needed for this equipment.

The emissions for the construction of the proposed Calneva BESS/PSES project were estimated using California Emissions Estimator Model (CalEEMod) Version 2016.3.2. Information concerning project construction has been taken from facility designs as outlined in the project description section of this document. Default CalEEMod values were used where applicable.

Construction activities for the project would generate temporary air pollutant emissions and fugitive dust emissions (PM10 and PM2.5) from construction equipment used in activities such as minimal site preparation, portable engines, on-site heavy-duty construction vehicles, laying of foundations, and motor vehicles transporting construction workers. Exhaust emissions from construction activities would vary daily

as construction activity levels change. Construction was assumed to take place over a 10-month period, in accordance with the construction schedule outlined in section 3.9.15.

Fugitive particulate matter emissions (PM_{10}) are the greatest pollutant of concern for a project's construction emissions. However, there is no quantified threshold provided by the LCAPCD for mobile sources. Despite this fact, BMPs would reduce any temporary issue of fugitive dust emissions from the proposed Calneva BESS/PSES project 's construction activity.

Table 6.3-8: Unmitigated Construction Emissions Estimates

Pollutant	CalEEMod Estimate	Thresholds of Significance
Reactive organic gases	2.36 pounds/day	150 pounds/day
Nitrogen oxides	19.1 pounds/day	150 pounds/day
Sulfur oxides	0.05 pounds/day	150 pounds/day
Carbon monoxide	15.34 pounds/day	550 pounds/day
Particulate Matter ($PM_{2.5}$, PM_{10})	109.59 pounds/day	150 pounds/day

6.3.5.2 Operations Impacts

Long-term emissions would be those associated with the regular operation of the proposed Calneva BESS/PSES facility after implementation. No stationary emissions would result from the solar and battery components which constitute the proposed facility. Emissions during long-term operations would be limited to vehicle trips made to maintain the facility. After commissioning and during the operational life of the facility, routine inspections and occasional maintenance would occur. Operation and security would be conducted from an offsite location, and maintenance crews would be dispatched to the site (as needed) during operations. With each operation expected to require a minimum number of personnel. Vehicle trips would therefore be minimal and likely occur outside of peak hours. Additionally, no sensitive receptors are located within the vicinity of the proposed project sensitive receptors. Furthermore, any long-term emissions that may occur from the above stated activities are considered mobile sources and are therefore not subject to Air Basin thresholds.

6.3.5.3 Odor Impacts

While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress to the public. Due to the innocuous nature of odor impacts, no requirements for their control are included in state or federal air quality regulations. Furthermore, no activities with potential to produce odors are anticipated from the operation of the Calneva BESS/PSES project. Some odors associated with emissions from diesel powered construction equipment may occur, however, such odors will be mitigated with the mitigation measures offered below. It is therefore not anticipated that the project poses a potential risk of odor impacts.

6.3.5.4 Mitigation Measures

The following mitigation measures would be implemented to control PM emissions associated with construction activities:

AQ-1: Suspend excavation and grading activity when sustained winds exceed 20 miles per hour or when gusts exceed 25 miles per hour.
Although the NOx, CO, and CO2 emissions for the construction period are within the thresholds of significance, the following mitigation measures would further reduce emissions:

AQ-2: Use alternative fuel or catalyst-equipped diesel construction equipment.
AQ-3: Minimize idling time (e.g., 10-minute maximum)

AQ-4: Replace fossil-fueled equipment with electrically driven equivalents when possible.
AQ-5: Limit or curtail construction activity during periods of high ambient pollution.

6.3.6 Air Quality Initial Study Responses

Table 6.3-9: Air Quality Initial Study Responses

WOULD THE PROPOSED PROJECT:	Potentially Significant Impact	Less-than-significant Impact with Mitigation Incorporated	Less-than-significant Impact	No Impact
AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☑	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☑	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☑
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	☑

6.3.7 Responses to Initial Study Questions

6.3.7.1 Air Quality Plan: Less than Significant Impact

The Northeast Plateau Air Basin does not currently have any documented attainment issues for criteria pollutants at either a national or state level. As a result, local guidance for emissions standards is not as detailed as in other regions of California. The Lassen County General Plan sets a general goal to maintain "exceptional air quality" and charges the Lassen County Air Pollution Control District with regulating air pollution within the jurisdiction. The proposed Calneva BESS/PSES project would have no impact to the LCAPCD's published air quality standards and it would not create or cause ongoing adverse impacts or alter the current ambient air quality status. The proposed Calneva BESS/PSES project would fully adhere to District policy ensuring no conflict with stated policy.

6.3.7.2 Air Quality Violation from Considerable Net Increase of any Criteria Pollutant or Cumulative Air Quality Impacts: Less than Significant with Mitigation

The LCAPCD does not currently have established thresholds for emissions from mobile sources within the district; all emissions entailed by the implementation of the Calneva BESS/PSES project would therefore conform to existing policy. Furthermore, all emissions fall below the established thresholds for stationary sources and, therefore, pose no significant impact. Operations at the proposed Calneva BESS/PSES

project would represent an ostensibly null increase to emissions and therefore, would not exceed the LCAPCD thresholds of significance. Therefore, air quality violations are less than significant.

The Calneva BESS/PSES project 's contribution to cumulative air quality impacts is considered significant if the project's total emissions of either NO_X or ROG exceed the long-term threshold of 25 lbs./day. The BESS/PSES facility's construction-related contributions to cumulative NO_X and ROG emissions were below this threshold. The BESS/PSES facility's contribution to cumulative air quality impacts were not cumulatively considerable, as these emissions have been incorporated into the adopted Clean Air Plan in terms of the overall emissions inventory for construction activities. Cumulative air quality impacts occur when two or more related individual impacts compound to create a net significant impact. Since all projects within the LCAPCD must comply with district rules and regulations and the less than significant level of project specific impacts, this is considered a less-than-significant impact.

6.3.7.3 Sensitive Receptors: No Impact

A sensitive receptor is defined as a location where there is a reasonable expectation of continuous human exposure to pollutants. Sensitive receptors are usually evaluated for more acute, localized pollutants (PM10, SO2, hydrogen sulfide) rather than regional pollutants such as ozone precursors (NOx and ROG). The proposed Calneva BESS/PSES project lease area is in a remote area far removed from any populations which would meet the definition of sensitive receptors. Because there are no sensitive receptors in the project vicinity, it is therefore considered that the emission of any pollutants associated with the implementation of the Calneva BESS/PSES project will have No Impact to sensitive receptors.

6.3.7.4 Objectionable Odors: No Impact

Heavy equipment operating on the proposed project lease area would emit odors during construction. However, such odors would be temporary and would cease to occur after construction. Furthermore, the isolated nature of the project lease area ensures that said odors will not be perceived by the public or sensitive receptors. The benign nature of the Calneva BESS/PSES project ensures that no unpleasant odors will result from regular operation. As such there will be No Impact from objectionable odors.

6.4 BIOLOGICAL RESOURCES

This section identifies existing biological resources, including any special-status species and sensitive natural communities, present or potentially present at the proposed project lease area. For biological resources, the study area includes a review of the project lease area and surrounding areas. There are no undisturbed, natural habitats in the proposed project area as defined in Sections 1702 (q) and (v) of Title 20 of the California Code of Regulations. The federal, state, and local regulations pertaining to biological resources within the region are described. This section describes impacts of the proposed Calneva BESS/PSES project on biological resources and measures to mitigate those impacts determined to be potentially significant.

6.4.1 Background

6.4.1.1 Regulatory Context

Federal Regulations

Federal Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (FESA) in 1973. FESA protects plants and wildlife that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Section 9 of FESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 CFR §17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land, and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of State law (16 USC §1538). Under Section 7 of FESA, federal agencies are required to consult with the USFWS and/or NMFS if their actions, including permit approvals or funding, could adversely affect an endangered plant or wildlife species or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS and/or NMFS may issue an incidental take statement allowing take of a species that is incidental to another authorized activity, provided the action would not jeopardize the continued existence of any federally listed species or result in the destruction or adverse modification of habitat of such species. Section 10 of FESA provides for issuance of incidental take permits to private parties without a federal nexus provided a habitat conservation plan is developed.

Migratory Bird Treaty Act

The federal MBTA, first enacted in 1916, prohibits any person, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatsoever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird included in the terms of this Convention . . . for the protection of migratory birds . . . or any part, nest, or egg of any such bird." (16 USC 703). As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal.

The list of migratory birds includes nearly all bird species native to the United States. The MBTA Reform Act of 2004 further defined species protected under the Act and excluded all non-native species. The statute was extended in 1974 to include parts of birds, as well as eggs and nests. Thus, it is illegal under the MBTA to directly kill, or destroy a nest of, nearly any bird species, not just endangered species. Activities that result in removal or destruction of an active nest (a nest with eggs or young being attended by one or more adults) would violate the MBTA.

State Regulations

California Environmental Quality Act

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into the regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant under CEQA such a case occurs when impacts result in an adverse alteration of existing conditions, but do not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA directs agencies to consult with the California Department of Fish and Wildlife (CDFW) on projects or actions that could affect listed species, directs the CDFW to determine whether jeopardy would occur, and allows the CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA generally parallels the main provisions of FESA, but unlike its federal counterpart, CESA applies the "take" prohibitions to species proposed for listing (called candidates by the State). "Take" is defined in Section 86 of the California Fish and Game (CFG) Code as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Section 2080 of the CFG Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. CESA allows the CDFW to authorize exceptions to the state's prohibition against take of a listed species (except for designated fully protected species) if the take of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (CFG Code § 2081).

Fully Protected Species

The State of California first began to designate species as fully protected prior to the creation of CESA and FESA. Lists of fully protected species were initially developed to provide protection to those species that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under CESA and/or FESA. The regulations that implement the Fully Protected Species Statute (CFG Code Section 4700) provide that fully protected species may not be taken or possessed at any time. Senate Bill 618, amended in 2011, allows CDFW to issue permits authorizing the incidental take of fully protected species under CESA, as long as any take authorization is issued in conjunction with the approval of a Natural Community Conservation Plan that covers the fully protected species.

California Species of Concern

In addition to formal listing under FESA and CESA, some species receive additional consideration by the CDFW and lead agencies during the CEQA process. Species that may be considered for review are included on a list of species of special concern, developed by the CDFW. The list tracks species in California whose numbers, reproductive success, or habitat may be in decline.

California Fish and Game Code

Section 3503.5 of the CFG Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such

bird except as otherwise provided by this code or any regulation adopted pursuant thereto". Disturbance activities that result in abandonment of an active bird-of-prey nest in areas adjacent to the disturbance may also be considered a violation of the CFG Code.

California Native Plant Protection Act and California Native Plant Society

The California Native Plant Protection Act of 1977 (CFG Code Sections 1900-1913) affords the California Fish and Game Commission the authority to designate native plants as endangered or rare and protects such endangered or rare plants from take. In addition, plants that are not State listed, but meet the standards for listing are also protected under CEQA (CEQA Guidelines, Section 15380). The California Native Plant Society (CNPS) maintains a list of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The definitions for each of the CNPS listings are below:

Plant Ranks
List 1A: Plants presumed extinct in California
List 1B: Plants rare, threatened, or endangered in California and elsewhere
List 2A: Plants presumed extinct in California, but more numerous elsewhere
List 2B: Plants rare, threatened, or endangered in California, but more numerous elsewhere
List 3: Plants about which we need more information — A review list

Threat Ranks
0.1: Plants are seriously endangered in California
0.2: Plants are fairly endangered in California
0.3: Plants are not very endangered in California

California Lake and Streambed Alteration Agreement

Sections 1600 through 1616 of the CFG Code require that a Lake and Streambed Alteration Program Notification Package be submitted to the CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal on which the CDFW and the applicant agree is the Lake and Streambed Alteration Agreement. Often, projects that require a Lake and Streambed Alteration Agreement also require a permit from the Corps under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the Lake and Streambed Alteration Agreement may overlap.

State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State

In accordance with the Porter-Cologne Water Quality Control Act 6 (Water Code, § 13000 et seq.), the Water Boards are authorized to regulate discharges of waste, which includes discharges of dredged or fill material, that may affect the quality of waters of the state. Waters of the state include some, but not all, features that are defined as wetlands, as well as other features, including the ocean, lakes, and rivers. These Procedures for the Discharges of Dredged or Fill Material to Waters of the State (Procedures) conform to Executive Order W-59-93, commonly referred to as California's "no net loss" policy for wetlands. In accordance with Executive Order W-59-93, the Procedures ensure that the California Water Boards' regulation of dredge or fill activities will be conducted in a manner "to ensure no overall net loss and long-term net gain in the quantity, quality, and permanence of wetlands acreage and values…"

Local Regulations

Lassen County General Plan

The Lassen County General Plan wildlife segment establishes goals and policies that aim to protect and enhance the overall health of wildlife habitats and special resource areas to maintain healthy, abundant, and diverse wildlife populations with an ecosystem approach to habitat management which also supports

multiple land uses and enhances opportunities for consumptive and non-consumptive uses of wildlife resources recognizing the economic, educational, recreational, and aesthetic benefits that said uses bring to the County.

6.4.1.2 Required Permits and Approvals

No biological resource permits are required for the proposed Calneva BESS/PSES project.

6.4.2 Methodology

6.4.2.1 Literature Review

Prior to performing the biological field survey, documentation relevant to the proposed project lease area and surrounding area was reviewed and a special-status species list was prepared for the project. The special-status species list includes species identified from record searches for the U.S. Geological Survey 7.5-minute Calneva Lake topographic quadrangle. Special-status species include all federally and State-listed endangered and threatened species, candidates for listing, species proposed for listing, fully protected species, State species of concern, species protected under other regulations (e.g., MBTA), species listed as rare or endangered by the CNPS, and species that receive special consideration during environmental review under CEQA.

Sources of information that were used to compile the species list included the USFWS and NMFS endangered species lists, the CDFW California Natural Diversity Data Base (CNDDB), and the CNPS species lists (online version) for the quadrangles listed above. (See *Figure 6.4-1* California Natural Diversity Data Map)

6.4.2.2 Field Survey

Sierra Geotech staff biologist conducted a field survey of the project area and environs on January 7th, 2020. The project locations were systematically surveyed on foot to identify all sensitive habitats and determine the potential for the project locations to support each special-status species identified from the record searches. Each species' potential for occurrence was based on the presence or absence of general habitat requirements (nesting or foraging habitat, specific soil type, permanent water source, etc.). During the field survey, all biological communities were characterized, and the observed plant and wildlife species were recorded.

6.4.3 Environmental Setting

The approximately +/- 278 acre proposed project area is predominately flat with regional habitats comprised mainly of big sagebrush, greasewood scrub, and saltgrass flats. Big sagebrush is a scrub habitat dominated by Great Basin sagebrush (*Artemisia tridentata*) and is widely distributed throughout the Great Basin, including much of California east of the Cascade-Sierra crest. Big sagebrush habitat is found in Modoc, Lassen, Mono, and Inyo counties with scattered localities along the margins of the Mojave and Sonoran Deserts at elevations of 300 to 3,000 meters. Big sagebrush habitat is found in plains, alluvial fans, bajadas, pediments, lower slopes, and valley bottoms, and along seasonal and perennial stream channels and dry washes in sandy to loamy well-drained soils. Species commonly associated with big sagebrush habitat includes hoary saltbush (*Atriplex canescens*), black brush (*Coleogyne ramosissima*), Acton encelia (*Encelia actonii*), Nevada ephedra (*Ephedra nevadensis*), green ephedra (*Ephedra viridis*), and rubber rabbitbrush (*Ericameria nauseosa*). Wildlife species observed within big sagebrush habitats include sagebrush sparrow (*Artemisiospiza nevadensis*), loggerhead shrike (*Lanius ludovicianus*), and sage thrasher (*Oreoscoptes montanus*).

Greasewood scrub is a habitat dominated by greasewood (*Sarcobatus vermiculatus*) and is widely scattered throughout the Great Basin, Mojave, and Colorado Deserts and is found in valley bottoms, dry lake beds, old lake beds perched above current drainages, stable sand dunes, and barrier beaches from 100 to 2,000 meters. Soils are usually heavy, fine textured, and poorly drained, and often alkaline and saline. Other species commonly found in greasewood scrub include iodine bush (*Allenrolfea occidentalis*), Great Basin sagebrush, hoary saltbush, spiny saltbush (*Atriplex confertifolia*), rubber

rabbitbrush, alkali heath (*Frankenia salina*) and Mohave seablite (*Suaeda nigra*). Grass species are often found in the understory.

Saltgrass flats or alkali meadow are dominated by saltgrass and consist of dense to open growth of usually low-growing perennial grasses and sedges. This community is found in inland habitats including playas, swales, and terraces along washes that are typically intermittently flooded. Soils are often fine textured, deep, and alkaline or saline. Saltgrass flats are commonly found in valley bottoms and lower portions of alluvial slopes. The soil surface often has visible salt accumulation when dry.

6.4.3.1 Special-status Species

Special status species are plant and animal groups with regulatory protection under either the federal Endangered Species Act, or the endangered species program of the California Department of Fish and Game (CDFG). ERM searched the CDFG's Natural Diversity Data Base (CNDDB) for occurrences of rare, threatened, endangered, and/or sensitive animals, plants, and natural communities. The search was conducted for the proposed project area and surrounding area within the USGS's 7.5-minute Calneva Lake quadrangle.

The Following 5 species were documented in the CNDDB within a 5-mile radius of the proposed project lease area: (1) American badger (*Taxidea taxus*); (2) prairie falcon (*Falco mexicanus*); (3) Dugway wild buckwheat (*Eriogonum nutans var. nutans*); (4) Hillman's cleomella (*Cleomella hillmanii var. hillmanii*); and (5) Nelson's evening-primrose (*Eremothera minor*). None of which are classified as threatened or endangered species at either the federal or state level.

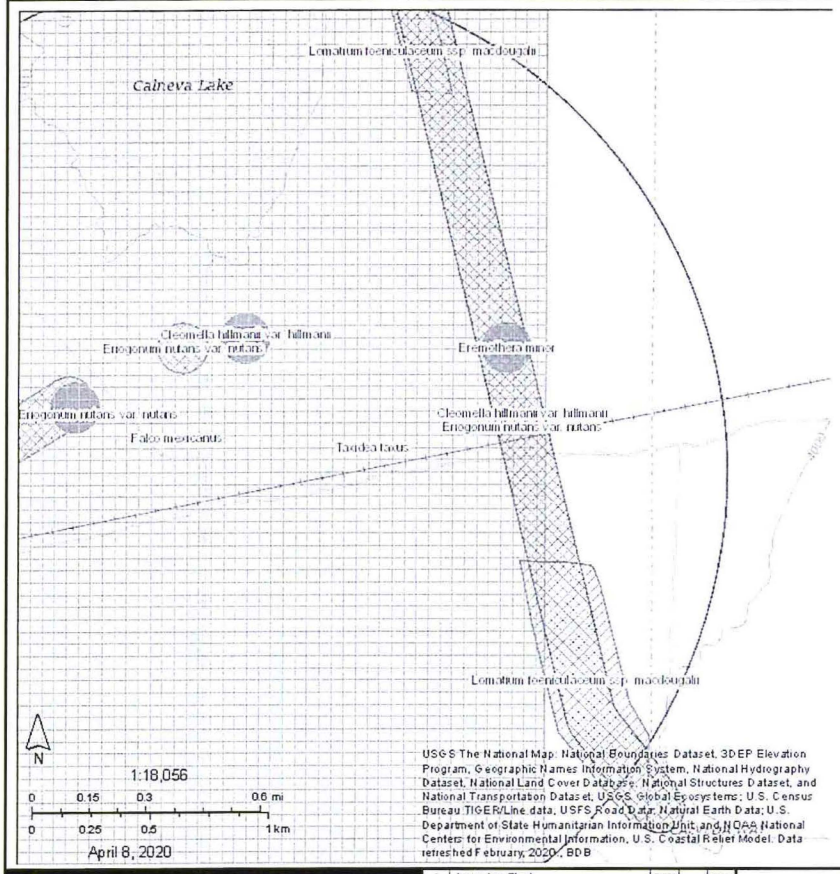
As discussed above, the special-status plant and wildlife species analyzed for the proposed Calneva BESS/PSES project were identified through the review of existing documentation relevant to the proposed project lease area and surrounding area. *Figure 6.4-1*: *California Natural Diversity Data Base Map* depicts the locations of species recorded in the CNDDB within 5 miles of the proposed project lease area.

6.4.3.2 Special-status Plants

While no federally listed endangered or threatened plant species were discovered, three (3) plant species were identified in the CNDDB search as occurring in the vicinity of the proposed project lease area. Dugway wild buckwheat and Nelson's evening-primrose are classified by the California Native Plant Society (CNPS) with a rank of 2B.3, not very threatened in California, common elsewhere; and Hillman's cleomella has a CNPS rank of 2B.2, moderately threatened in California, common elsewhere. Adhering to the mitigation measures in outlined below will ensure that the proposed Calneva BESS/PSES project would have no impact on special-status plant species.

6.4.3.3 Special-status Wildlife

While no federally listed endangered or threatened wildlife species were discovered, 2 species were identified in the CNDDB search as occurring in the vicinity of the proposed project lease area. The American badger is classified by the CDFW as a "Species of Special Concern" (SSC) and the prairie falcon is included on the CDFW's watch list (WL) and is protected by the Migratory Bird Treaty Act (MBTA). Adhering to the mitigation measures in outlined below will ensure that the proposed Calneva BESS/PSES project would have no impact on special-status wildlife species.



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset, USGS, Global Ecosystems; U.S. Census Bureau TIGER/Line data, USFS Road Data, Natural Earth Data; U.S. Department of State Humanitarian Information Unit, and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed February, 2020., BDB

California Natural Diversity Database (CNDDB) Commercial [ds85]

- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)
- Aquatic Comm. (80m)
- Aquatic Comm. (specific)
- Aquatic Comm. (non-specific)
- Aquatic Comm. (circular)
- Multiple (80m)
- Multiple (specific)
- Multiple (non-specific)
- Animal (non-specific)
- Animal (circular)
- Terrestrial Comm. (80m)
- Terrestrial Comm. (specific)
- Terrestrial Comm. (non-specific)
- Terrestrial Comm. (circular)
- Multiple (circular)
- Sensitive EO's (Commercial only)

Author: Sierra Geotech
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PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA | **APNs: 137-170-012,013**

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

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FIGURE 6.4-1: CNDDB Map

DATE: 04-09-2020	SCALE: As Shown
BY: AKM	FIGURE: 6.4-1

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6.4.3.4 Wetlands and Jurisdictional Waters

Wetlands are lands that may be covered periodically, or permanently, with shallow water, and which include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, fens, and vernal pools. A search of the United States Fish and Wildlife Service's National Wetlands Inventory Map indicates the presence of previously classified wetlands in the project vicinity. These maps indicate that the project area has historically been subject to seasonal, unconsolidated Palustrine wetlands, commonly referred to as alkali flats. USFWS documents list the characteristic vegetation and physiographic features as "salt". Additionally, Calneva lake, just north of the project lease area is identified as unconsolidated, seasonal Lacustrine feature with documented vegetation and physiographic features limited to "sand". However, on January 23rd, 2020 the EPA and Department of the Army, responding to an executive order issued by the President Donald J. Trump, finalized the Navigable Waters Protection Rule, officially redefining the criteria by which the waters of the United States are classified and establish federal regulatory authority under the Clean Water Act. Under this new rule four clear categories of waters are federally regulated:

1) The territorial seas and traditional navigable waters,
2) Perennial and intermittent tributaries to those waters,
3) Certain lakes, ponds, and impoundments, and
4) Wetlands adjacent to jurisdictional waters

Under this framework, the historically recognized wetland features no longer benefit from federal protection as they are not adjacent to any body of jurisdictional water. In response to the changing federal regulatory regime under the Trump administration, the California State Water Resources Control Board has issued new guidance for wetland protections at the state level in the form of the 2020 State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State which defines an area as a wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation. The site of the proposed project fails to meet any of these conditions and is therefore not recognized as wetland by current state or federal policy, despite USFW's documentation of historical alkali flats in the region.

6.4.3.5 Natural Areas

Natural areas include officially designated wilderness areas, wildlife preserves, sanctuaries, and refuges, wild and scenic rivers, national parks, forests, monuments, wildlife sanctuaries, preserves, refuges, and federal wilderness areas. Based on an electronic search of federal data from the Bureau of Land Management, National Park Service, National Forest Service, and Fish and Wildlife Service, no officially designated natural areas exist on or within one (1) mile of the proposed project lease area.

6.4.4 Standards of Significance

Under CEQA, an impact to biological resources is considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the CDFW or USFWS;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources such as a tree preservation policy or ordinance; and/or

- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan.

In the evaluation process, it is noted that *Section 15380* of the *CEQA Guidelines* defines endangered, rare, or threatened species as follows:

> *1)"Endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, over-exploitation, predation, competition, disease, or other factors; or*
>
> *2)"Rare" (all animals designated as rare by the Fish and Game Commission prior to January 1, 1985 were automatically reclassified as threatened by Fish and Game Code Sec. 2067) when either:*
>
> > *(a)Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or*
> >
> > *(b)The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the Federal Endangered Species Act.*
> >
> > *(c)A species of animal or plant shall be presumed to be endangered, rare, or threatened, if it is listed in:*
> >
> > > *(1) Sections 670.2 or 670.5, Title 14, California Administrative Code of Regulations; or*
> > >
> > > *(2) Title 50, Code of Federal Regulations Sections 17.11 or 17.2 pursuant to the Federal Endangered Species Act as rare, threatened, or endangered.*
> >
> > *(d)A species not included in any listing identified in subsection (c) shall nevertheless be considered to be rare or endangered if the species can be shown to meet the criteria in subsection (b).*
> >
> > *(e)This definition shall not include any species of the Class Insecta, which is a pest whose protection under the provisions of CEQA would present an overwhelming and overriding task to man as determined by:*
> >
> > > *(1) The Director of Food and Agriculture with regard to economic pests; or*
> > > *(2) The Director of Health Services with regard to health risks.*

6.4.5 Impacts and Mitigation Measures

Based on site observations conducted on January 7th, 2020, the proposed project area for the Calneva BESS/PSES facility consists of mottled shrub vegetation interspersed with patches of grass and rocky dirt; the proposed project area does not contain any wetland or riparian areas; and favorable conditions for nesting birds, badger burrows, or other specific features which might foster a favorable habitat for special status species recognized in the area were not observed. The proposed Calneva BESS/PSES project will

not have any significant impacts to biological resources or special status species. Although no evidence was observed to indicate the active presence of special-status species on the property, the following mitigation measures will ensure that conservation guidelines stipulated by public policy shall be implemented to mitigate for any project-related potential impacts.

BIO-1 Prior to ground-disturbing activities, a qualified biologist shall be retained to act as an environmental monitor for all measures requiring environmental mitigation. Their responsibilities will include: (1) ensuring that procedures for verifying compliance with environmental mitigations are implemented; (2) conducting biological surveys prior to site disturbance; (3) coordinating with contractors to avoid potential sensitive habitat areas; (4) conducting compliance monitoring; (5) conducting crew training for environmentally sensitive areas; and (6) maintaining authority to stop work if a sensitive resource could be impacted by the work.

BIO-2 Prior to ground-disturbing activities, the qualified biologist shall conduct an environmental awareness training for all construction personnel. This training shall include discussions of special-status plant species, American badger, and nesting birds. Topics of discussion shall include: description of the species' habitats; general provisions and protections afforded by FESA, CESA and CEQA; measures implemented to protect special-status species; review of the project boundaries and conditions; the qualified biologist's role in Project activities; lines of communication; and procedures to be implemented in the event a special-status species is observed in the work area.

BIO-3 Prior to any vegetation removal for the Project that occurs during the nesting season (February 15 to September 15), the qualified biologist shall conduct a nesting bird survey no more than two weeks prior to construction to determine presence/absence of nesting birds within the disturbance area. If active nests are observed, work activities will be avoided within 100 feet of active passerine nests and 300 feet of active raptor nests until young birds have fledged and left the nest. The nests shall be monitored weekly by a qualified biologist with expertise on nesting birds. The buffer may be reduced if deemed appropriate by the qualified biologist. Readily visible exclusion zones will be established in areas where nests must be avoided. Bird nests, eggs, or young covered by the MBTA and CFGC will not be moved or disturbed until the end of the nesting season or until young fledge, nor will adult birds be killed, injured, or harassed at any time. Pursuant to CFGC Section 3503.5, nests of raptors (e.g., owls, hawks, falcons, eagles) shall not be removed prior to coordination with and approval from the CDFW. If a nest of any special-status avian species is identified, all Project-related activities will cease within 500 feet of the active nest/burrow until the qualified biologist has coordinated with the USFWS and CDFW to determine an appropriate monitoring plan for working in the vicinity of the nest/burrow.

BIO-4 Prior to ground-disturbing activities, the qualified biologist shall conduct a preconstruction survey for American badger dens. The badger survey should be conducted no more than 2 weeks prior to construction. If the survey results are negative (no badger dens observed), no additional work would be necessary. If the results are positive (badger dens observed), the qualified biologist shall install a game camera at the den(s) for three (3) days and three (3) nights to determine if the den is in use. If the game camera does not capture an individual entering/exiting the den, the den can be excavated by hand. If the camera captures badger use of the den, the qualified biologist shall install a one-way door in the den opening and continue use of the game camera. Once the camera captures the individual exiting the one-way door, the den can be excavated by hand.

BIO-5 Grading plans shall clearly show the location of special-status plants and delineation fencing that excludes the special-status plant species from disturbance. The fencing shall consist of highly visible construction fence supported by steel T-stakes that are driven into the soil. The qualified biologist shall field-fit the placement of the delineation fencing to ensure that special-status plant species are excluded from the disturbance areas. The delineation fencing shall remain in-place and functional throughout the duration of the Project and no work activities shall occur outside the delineated work area. The grading plans shall clearly show all staging areas, which shall be located within the construction area and situated to avoid disturbances to special-status plant species. In some cases, avoidance of the plants may not be feasible and mitigation for the plants removed shall be implemented. The qualified biologist shall document the exact number of plants that are

removed and establish the final impact quantities. If the special-status plant species cannot be avoided, the following measures shall be implemented:

d) If the plant species to be impacted is not listed under the CESA but is listed under FESA and/or has been assigned California Rare Plant Ranks 1A, 1B, 2A, 2B, or 3, Project activities shall be delayed long enough for the qualified biologist to prepare and implement a rare plant mitigation program.

e) If the Project will impact annual special-status plant species, the rare plant mitigation program shall include collecting seed of the annual special-status plant species, storing the seed off-site, and redistributing the seed in suitable habitat on the property in the fall following Project completion.

f) If the Project will impact perennial special-status plant species, the rare plant mitigation program shall include salvaging all perennial special-status plant occurrences that would be impacted, maintaining the salvaged specimens in containers off-site, and replanting the salvaged specimens in suitable habitat on the property in the fall following project completion. Supplemental irrigation shall be applied to the salvaged plantings as needed for two years following installation of the plantings.

6.4.6 Biological Resources Initial Study Responses

Table 6.4-2: Biological Resources Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☑	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
c) Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

6.4.7 Responses to Initial Study Questions

6.4.7.1 Species Impacts: Less than Significant with Mitigation Incorporated

The entire project area is crisscrossed with road, rail, and other easements which accommodate various improvements which, despite the isolated nature of the property, have altered the natural aspect to the land it occupies. Vegetation cover is limited to mottled shrub vegetation interspersed with patches of grass and rocky dirt. Habitats contained within the project area are, therefore, less than ideal for special status species identified in the region. However, should these species appear within the bounds of the proposed project perimeter, implementation of mitigation measures BIO-1 does not occur on the proposed project lease area. Thus, there is no potential for special status plant or wildlife species to occur on the project lease area. The proposed project would not directly impact any special status species or habitat of such species. The construction of the proposed BESS/PSES facilities could possibly, however, disturb potential bird nesting in the nearby surrounding area that contain large mature trees. The mitigation measure above BIO-1, BIO-2, and BIO-4 would reduce any potential impacts to sensitive species to a less-than-significant level.

6.4.7.2 Riparian and Other Sensitive Habitats: No Impact

There are no riparian habitats or sensitive natural communities within the proposed project lease area. The proposed project lease area is highly disturbed and composed of barren land and mottled shrub vegetation. The proposed Calneva BESS/PSES project would have no impact on riparian and other sensitive habitats. No impact.

6.4.7.3 Federally and State Protected Wetlands: No Impact

There are no wetland features at the proposed Calneva BESS/PSES project lease area as defined by the United States' Navigable Waters Protection Rule or the California State Water Resources Control Board's 2020 State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (New Rule effective May 28, 2020). Therefore, the proposed Calneva BESS/PSES project would have No Impact on federally/state protected wetlands.

6.4.7.4 Interfere with Movement of Native Wildlife: No Impact

Although the proposed project lease area is along the Pacific Flyway, an established air route of waterfowl and other birds migrating between wintering grounds in Central and South America and nesting grounds in Pacific Coast states and provinces of North America, the lack of aquatic features and higher-quality vegetation communities preclude migratory bird species from using the proposed project area as a stopover during their migration. The lack of aquatic features would also preclude potential project-related impacts to resident and migratory fish. Therefore, the proposed project area does not provide wildlife movement corridors and the project will have no impact on the movement of terrestrial or aquatic wildlife.

6.4.7.5 Conflict with Local Policies: No Impact

The proposed BESS/PSES project would adhere to the proposed policies and implementation measures of all local policies or ordinances protecting biological resources. This project is consistent with Lassen County General Plan 2000 goals and policies for wildlife. Therefore, No Impact is anticipated.

6.4.7.6 Conflict with Conservation Plans: No Impact

The proposed BESS/PSES facility will comply with all conservation plans and would not conflict with any approved local, regional, or state habitat conservation plans.

6.5 CULTURAL RESOURCES

This section summarizes the Cultural Resources Inventory for the proposed Calneva BESS/PSES project dated January 2020 and reviews the potential of the proposed Calneva BESS/PSES project to impact cultural resources. Cultural resources include prehistoric and historic archaeological sites, historic-era buildings and structures, and resources of traditional cultural significance to Native Americans and other groups Figure 6.5-1: *Area of Potential Effect*, depicts the cultural-archaeological area of potential effect.

6.5.1 Background

6.5.1.1 Regulatory Context

Cultural resources in the State of California are recognized as non-renewable resources that require management to assure their benefit to present—and future—Californians. Therefore, cultural resources management work conducted as part of any proposed project must comply with applicable federal, state, and/or local regulations designed to protect the cultural heritage within the proposed project area.

Federal Regulations

National Historic Preservation Act

Enacted in 1966, the National Historic Preservation Act (NHPA) has become the foundation and framework for historic preservation in the United States. The NHPA authorizes the Secretary of the Interior to expand and maintain a National Register of Historic Places, establishes an Advisory Council on Historic Preservation as an independent federal entity, requires federal agencies to take into account the effects of their undertakings on historic properties, affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on any undertaking that may affect historic properties listed, or eligible for listing, in the National Register of Historic Places, and makes the heads of all federal agencies responsible for the preservation of historic properties owned or controlled by their agencies.

Section 106 of the NHPA governs federal regulations for cultural resources. The goal of the Section 106 process is to offer a measure of protection to cultural resources that are determined eligible for listing on the National Register of Historic Places. The criteria for determining National Register eligibility are found in 36 Code of Federal Regulations (CFR) Part 60.4.

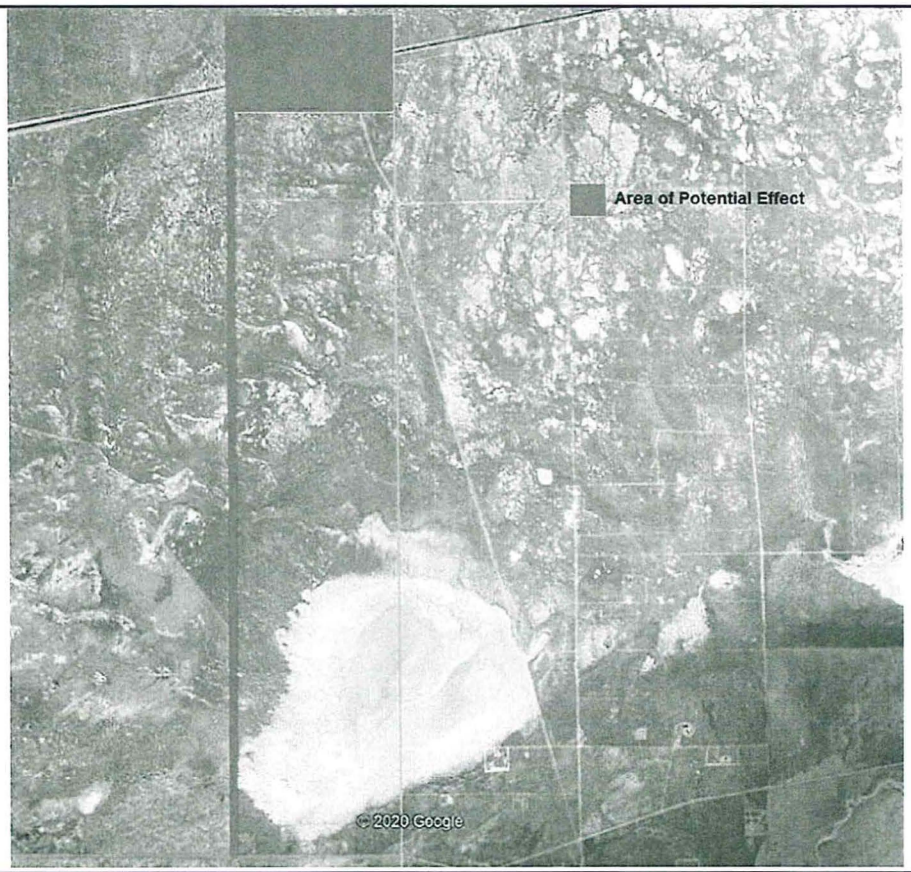
State Regulations

Discretionary actions undertaken by state or local governments in California, unless otherwise exempted, must comply with the CEQA Guidelines, Sections 21083.2 and 15064.5. Enacted in 1970, CEQA directs lead agencies to first determine whether a cultural resource is a "historically significant" cultural resource. In the protection and management of the cultural environment, CEQA Guidelines provide definitions and standards for cultural resources management. The term "historical resource" is defined as follows:

(1) A resource listed in or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources.

(2) A resource included in a local register of historical resources or identified as significant in a historical resource survey shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

(3) Any object, building, structure, site area, record, or manuscript, which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a cultural resource shall be considered by the lead agency to be



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FIGURE: Area of Potential Effect

DATE: 04-09-2020	SCALE: As Shown
BY: AKM	FIGURE: 6.5-1

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"historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources, including the following:

a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

b. Is associated with the lives of persons important in our past;

c. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

d. Has yielded, or may be likely to yield, information important in prehistory or history.

The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, or is not included in a local register of historical resources, or identified in a historical resources survey, does not preclude a lead agency from determining that the resource may be a historical resource [Title 14 CCR Section 15064.5(1) (California, 2011)]. As defined in Section 15064.5(1) of the CEQA Guidelines, a "unique archaeological resource" is: An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historical event or person [Public Resources Code Section 21083.2(g)].

A project with an effect that may cause a substantial adverse change in the significance of a historical resource or unique archaeological resource is a project that may have a significant effect on the environment per the CEQA Guidelines, Section 15064.5(b). Effects on cultural properties that qualify as historical resources or unique archaeological resources can be considered adverse if they involve physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired.

Assembly Bill 52 (AB 52) was passed on September 25, 2014 and applies to all projects that have a notice of preparation or a notice of negative declaration or mitigated negative declaration filed on or after July 1, 2015. The bill requires that a lead agency notify a California Native American tribe if that tribe has requested, in writing, to be kept informed of proposed projects by the lead agency, prior to the determination whether a negative declaration, mitigated negative declaration, or environmental impact report will be prepared, and then begin consultation if requested in the tribe's written response. The bill also specifies mitigation measures that may be considered to avoid or minimize impacts on tribal cultural resources. The CEQA Appendix G checklist was amended to add consideration of "Tribal Cultural Resources".

Per AB 52, tribal cultural resources were established as a new category of resource under CEQA. As defined under Section 21074 of the Public Resources Code, tribal cultural resources are "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either: (1) included or determined to be eligible for inclusion in the California Register of Historical Resources; included in a local register of historical resources as defined in Section 5020.1(k) of the Public Resources Code; or (2) determined by the lead agency to be significant pursuant to the criteria for inclusion in the California Register of Historical Resources set forth in Section 5024.1(c) of the Public Resources Code, if supported by substantial evidence and taking into account the significance of the resource to a California Native American tribe. A "historical resource" as defined in Section 21084.1 of the

Public Resources Code, a "unique archaeological resource" as defined in Section 21083.2(g) of the Public Resources Code, or a "nonunique archaeological resource" as defined in Section 21083.2(h) of the Public Resources Code may also be a tribal cultural resource.

The statutes and guidelines cited above specify how cultural resources are to be managed in the context of projects subject to CEQA. Archival and field surveys must be conducted and identified cultural resources must be inventoried and evaluated in prescribed ways per the CEQA Guidelines, and Section 21083.2 of the statute.

Prehistoric and historical resources deemed "historically significant" must be considered in project planning and development. As well, any proposed undertaking that may affect "historically significant" cultural resources must be submitted to the State Historic Preservation Officer for review and comment prior to project approval by the responsible agency and prior to construction. The CEQA Guidelines detail methods by which significant effects may be mitigated and discuss procedures for treatment of human remains discovered in the course of project development.

The California Office of Historic Preservation administers the California Register program, the California Register of Historical Landmarks, and California Points of Local Historical Interest programs. The State Historic Preservation Officer enforces the designation and protection process and is the head of the California Office of Historic Preservation. The California Office of Historic Preservation ensures that the state has a qualified historic preservation review commission, maintains a system for surveys and inventories, and provides for adequate public participation in its activities. The Office of Historic Preservation also administers the Certified Local Government program for the State of California.

Local Regulations

Lassen County General Plan

The following goal, policies, and implementation programs of the Lassen County General Plan are applicable to the proposed Calneva BESS/PSES project:

NR68 POLICY: The County supports promoting the discovery of resource diversity on public lands within Lassen County through the use of roads and trails on public lands for discovery experiences that introduce visitors to the County's rich diversity of natural, historic and cultural resources.

NR69 POLICY: The County supports interpretation of natural, historic and cultural resources as part of promoting visitor use of public lands.

6.5.2 Methodology

6.5.2.1 Archival Research Methods

A California Historical Resources Information System (CHRIS) records search was completed for the Project by the Northeast Information Center (NEIC) on the campus of California State University, Chico. The aim of the CHRIS search was to determine whether prehistoric or historic cultural resources have been previously recorded within the Project Area, the extent to which the Project Area has been previously surveyed, and the number and type of known cultural resources within 0.25 miles of the Project limits. The results of the CHRIS search were returned on January 9, 2020. The archival search of archaeological and historical records, national and state databases, and historic maps included the following sources:

- National Register of Historic Places: listed properties
- California Register of Historical Resources: listed resources
- Historic Property Data File (HPDF) for Lassen County
- Archaeological Determinations of Eligibility (ADOE)
- California Inventory of Historical Resources
- California Historical Landmarks

- California Points of Historical Interest
- 1867 GLO land plat maps of the Project vicinity
- 1886 USGS Honey Lake 15-minute topographic quadrangle

6.5.2.2 Native American Sacred Lands File Search

By letter dated December 16, 2019, the Native American Heritage Commission (NAHC) stated that a search of their Sacred Lands File for traditional cultural resources within or near the proposed project lease area did not identify sacred sites in the proposed project lease area vicinity. The NAHC provided a list of two tribes to be contact for more information on the potential for tribal resources in the proposed project lease area and vicinity. Project scoping letters were sent to the two tribal contacts listed by the NAHC on December 18, 2019. Follow-up phone calls were made on January 6, 2020. To date, no responses have been received. Additional information on the Native American outreach efforts is provided in Appendix E.

6.5.2.3 Field Survey Methods

An intensive pedestrian survey of the entire proposed project lease area, including the 278-acre solar field, battery storage, and substation portion, and the four-mile 120-kV Gen-Tie line along Calneva Road, was conducted by Natural Investigations archaeologists Phil Hanes and Dylan Stapleton between January 6 and 9, 2020. The survey was completed using transects spaced at intervals of no greater than 15 meters apart. During the survey, all visible ground surfaces were carefully examined for indigenous cultural materials (e.g., flaked stone tools, tool-making debris, stone milling tools, or fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), and historic period debris (e.g., metal, glass, ceramics). Ground disturbances (e.g., animal burrows, dirt roads, etc.) were also visually inspected for evidence of cultural remains. A digital camera was used to take photographs of the proposed project lease area, a Munsell® Soil Color Chart used to record soil color, and a handheld BE-3300-GPS global positioning system (GPS) unit with sub-meter accuracy was used to record locational data.

6.5.3 Environmental Setting

The Calneva BESS/PSES project area of potential effect extends approximately four miles along Calneva Road between Fort Sage Road and County Road 8283, encompassing APNs 137-170-12 and 137-170-13 at its north end, on the east side of Calneva Road. It is located within the unincorporated portion of Lassen County known as Calneva. It is surrounded on all sides by rural, undeveloped private property and is bisected from east to west by the Union Pacific (formerly Western Pacific) Railroad. The proposed project area can be found on the 1988 United States Geological Survey (USGS) Calneva Lake 7.5-minute topographic quadrangle, within Sections 35 and 36 of Township 27 north, Range 17 east of the Mount Diablo Base and Meridian. The Gen-tie line corridor can be found on the 1964 USGS Flanigan quadrangle within Section 36 of Township 27 north, Range 17 east, and the 1988 USGS Doyle quadrangle, in Sections 11, 12, 13, 14, 23, and 24 of Township 26 north, Range 17 east.

6.5.3.1 Prehistoric Overview

McGuire (2007) provides a useful summary of the prehistory of northeastern California based on a compilation of a number of previous local and regional chronological schemes and recent syntheses (e.g., Delacorte 1997; McGuire 2002; Raven 2004). As described by McGuire, and with the timeframes adjusted for modern calibration curves for radiocarbon dates, the chronological sequence for northeast California is: Early Holocene (11,500–5000 cal [calibrated] B.C.), Post-Mazama (5000–3000 cal B.C.), Early Archaic (3000–1500 cal B.C.), Middle Archaic (1500 cal B.C.–cal A.D. 700), Late Archaic (cal A.D. 700–1400), and Terminal Prehistoric (cal A.D. 1400–Historic Contact). This sequence brings together the disparate environmental and cultural zones that characterize this region, which encompasses part of three (3) physiographic provinces (Modoc Plateau, Cascade Range, and western Great Basin) and includes all or portions of five California counties (Lassen, Modoc, Plumas, Shasta, and Siskiyou). There are also important obsidian tool stone sources in Modoc and Siskiyou counties at Buck Mountain, Medicine Lake Highlands, and south Warner Mountains. Unless otherwise cited, the following description of northeast California prehistory is based on McGuire's 2007 summary.

6.5.3.2 Early Holocene (11,500–5000 cal B.C.)

Archaeological evidence for Paleo-Indian occupation of northeast California during the Early Holocene is comprised primarily of basally thinned, fluted projectile points. These points are morphologically similar to the well-dated Clovis points found elsewhere in North America. Clovis-like points have been found at five sites scattered among Lassen, Modoc, Shasta, and Siskiyou counties (Dillon 2002:113-114). At sites dating after 9500 cal B.C. that are located on former pluvial lake shorelines and other old landforms, lithic tool assemblages include large lanceolate and stemmed projectile points, chipped stone crescents, and heavy cores. Of note are the sites around the eastern and southeastern extents of Honey Lake, a present-day remnant of Pleistocene Lake Lahontan. In addition to flaked stone, the Honey Lake artifact assemblages include ground stone tools, which coupled with the remains of small game, fish, and shellfish, indicate that in addition to being highly mobile big-game hunters, Early Holocene populations also exploited other resources. This pattern of resource exploitation adaptability is further evidenced in the Mojave Desert, Sierra Nevada and northeastern California, as well as in the Great Basin, on or near the shores of former pluvial lakes and marshes or along old stream channels, where it has been collectively referred to as the Western Pluvial Lakes Tradition (WPLT) (Jones and Klar 2007; Moratto 1984; Sutton et al. 2007).

6.5.3.3 Post-Mazama (5000–3000 cal B.C.)

The terminus for Paleo-Indian occupation in this region is the 5000 cal B.C. Mazama ash fall. This ash fall, which was produced by the eruption of Mount Mazama in the Cascade Mountains of southern Oregon, covered this region and obliterated much evidence of human occupation. Post-Mazama sites in northeastern California include semi subterranean house structures, large Northern side-notched projectile points, mortars and pestles, tanged blades, and flaked stone pendants. In addition to lakeshore and valley bottom habitation, there is also evidence for occupation in the upland zones. A growing reliance on plant resources is suggested by an increase in the frequency of milling implements during the Middle Holocene (Post-Mazama and Early Archaic). South of the Madeline Plains, projectile point types such as Gatecliff and Martis-like variants exhibit a Great Basin influence. This suggests the well-watered areas along the Sierra front, such as the Honey Lake Basin, offered refuge to desert populations during the Middle Holocene warming trend.

6.5.3.4 Early Archaic (3000–1500 cal B.C.)

The Early Archaic is characterized by archaeological evidence (e.g., milling stones, mortars and pestles, and a variety of dart forms) for the first sustained occupations in northeast California at sites in Modoc, Shasta, and Siskiyou counties. On Nightfire Island, for example, clay-lined pit houses were found in a semi-permanent village setting. There is also a high degree of projectile point type variation in the region, including Gatecliff Split Stem, Elko, Siskiyou side-notched, and Martis-like variants. Along the Sierra front, there is evidence for the Martis Complex, which is well-documented in the Lake Tahoe region and extends northward into Plumas and Lassen Counties and westward into the Sierra foothills (Elston et al. 1977; 1994). The most distinguishing characteristic of the Martis Complex is the preferential use of basalt, not chert or obsidian, for the manufacture of chipped stone tools. There is also evidence for seasonal movements between the uplands in the spring and summer, and lower elevations in the fall and winter. In southeastern Plumas County, rock-lined features associated with a Martis occupation, interpreted as roasting ovens, have been found in Sierra Valley.

6.5.3.5 Middle Archaic (1500 cal B.C.–cal A.D. 700)

Archaeological evidence for occupation in northeast California during the Middle Archaic is more visible and more widespread than during the Early Archaic. Sites in Lassen County have a "proliferation of house structures, midden deposits, hearths, ovens, and burials, as well as … the richest and most diverse assemblage of artifacts and subsistence remains identified in the region" (McGuire 2007:172). Similar sites have also been identified along the Feather and Pit rivers drainages and in adjacent desert areas in Nevada. The Martis Complex continues along the Sierra front during the Middle Archaic. In upland contexts, hunting camps and features, and obsidian and basalt scatters are abundant, and suggest an increase in long-range, logistical mobility. During this period, there also appears to be an increase in obsidian and basalt quarry activity and biface production, and a corresponding increase in trade and exchange of quarried tool stone for marine shell beads.

6.5.3.6 Late Archaic (cal A.D. 700–1400)

The drought period known as the Medieval Climatic Anomaly (MCA) that lasted for 500 years from cal A.D. 900 to 1400 may have influenced the major changes in subsistence, settlement organization, and cultural assemblages that characterize the Late Archaic. A time of instability and upheaval in the western Great Basin and much of California is marked at cal A.D. 1000. Prior to this date, the archaeological record resembles that of the Middle Archaic; after this date, cultural indicators are more representative of the Terminal Prehistoric. Important Late Archaic sites are found throughout northeast California and are typically marked by Rose Spring and Gunther barbed arrow points, reflecting the advent of bow and arrow technology. Circa cal A.D. 950, brown ware ceramics also first appear in the northern part of the region. Structures generally pre-dating cal A.D. 1000 are more elaborate with central hearths, caches, and storage pits, and accompany archaeological evidence for the appearance of large villages, including on the northern shore of Honey Lake. After cal A.D. 1000, domestic features, rock rings, or living surfaces are more ephemeral. After the start of the MCA, there is also evidence for resource intensification, such as camas-root processing, a decline in the use of large game, an increase in seed and berry use, and exploitation of freshwater mussels, with a related increase in the use of upland resources.

6.5.3.7 Terminal Prehistoric (cal A.D. 1400–Historic Contact)

The key temporal markers of the Terminal Prehistoric are Desert side-notched and Cottonwood arrow points. The period witnessed large shifts in populations throughout much of northeast California that coincides with the arrival of Numic-speaking peoples (Northern Paiute) from southeastern California. The large, seasonal or semi-permanent settlements of the early Late Archaic, already abandoned, were replaced by small sites inhabited by one or a few independent households. Daily forays from residential encampments also replaced long-distance, logistical procurement of resources and tools appear to more expedient types that require little effort and are easily discarded. Although milling equipment appears to be more ubiquitous, even milling implements are less shaped than earlier periods. The settlement characteristics in the Middle Pit River and South Fork Pit River areas appear to be an exception, where occupation on major river margins shows more intensified use in residential camps. These upland habitation sites may have served as refuges from mounting group hostilities related to Northern Paiute arrival in this region.

6.5.3.8 Ethnography

The Project Area is located within the ethnographic territory of the Washoe tribe, specifically, the Northern Washoe, or *Wélmelti'* (d'Avezedo 1986; Lindström and Hall 1994). Prehistoric remains in Washoe territory are considered by the Washoe to be those of their direct ancestors. Washoe members point to the lack of an oral tradition of migration or mass movement to support that the prehistory of the lands surrounding the Tahoe Basin, from Honey Lake in the north to the headwaters of the Stanislaus River in the south, are those of the Washoe tribe (Downs 1966; Lindström et al. 2007).

There are little or no records of the Washoe until after the 1849 California gold rush and the 1858 Nevada silver strike because of the remoteness of their homelands in the high Sierra and surrounding region. Because they stayed away from early settlers, the bulk of information begins around the turn of the twentieth century. Since that time, considerable ethnographic work with the Washoe has been undertaken, and continues today (Downs 1966; d'Avezedo 1986). Their language is an isolate, with no recognizable relationships to the dominant Numic language family speakers to the east or any of the Penutian language speaking groups to the west (Mithun 2001).

The ethnographically unique Washoe engaged in a seasonal round, relying on a diverse range of resources (fish, animals, and plants) that were harvested at specific times of the year. This seasonal round was flexible depending upon the availability or abundance of resources. There was a tendency to live on the lakeshore or other lower elevation areas during colder times of year and move up to higher elevations in warmer times. Ethnographers have noted that the Washoe tended to avoid living at sacred places (Downs 1966; d'Avezedo 1986; Rucks 2011).

Permanent winter villages were established by local groups on high ground near springs and rivers, usually at the ecotone of several ecological zones. Individual, circular houses were usually 12 to 15 feet in diameter

and made of poles interlocked at the top like a cone. The sides were covered with bark slabs or thatched with grass, tule, and willow (d'Avezedo 1986). Temporary summer dwellings were dome-shaped and thatched with grass and tule. Unlike the tribes to the west, the Washoe did not construct communal sweat lodges, dance houses, or granaries. The dead were disposed of in a variety of ways, including cremation (Kroeber 1925), tree or scaffold exposure, burial under logs, or burial in remote places (d'Avezedo 1986).

Local group households usually consisted of extended, multigenerational families (d'Avezedo 1986). A headman was chosen from among the households, often with a hereditary leadership background, and frequently had marriage connections with numerous other local groups. Additional political roles among the Washoe included war leaders and the head of the communal rabbit hunt. In historic times, under European American influence, a headman might become the spokesman for several groups.

Washoe enjoyed a rich variety of local food resources in their core territory, and also dispersed as much as 20 to 40 miles in any direction outside it to collect seasonally available foods (e.g., acorns, pine nuts, spawning fishes) (d'Avezedo 1986). Trout, suckers, tui chub, white fish, and other fish were caught in large numbers from numerous lakes, including Tahoe, Mono, Walker, Pyramid, and Honey Lakes, as well as the rivers and creeks feeding these lakes. They were often dried for later use. Although mule deer, antelope, and mountain sheep were the primary big game, the greater abundance of rabbits and hares made them more important. Since the spring growing season was short in the high elevations of the Washoe core area, the community dispersed widely to make effective use of harvesting locations (d'Avezedo 1986; Downs 1966). Acorns were the main staple for the western and northern groups, whereas pine nuts filled that role in the south and east. More than 170 plants were exploited, including seeds, berries, greens and shoots, bulbs and roots, grass species, and mushrooms.

To gather, collect, and store food resources, the Washoe used a wide array of tools, implements, and enclosures. Among these were bows and arrows, traps and snares, nets, feathered and twined basketry, rock blinds for hunting mammals and birds, as well as decoys in the shape of ducks and other birds for hunting waterfowl. Communal hunting drives were organized to capture both large and small game animals using large nets and clubs. Snowshoes were made for winter hunting trips. Cedar bark and tule rafts were used for lake fishing and reaching bird eggs along the banks. Woven tools (seed beaters, burden baskets, and carrying nets) and sharpened digging sticks were used to collect plant resources (d'Avezedo 1986).

The Washoe processed and cooked food resources with a variety of tools, including baskets, wooden fire pokers, paddles for stirring mush, and implements for lifting hot stones into cooking baskets. Bountiful harvests of unprocessed acorns and pine nuts were cached in the family-held groves where they were collected. Around Honey and Pyramid Lakes, the Northern Paiute and northernmost Washoe groups jointly used black oak acorn gathering and fishing areas. Trade between the Washoe and Northern Paiute most common, but the Washoe also acquired acorns, seashells, and skins from the Wintu, and exported salt, obsidian, pine nuts, and rabbit skins to the Maidu (d'Avezedo 1986). The Washoe occasionally traveled to the Pacific coast for mussels and other shellfish (Downs 1966).

External relations with many Native American groups were not always friendly. There were frequent clashes when Washoe groups encountered the Sacramento River Valley Miwok, Maidu, and Nisenan in the foothill gathering locales, since each claimed the same resource areas. Conflicts have also been recorded with the Konkow to the southwest and the Atsugewi and Achumawi to the northwest; the Washoe would have had to cross Maidu and Northern Paiute lands to reach these groups (d'Avezedo 1986).
The Washoe had little or no contact with Europeans, except for the occasional fur trapper, until the Gold Rush and later. The 1858 silver strike in Virginia City brought miners and settlers through Washoe territory. Even after this, there is little mention of the Washoe in settler accounts for several years because they moved their camps away from European American immigrant settlements. Following attempts to drive off settlers and facing increasing attacks by Paiutes who had acquired guns and horses by the second half of the 19th century, many Washoe sought accommodations with ranchers and farmers who had appropriated their lands (d'Avezedo 1986). The Washoe soon were prevented from fishing in Lake Tahoe and other prime areas by European American commercial fisheries, while loggers cut down the piñon pine forests. Faced with such difficulties, many Washoe participated in the Ghost Dance of the 1870s, a religious

movement that diffused among Great Basin native peoples and prophesized an end to European American expansion. Later, the Peyote Cult religion gained widespread popularity and is now organized in the form of the Native American Church.

By 1859, the Washoe were urged to move to proposed reservations at Pyramid and Walker Lakes with the Paiutes, but Washoe leaders refused to take their people to the homeland of a tribe that was now their enemy. Between 1887 and 1917, the federal government, the state of Nevada, and sympathetic European Americans set aside small parcels of land for the Washoe, on mostly worthless land, including the Dresslerville, Reno-Sparks, and Carson Colonies in Nevada. In 1936 the Washoe Tribe of Nevada and California was formed under regulations of the 1934 Indian Reorganization Act and started taking political action on their own behalf. They submitted land compensation claims to the Indian Claims Commission along with other California and Nevada tribes, and received a monetary award in the 1970s, which the Washoe invested in lands and businesses (d'Avezedo 1986).

Although the Washoe escaped the waves of infectious epidemics encountered by coastal and valley tribes of California, and avoided direct contact with European American immigrants, the miners and settlers affected their traditional collecting, hunting, and fishing areas significantly. As a consequence, their numbers were reduced by 1910 to perhaps 800 from a pre-contact population estimated at 1,500 (Kroeber 1925). As of 1984, the Washoe estimated a population of 1,530 on the tribal rolls (d'Avezedo 1986). Today, the tribe has four communities—one in California at Woodfords, and three (3) in Nevada at Carson, Dresslerville, and Stewart—and shares the Reno-Sparks Indian Colony with Paiute and Shoshone tribes (Washoe 2019). The Washoe tribal headquarters is located at Gardnerville, Nevada, with tribal trust parcels in Alpine, Placer, and Sierra Counties, California, and Douglas, Carson, and Washoe Counties, Nevada.

6.5.3.9 Historic Period-Spanish, Mexican, and American Periods

Post-contact California history is divided into three (3) distinct periods: the Spanish Period (1769–1822), the Mexican Period (1822–1848), and the American Period (1848–present). Although there were brief visits by Spanish, Russian, and British explorers from 1529 to 1769, the beginning of Spanish settlement in California occurred in 1769 at San Diego. Between 1769 and 1823, twenty-one missions were established by the Spanish and the Franciscan Order along the coast between San Diego and San Francisco. A Spanish expedition led by Luis Argüello in 1821 traveled as far north from San Francisco as the Trinity River but did not venture into the northeastern extent of the state (Hoover et al. 2002).

During the Mexican Period a large number of significant land grants issued, mainly in the interior of the state, although none were awarded in Lassen County. The period was also characterized by the explorations of American fur trappers west of the Sierra Nevada Mountains. The largest land grants in the Sacramento Valley were awarded to John Sutter who had become a Mexican citizen. In 1839 he founded a trading and agricultural empire called New Helvetia that was headquartered at Sutter's Fort near the divergence of the Sacramento and American rivers in today's City of Sacramento. In 1826, Jedediah Smith was the first trapper to enter California over the Sierra Nevada (Beck and Haase 1974; Hoover et al. 2002).

The American Period was initiated in 1848 with the signing of the Treaty of Guadalupe Hidalgo, which ended the Mexican American War (1846–1848) and rendered California a territory of the United States. Gold was discovered at Sutter's Mill on the American River in Coloma the same year, and by 1849, nearly 90,000 people had journeyed to the gold fields to stake their claim. In 1850, largely as a result of the Gold Rush, California became the thirty-first state. Four years later, the bustling boomtown of Sacramento became the state capital.

With completion of the transcontinental railroad in 1869, use of the California-Oregon Trail declined. Since the 1840s the trail had been the main artery of travel for westward bound emigrants to the California gold fields. It had several significant branches or cutoffs such as Nobles Trail through Honey Lake Valley and brought people and supplies from Missouri river towns to California and Oregon on a long, arduous 2,000-mile (3,218-km) route. Travel along these paths became faster, cheaper, and less dangerous by railroad (Gillion 2017).

Lassen County was organized in 1864 from parts of Plumas and Shasta counties and was named for pioneer Peter Lassen. The county and Susanville were founded by Isaac Roop, who was the first American settler in Honey Lake Valley. Emigrating from Maryland, Roop settled in the valley in 1853. Peter Lassen discovered gold in the valley two years later. Men from the Feather River mining region moved to the valley on the heels of Lassen's discovery (Hoover et al. 2002).

6.5.3.10 Local History

Peter Lassen immigrated to California from Denmark in 1840, befriended John Sutter, and in 1844 was granted 22,206-acre Rancho Bosquejo in what is now Tehama County. He established the cutoff of the California-Oregon Trail, known as the Lassen Trail, shortly after the discovery of gold in 1848 at Coloma. The trail followed the Pit River and ended at the present-day town of Vina on the Sacramento River within Lassen's rancho. In 1855 Lassen developed an interest in the Honey Lake region, where he prospected and discovered gold (Hoover et al. 2002).

When Isaac Roop emigrated from Maryland in 1851, he traveled on the branch of the California-Oregon Trail traversing Honey Lake Valley known as Nobles Trail. The branch was established in 1852 by William H. Nobles and passed directly through Susanville. Nobles had raised $2,000 to survey a wagon road over the new route. The trail began at the Humboldt River in Nevada, continued westward toward Honey Lake, and terminated at the town of Shasta in Shasta County. US Highway 395 into Susanville is near the old route (Hoover et al. 2002).

In 1856, about 20 original settlers met at Roop's cabin in Susanville and formed Nataqua Territory, which was outside the then-eastern boundary of California. Roop was appointed as secretary and recorder, with Lassen as surveyor. The short-lived, unofficial Nataqua Territory included Honey Lake Valley, and a portion of what is now northeastern California and northwestern Nevada, extending about 25 miles south of Lake Tahoe. In 1861, when Congress authorized the creation of Nevada Territory, Honey Lake Valley was split between California and Nevada (Hoover et al. 2002).

The City of Susanville is the Lassen County seat. In 1857, Susanville (formerly Rooptown) was named after Isaac Roop's daughter, as was the Susan River that flows past Susanville. Roop's Fort was built in 1854 as a trading post and ranch on the Nobles Trail. Overlooking Paiute Creek, the settlement is also known as Fort Defiance for the singular role it played in the three-day Sagebrush or Boundary Line War of 1863. The brief skirmish was waged by the original Honey Lake Valley settlers against Plumas County officials and was rectified when Lassen County was established in 1864. The fort is a California Historical Landmark (CHL No. 76) and is listed in the NRHP. The Susanville post office was established in 1860 and the town was incorporated in 1900 (Hoover et al. 2002; City of Susanville 2019).

6.5.3.11 Calneva BESS/PSES Project Area History

A review of the USGS Mineral Resource Data System (MRDS) shows that no historical mining claims have been documented within one mile of the Project Area (USGS 2019). Additionally, no historical properties are listed in the California Inventory of Historic Resources in or near the Project location (OHP 2019). The 1867 Bureau of Land Management (BLM) General Land Office (GLO) plat maps of the vicinity show the Project Area to be completely undeveloped by that time (GLO 1867a; 1867b).

A review of historical topographic maps and aerial imagery shows that the Project Area has been subject to very little later development. The 1886 USGS Honey Lake 15-minute topographic quadrangle shows the Project Area to be completely undeveloped (USGS 1886). The 1954 USGS Doyle 15-minute topographic quadrangle shows that the Western Pacific Railroad line has been constructed on the north end of the Project Area by that time, along with County Road 8283, Duck Lake Road, and Calneva Road, though all the roads appear to be unpaved. Along the County Road, just east of Calneva Road, three (3) structures and a well are present within the planned solar field area (USGS 1954). These may relate to Calneva Station (PM 378.34), which was part of the Fifth Subdivision of the Western Pacific Railroad line completed in Honey Lake Valley by 1909 (Guernsey 1917). They appear to still be in place by 1962 when an aerial photograph of the location was taken (NETR 2019). The Sierra Ordinance Depot, now the Sierra Army

Depot, is also depicted on the Doyle map of 1954. The 1988 Calneva Lake 7.5-minute quadrangle shows that the structures and well once along the County Road have been removed (USGS 1988).

6.5.3.12 Western Pacific Railroad

The Western Pacific Railroad, acquired by Union Pacific Railroad in 1983, was completed through Honey Lake Valley and the Project Area by 1909. This segment of the railroad line, known as the Fifth Subdivision of the Eastern line or Stateline, extended northeastward from Hackstaff to the Nevada state line (Moody 1985; Myrick 1962). A preliminary evaluation of this segment of the railroad found that it is likely eligible for listing on the NRHP for its association with the history of transportation and settlement in the region (Reno 1993). Calneva Station (Postmile 378.34) in eastern Honey Lake Valley was the last stop along the segment (Guernsey 1917; Brown 1940) and was located within the solar field portion of the Project Area. The site of Calneva Station has been formally recorded as P-18-001698 (Nelson et al. 1993).

6.5.3.13 Honey Valley School District

Following the construction of the Western Pacific Railroad through Honey Lake Valley, residents of the small but growing community petitioned for the formation of a school in January of 1910, because the nearest existing school was twelve miles northwest in Amedee and difficult for students to reach. In November of that year the petition was approved, and the Fairview District School was built in the center of the district. As Lassen County historian Tim Purdy describes, with the establishment of the railroad through Honey Lake Valley, "*Calneva experienced a boom of sorts, and separated from Fairview to form the Fort Sage School. Fairview continued on even as the population dwindled and in 1936 the school closed for a lack of students*" (Purdy 2018). See *Figure 6.5-2: Letter Approving Fort Sage School*, for letter from the Honey Lake Board of Supervisors approving Fort Sage School in Calneva and identifying location within the proposed Calneva BESS/PSES project area. Purdy reports that on January 6, 1915, the residents of Calneva petitioned for the establishment of their own school and had by that time 19 students eager to attend. On February 2, 1915 the request was approved, and the Fort Sage School District began formal enrollment. Classes were first held at a small one-room building on the Harry Hill homestead. The building was located within the Project Area on the eastern side of the southern solar field (Figure 2). The school was later moved to a larger building at the center of the district known as the Aldrich House. Enrollment at the school declined rapidly and, in the summer of 1918, the school was on the verge of closure. Though the trustees convinced County Superintendent of Schools, Julia A. Norwood, to keep the school open briefly with the promise that new students would enroll the following year, the school was closed in 1924. Purdy notes that, "in 1926 the furniture from the school was purchased by the Janesville School District. But, like the proverbial phoenix, the name was resurrected in November 1986. The voters of the Herlong and Long Valley School Districts approved the consolidation of the two schools and the new district was named the Fort Sage Unified School District" (Purdy 2017).

Susanville, Lassen Co., Cal.

Jan. 20, 1915.

To the Hon. Board of Supervisors of Lassen Co. Cal.,

Gentlemen:

I approve the petition for the formation of the Fort Sage School District.

I would suggest that the description of the boundaries as set forth in the petition be changed to read as follows:-

Beginning at the north-east corner of Section Thirty-six (36) Township Twenty-seven (27) North, Range Seventeen (17) East,

PROJECT: CALNEVA BESS/PSES FACILITY		0	Issued as Final	SCV	BLM
Calneva, CA	APNs: 137-170-012,013	REV.	DESCRIPTION	BY	APP. CHKD

N W E S

FIGURE: Letter Approving Fort Sage School

DATE: 04-09-2020 SCALE: NTS

BY: AKM FIGURE: 6.5-2

SIERRA GEOTECH

6.5.3.14 Summary of Known Cultural Resources and Significant Findings

No Native American archaeological or ethnographic resources were identified during the survey. One previously recorded multi-component site (P-18-001698) was relocated and its boundaries expanded based on the distribution of newly identified artifacts and features related to the resource. The existing site records were updated using California Department of Parks and Recreation (DPR) 523 Series forms. The updated site forms are provided in Appendix B of the Cultural Resources Assessment for Calneva BESS/PSES Project found in Appendix E.

The Calneva BESS/PSES project area extends approximately four miles along Calneva Road between Fort Sage Road and County Road 8283, encompassing APNs 137-170-12 and 137-170-13 at its north end, on the east side of Calneva Road. It is located within the unincorporated portion of Lassen County known as Calneva. It is surrounded on all sides by rural, undeveloped private property and is bisected from east to west by the Union Pacific (formerly Western Pacific) Railroad, though the railroad is entirely outside of the Project Area. Disturbances related to recurrent looting, flooding, pipeline installation, and off-highway vehicle (OHV) use, were noted across much of the northern portion of the Project Area. Vegetation was comprised of bitterbrush, spiny hopsage, greasewood, rabbitbrush, tumbleweed, and annual grasses.

Visibility at the time of survey was excellent (75-100%) with the exception of the final day of survey when visibility was reduced to poor (1-25%) by snow cover following a storm. Terrain within the Project Area was flat, with slopes of 1%.

P-18-001698-Calneva Station

This multi-component site was previously recorded as a historical railroad maintenance station (designated Area A) and farmstead with a minor prehistoric component made up of three (3) lithic artifacts (designated Area B; Nelson et al. 1993). A larger debris field surrounding Area A was documented as Area H. Area B of the site extends westward from Calneva Road and is entirely outside of the Calneva BESS/PSES project area. Only Areas A and H are located within boundaries of the proposed Calneva BESS/PSES project lease area, encompassing much of the solar field and battery storage portions of the BESS/PSES facilities footprint. For these reasons, only Areas A and H were surveyed. Area B of the site was not surveyed as part of the present assessment. See Figure 3, on page 22 of the Cultural Resources Technical Report found in Appendix E.

Area A is associated with the Western Pacific Railroad's Calneva Station which dates to around 1909 when the Fifth Subdivision of the Eastern or State line between Hackstaff and the Nevada border was completed (Moody 1985). Area A contains the remnants of a well and other minor structural features, discrete artifact concentrations, and widely dispersed historical refuse (Area H), all related to the construction and maintenance of Calneva Station. Areas A and H were revisited and the site records for the resource were updated with information on two previously unrecorded constituent features and its present condition which appears to have deteriorated since its original recording See Figure 3, on page 22 and Appendix B of the Cultural Resources Technical Report found in Appendix E.

Among the previously recorded archaeological features within Areas A and H are structural remnants such as concrete pilings, foundations elements (see photographs in Cultural Resources Technical Report found in Appendix E), a 12-inch well casing (Features A-1, -4 and H-9; Photograph 6), a level graveled terrace with rock alignments (Feature A-7); negative spaces such as a bulldozer cut (Feature A-6), several rectangular depressions (Feature A-8 and -10), and numerous looter pits (Features A-12 and -17; Photograph 7); and debris concentrations including two small coal mounds (Feature A-13) and refuse scatters of varying size, density, and condition (Features A-3, -11, -14, -18, -20, -21, H-1, -2, -5, -6, -8, -10, -11, -13, -14, -15, -16, -17, and -18; Photograph 8).

Sparse early-to-mid 20th century historical refuse is ubiquitous across most of Areas A and H and is mixed throughout with modern garbage and other debris. Among the notable historic artifact types represented at the site are structural materials such as flat window glass shards, milled lumber, and wire nails; food related items such as glass bottles, hole-in-cap cans (Photograph 9), white improved earthenware (WIE), ornate porcelain ceramic dish sherds (Photograph 10), kitchen utensils, and food containers (Photograph 11);

domestic items such as clocks parts and toys; clothing items such as shoes (Photograph 12); and a possible machinery part. Tin cans and structural materials dominate the assemblage. The original site records suggested that Area H likely continues south beyond the railroad tracks, but due to access restrictions, this could not be confirmed during the initial survey (Nelson et al. 1993). The presence of sparsely distributed historical and modern refuse south of the tracks was confirmed during the present assessment, with debris found to extend approximately 750 feet further southeast of the originally recorded site boundaries. Additional refuse and two artifact scatters were also noted further north, east, and west of the original boundaries as well.

Two previously unrecorded archaeological features were identified during the revisit to the site. Both are historical artifact scatters identified north of the original boundary of the site (Figure 3 in Cultural Resources Technical Report in Appendix E). As they constitute a continuation of Area H (the larger debris field surrounding former Calneva Station) the features were assigned "H" numbers- Features H-19 and H-20 respectively- continuing the sequence of designations assigned by Nelson et al. (Nelson et al. 1993).

H-19

Feature H-19 is located approximately 400 feet north of the originally recorded boundary of site P-18-001698 (Figure 3). It is a historical refuse scatter containing approximately 60 artifacts, mostly ferrous metal cans (Photograph 13). Artifacts cover an area of approximately 2330 square feet (0.05 acres). They include more than 50 hole-in-cap cans and can fragments; three (3) amethyst bottle glass shards, one with an embossed maker's mark reading "SYRU[P]"; three (3) unmarked WIE dish sherds; two ferrous metal tobacco tins; one ferrous metal KC brand baking powder tin with maker's marks reading, "KC BAKING POWDER/ SATISFACTION GUARANTEED/ 25 CTS"; and one modern five-gallon paint can. The age of constituents corresponds well with the overall age of the site, c.1910-1940, though some modern debris was mixed together with the historical refuse.

H-20

Feature H-20 extends eastward from Calneva Road, just north of the original site boundary (Figure 3). It is a mixed refuse scatter containing historical and modern debris (Photograph 14). Like H-19, it is dominated by ferrous metal cans, but contains other artifact types in smaller numbers. It covers a broad area of roughly 0.4 acres. Among the historical artifacts present are 30+ hole-in-cap cans and can fragments; 30+ sanitary cans; 10+ amethyst bottle glass shards; 10+ aqua-blue bottle glass shards; 10+ aqua-green bottle glass shards; 10+ amber bottle glass shards; three (3) olive bottle glass shards; two porcelain ceramic dish sherds; two small ferrous metal pails; one milk glass dish shard; one steel pot lid; one ferrous metal jerry can; and one barrel with internal friction lid. Modern refuse mixed together with historical material includes Budweiser beer bottles and bottle glass shards, paint cans, and vehicle related items such as a hydraulic tube and brake fluid can.

6.5.4 Standards of Significance

CEQA guidelines Section 15064.5 defines historical resources as:

- A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources;

- A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant; or

- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the

lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources.

Determination of the significance of impacts to archaeological resources was made in accordance with Section 15064.5 of CEQA which indicates that the project's impact to cultural resources would be considered significant if it would:

- Cause a substantial adverse change in the significance of a historical resource;
- Cause a substantial adverse change in the significance of unique archaeological resource;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; and/or
- Disturb any human remains, including those interred outside of formal cemeteries.

6.5.5 Impacts and Mitigation Measures

Based on the research and fieldwork conducted as part of this assessment, the portion of the Calneva Station site (P-18-01698) within the Calneva BESS/PSES proposed project lease area lacks the variety of artifacts and structural remains, as well as integrity of constituents, needed to comprise a CRHR-eligible resource. Much of the built-environment such as structures, fence lines, and related features have been deconstructed and salvaged for reuse elsewhere, significantly reducing the ability of researchers to reconstruct the site structure, or to distinguish any special use areas or areas evidencing ethnic or cultural segregation. The California Department of Transportation (Caltrans) outlined a number of research themes relevant to railroad work camps sites such as P-18-001698, including the themes of *Camp Function, Design, and Conditions*, *Labor Organization and Management Policy*, and *Immigration and Ethnicity* (Van Bueren et al. 2013). The scarcity of structural remains within Areas A and H diminishes the potential of the site to yield data capable of addressing these focused research topics.

Diminishing the research potential even further is the relatively narrow range of artifacts types represented. While a small number of unique artifacts such as toys and a pair of shoes have been documented at the site, the artifact assemblage is dominated by a single resource type-tin cans. Other materials are present, but in much smaller numbers, and are made up almost entirely of deconstruction materials such as nails and brick fragments, bottle glass shards, and non-diagnostic WIE. Very few artifacts identified appear to relate directly to the construction and maintenance work undertaken at the site, with the possible exceptions being two coal piles and an unidentifiable machine part. A wide range of domestic and work related artifacts and features would be needed for the site to contribute important information on the two remaining railroad camp themes identified by Caltrans, *Household Composition and Lifeways* and *Technology*, as well as the three (3) themes listed above (Van Bueren et al. 2013). The requisite diversity of archaeological materials is absent from the site.

In addition to the lack of variety of artifacts and structural remains, past disturbances at the site appear to have been recurrent and severe, further reducing the interpretive value of the archaeological content of Areas A and H. As noted in the original site records, looters have extensively excavated at the site, including areas with the greatest sensitivity for intact subgrade deposits, such as those to the side and rear of former station structures, as well as in close proximity to visible surface-level artifact concentrations. As noted in the original site records, "a number of areas on-site appear to have been excavated by collectors. This is evidenced by small round excavation pits with back dirt piles containing discarded historical debris" (Nelson et al. 1993). The number of collector pits identified during the initial documentation of the site, along with the additional and possibly more recent pits observed during fieldwork conducted as part of this assessment, is considerable. These looting activities have diminished the data potential of Areas A and H significantly.

Compounding the detrimental effects of recurrent and focused looting at this portion of the site, are disturbances related to natural hydraulic forces. Despite generally dry conditions, the Lahontan Basins,

including the Honey Lake Basin, are prone to flooding during storm events (HLRCD 2015). These natural processes appear to have further disrupted the horizontal placement of surface level constituents, distributing artifacts well outside of the boundaries of the site as recorded in 1993. Disturbances related to pipeline installation and OHV use were also noted. A likely product of a combination of these disruptive forces is the mixing of modern refuse with historical material throughout much of Areas A and H. The resulting convolution of horizontal and vertical artifact distribution has led to a significant loss of the site's integrity of association and location, which generally must be retained for an archaeological site to yield potentially significant information. Thus, certain aspects of integrity necessary to convey significance have been lost. For these reasons, the eastern portion of P-18-001698 does not have the potential to yield data capable of meaningfully addressing pertinent research questions and so no further cultural resources work is recommended at this time

There is a possibility that undocumented subsurface archaeological deposits or human remains may be encountered during BESS/PSES facilities construction. If resources are encountered during construction, adverse impacts could be substantial, depending on the significance of the cultural resource. With the implementation of the following mitigation measure, no significant impacts are anticipated for the proposed Calneva BESS/PSES project.

CR-1 In the event that unanticipated archaeological resources should be accidentally discovered during project construction, a qualified archaeologist will be retained for evaluation of the find. If the find is determined to be a historical or unique archaeological resource, appropriate mitigation or avoidance measures will be taken in accordance with CEQA Guidelines 15064.5(f). During mitigation of unanticipated archaeological resources, it would not be necessary for work to halt in construction areas not affected by such finds. Any historically significant cultural materials discovered during project construction will be the subject of professional scientific analysis and a report to be prepared by a qualified archaeologist. In the event that such a discovery should contain human remains, the following steps shall be taken as outlined in CEQA Guidelines 15064.5 (e)(1):

(2) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

(A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and
(B) If the coroner determines the remains to be Native American:
1. The coroner shall contact the Native American Heritage Commission within 24 hours.
2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in Public Resources Code Section 5097.98 or

(2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

(A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.
(B) The Descendant identified fails to make a recommendation; or
(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

6.5.6 Cultural Resources Initial Study Responses

Table 6.5-1: Cultural Resources Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☑	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☑	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☑	☐

6.5.7 Response to Questions

6.5.7.1 Historical Resource: Less Than Significant with Mitigation Incorporated

No cultural resources, including archaeological sites and historic era-built environment resources, that presently qualify as historical resources, have been identified within the proposed project lease area and the potential for discovery of buried archaeological materials within the heavily disturbed proposed project lease area is low. Although unlikely, there is a potential that previously unknown archaeological deposits that may qualify as historical resources could be discovered during excavation work associated with construction of the BESS/PSES facilities. With implementation of the mitigation measure CR-1, discussed above, any potential impacts would be considered less than significant. Therefore, project-related impacts to unanticipated discoveries would be less than significant with mitigation.

6.5.7.2 Archaeological Resource: Less than Significant

No prehistoric or historic-era archaeological sites or ethnographic sites were identified by the record search or survey of the proposed project lease area, and the potential for discovery of buried archaeological materials within the heavily disturbed project lease area is low. Although unlikely, there is a potential that previously unknown archaeological deposits could be discovered during excavation work associated with construction of the BESS/PSES facilities. With implementation of the mitigation measure CR-1, discussed above, any potential impacts would be considered less than significant. Therefore, project-related impacts to unanticipated discoveries would be less than significant.

6.5.7.3 Human Remains: Less than Significant

Based on the documentary research and proposed project lease area survey described above, no evidence suggests that any prehistoric or historic era marked, or unmarked human interments are present within or in the immediate vicinity of the heavily disturbed project lease area. Although unlikely, there is a potential for unmarked, previously unknown Native American or other graves to be present and be uncovered during construction activities. With implementation of the mitigation measure CR-1, discussed above, any potential impacts would be considered less than significant. Therefore, project-related impacts to human remains would be less than significant.

6.5.7.4 Tribal Cultural Resources: No Impact

No requests, in writing pursuant to AB 52, from geographically affiliated tribes for consultation under the requirements of AB 52 regarding the potential of the proposed Calneva BESS/PSES project to impact tribal cultural resources have been received prior to the date of this document. Therefore, no tribal cultural resources have been identified within the proposed project lease area and the project would have No Impact. No mitigation measures for tribal cultural resources are required.

6.6 ENERGY

This section contains a description of the potential of the Project on a short-term during construction phase, and on a long-term operational phase to waste energy, be inefficient, and unnecessarily consume energy. Public Resources Code Section 21100(b)(3) and Appendix F of the CEQA Guidelines requires a description (where relevant) of the wasteful, inefficient, and unnecessary consumption of energy caused by a project. This section will evaluate the energy impacts of the proposed Calneva BESS/PSES Project.

6.6.1 Background

6.6.1.1 Regulatory Context

The Calneva BESS/PSES project is responding to plans by the California Public Utility Commission (CPUC) to develop cost-effective energy storage projects totaling approximately 567 MW throughout the California grid. CPUC Resolution E-4909 adopted January 11, 2018 authorized California Electric Companies to procure energy storage to address local deficiencies in the electrical sub-areas of the public grid system in Lassen County and ensure local reliability.

Natural gas turbine peaker power plants throughout California have been mandated to shut down and the CPUC and the California Independent System Operator (CAISO) has notified all fossil fuel powered peaker plants the intentions to terminate the Participating Generator Agreements (PGAs). The claim for termination of the fossil fuel burning peaker plants is that they are no longer economical to operate at current energy and Resource Adequacy (RA) capacity prices. In March 2017, the CAISO determined the fossil fuel peaking units will need replacement with renewable clean peaker plants to meet local capacity need in the various sub-area located within the Sierra local capacity area (LCA) and includes Lassen County. The CAISO then designated the peaker plants as reliability must-run resources (RMR) under tariff section 41.

The CPUC's passage of Resolution E-4909 under its procurement authority to authorizes electric utilities to conduct a limited solicitation for resources to fill the local deficiencies and address issues identified by the CAISO. The Calneva BESS/PSES project is responding to CPUC Resolution E-4909, by providing new battery storage resources, thereby eliminating the need for the past fossil fuel peaker power RMR contracts, or renewal in subsequent years. In addition, the proposed Calneva BESS/PSES project will be subject to must offer obligations (MOO) in the wholesale energy markets for Lassen County. In contrast, RMR contracts cover the full cost of keeping the facility available, but the facility is only called upon to serve load if the specific contingency occurs and is not subject to a MOO. In all other time periods, RMR designation can cause ongoing market distortions because it may serve as a disincentive to a peaker plant from regular participation in the energy market.

Several areas of California law give the CPUC authority to act to ensure a safe and reliable energy supply for the state as well as just and reasonable retail rates for such services. The CPUC's authority over utility regulation and supervision arises from the California Constitution, state law and court decisions as well as federal law including, but not limited to, the Federal Power Act, 16 U.S.C. § 791 et seq., and section 714 of the Energy Policy Act of 1992, 16 U.S.C. §824(g). (General Order 167, Section 1; see generally Southern California Edison Company v. Public Utilities Commission (2014) 227 Cal.App.4th 172, 186-196.) Several state statutes direct the CPUC to assure the long-term reliability of California's electric energy supply. Section 380 of the California Public Utilities Code 9 requires the CPUC to establish and enforce resource adequacy requirements to assure "development of new generating capacity and retention of existing generating capacity that is economic and needed." (Section 380, subds. (b)(1); see also subds. (c)-(f).).

The CPUC also exercises authority over electric utilities and in state generation facilities. Section 761.3, subdivision (a) provides that the CPUC "shall implement and enforce standards for the maintenance and operation of facilities for the generation of electricity . . . located in the state to ensure their reliable operation." The CPUC shall enforce the protocols for the scheduling of powerplant outages of the Independent System Operator." The Commission designed General Order (G.O.) 167, *Enforcement of Maintenance and Operation Standards.*

Battery energy storage systems are recognized by the CPUC as fast-responding and reliable and may be constructed in a short timeframe. BESSs are procured at increasing levels to meet local reliability requirements including capacity shortfalls, in lieu of conventional generation. The proposed Calneva BESS/PSES project is a direct response to the CPUC Resolution E-4909, and the plan to mitigate increasing electrical rates for Lassen County ratepayers.

6.6.2 Methodology

The energy impact evaluation reflects relevant data from conceptual BESS plans based on existing, equivalent BESS facilities. These BESS production models were used to determine potential impacts in accordance with CEQA guidelines. The proposed facility would employ cutting-edge battery storage technologies and processes to produce peaking power in a manner that exceeds traditional production efficiencies. Final facility design and exact input/output consumption values may vary from assumed values provided herein for purposes of CEQA evaluation.

6.6.3 Environmental Setting

6.6.3.1 Electricity Services In Lassen County

Pacific Gas and Electric, Lassen Municipal Utility District, and Plumas-Sierra Rural Electric Cooperative provides electrical services to Lassen County through State-regulated public utility contracts. The City of Susanville Public Works Department – Natural Gas provides natural gas services to Susanville. Electricity and natural gas service are available to locations where commercial land uses could be developed. Utility companies are bound by contract to update energy systems to meet any additional demand.

6.6.3.2 Energy Consumption in Lassen County

Electricity use is measured in kilowatt-hours (kWh), and natural gas use is measured in therms. Vehicle fuel use is typically measured in gallons (e.g. of gasoline or diesel fuel), although energy use for electric vehicles are measured in kWh. The electricity consumption in Lassen County from 2014 to 2018 is shown in *Table 6.6-1: Electricity Consumption In Lassen County 2014-2018*. As indicated, the demand has declined since 2014.

Table 6.6-1: Electricity Consumption in Lassen County 2014-2018

Year	Electric Consumption (All Usage Expressed in Millions of kWh (GWh))
2018	409.743871
2017	385.615919
2016	457.140862
2015	400.598356
2014	431.949469

Source: California Energy Commission Website: https://ecdms.energy.ca.gov/elecbycounty.aspx

6.6.3.3 Removing Fossil Fuel Power Production

PSREC must coordinate with the CAISO to ensure that its proposed portfolio will contribute to reducing or eliminating the local sub-area deficiencies in the Fort Sage subarea. Without the proposed Calneva BESS/PSES project, PSREC and CAISO will be forced to pay high costs to continue the existing fossil fuel peaker power operations, which higher costs will be passed on to Lassen County ratepayers. The proposed BESS facility has been evaluated by CAISO and determined to reduce, or eliminate, the local sub-area deficiencies at a reasonable cost.

6.6.3.4 Reduction of Greenhouse Gas Emissions

Battery storage is used to reduce greenhouse gas emissions associated with fossil fuel/gas-fired power generation facilities by storing energy during off-peak hours (lower energy usage/demand times) and

dispatching this energy on an as-needed basis during peak demand hours. This technology reduces the amount of fossil fuels consumed during peak hours and maximizes usage of energy from renewable sources such as wind and solar facilities that may not be able to produce energy during times of peak demand. The proposed project would increase local storage of electricity as peaker power, thereby supporting the stability of the local electrical grid and removing offline the old gas fired peaker power plants which historical supported the grid in Lassen County. The proposed project's location near the Fort Sage power substation allows the proposed BESS facilities to service the deficiencies created by the shutdown of the fossil fuel/gas-fired peaker plants and enabling connection to the existing grid with both NV Energy and PSREC. Benefits of the proposed BESS facility include integration of solar, reduction of the need to ramp up polluting gas plants in the late afternoon, increased local reliability in an area that is currently highly reliant on gas-fired generation, ultimately pushing gas off the system and moving a step closer to a decarbonized grid in Lassen County and California. The CAISO would control the dispatching of electricity from the project. Electricity dispatched from the battery storage system would supplement the existing peaking capacity available to the CAISO system.

6.6.3.5 CPUC Adopted Energy Renewable Plan Goal of 100% Retail Electricity

CPUC approved the proposal by California utilities, to deploy large-scale energy storage to replace peaking natural gas plants statewide. CPUC issued its approval of three (3) capacity contracts and one power purchase agreement (PPA) for 567.5MW of energy storage capacity to be built across four large-scale battery storage systems in California. Significantly, each system will store energy for four hours, making them viable capacity resources to replace gas plants. California has been among the fastest adopters of energy storage in the world, partly due to its prolific adoption of solar energy in past decades. The state now has a policy in place (SB100) to source 100% percent of retail electricity by 2045 from renewable sources. The proposed project supports Lassen County electric utilities compliance with new regulatory and policy measures, such as the Self-Generation Incentive Program (SGIP), which offers support for solar-plus-storage purchases, and AB2514, which mandates that utilities procure over 1.3GW of behind-the-meter storage by the early 2020s and adds energy storage into utilities' long-term Integrated Resource Planning (IRP).

New state energy policies are ensuring that net metering policies are on their way out and increasing application of time-of-use rates, resulting in the increase peak demands. Generating, then storing power for use at peak demand times (when power becomes expensive) is more financially viable than injecting the power into the grid for diminishing returns. BESS facilities achieve these goals by creating aggregated virtual power plants (VPP) through inter-connection of several BESSs, which pools the capabilities of several such systems and offers more economic, reliable services.

6.6.4 Standards of Significance

There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed BESS project.

6.6.5 Impacts and Mitigation Measures

The proposed project would provide operational support and a more secure electrical power system for the Lassen County, northern Nevada, and eastern sierra region distribution and transmission system as a whole, in addition to providing local capacity reserves and energy security benefits for the immediate surrounding Lassen County, Herlong Army Depot, and surrounding region. With a ready supply of dispatchable reserve energy, Lassen County electric providers could reduce its reliance on gas-generation peaking power plants to serve peak power demands or possible loss of transmission capacity due to earthquake, landslides, or wildfires within the Fort Sage electrical service sub-area. The proposed BESS facility will utilize state-of-the-art power conversion and energy storage technologies, which provides high-efficiency power conditioning capabilities for demand management, power dispatch, renewable energy smoothing, etc. The BESS facility will integrate bi-directional power conditioning and battery devices, site controllers, and a cloud management system to provide comprehensive energy storage for the utility application of providing peaker power in the Fort Sage subarea. No impacts anticipated.

No significant impacts were identified, and no mitigation measures are required.

6.6.6 Energy Initial Study Responses

Table 6.6-2: Energy Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☑
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☑

6.6.7 Response to Questions

6.6.7.1 Wasteful, Inefficient, or Unnecessary Consumption of Energy during Project Construction or Operation: No Impact

The proposed BESS/PSES Project's objectives are to construct and operate an integrated energy storage that would help California achieve its ambitious Renewables Portfolio Standard goals and enhance grid reliability through the provision of key operational flexibility and dispatchability attributes. Additional basic project objectives include helping to enhance grid reliability through construction of a BESS. The operation of the BESS facility would create renewable energy over its planned lifetime and decrease the need for energy from fossil fuel–based power plants in Lassen County, which is considered a beneficial impact to statewide and regional air quality. The energy being stored by the BESS facility would displace the pollutant emissions which would otherwise be produced by existing business-as-usual power generation resources (Gas Fired Peaker Power Plants). The BESS facility would generate a maximum of 100 MW of electricity at any one time. For this reason, operation of the proposed Calneva BESS/PSES project would not be considered a wasteful, inefficient, or unnecessary consumption of energy resources.

Construction of the BESS facility would require the consumption of gasoline to power construction equipment and delivery trucks. The BESS/PSES facility will take only thirty-two (32) to forty (40) weeks to construct and operate and will consume minor amounts of fuel compared to the total consumption within Lassen County. As such, proposed BESS project construction would have a nominal effect on local and regional energy supplies, especially over the long-term. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and require recycling of construction debris, would further reduce the amount of transportation fuel demand during BESS/PSES project construction. For these reasons, it is expected that construction fuel consumption associated with the BESS/PSES project construction would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature within Lassen County. No Impact.

6.6.7.2 Conflict with or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency: No Impact

As described above, the BESS facility would generate a maximum of 100 MW of electricity at any one time. The primary objective of the BESS/PSES facility is to construct and operate integrated energy storage that will help California achieve its ambitious Renewables Portfolio Standard goals and enhance grid reliability through the provision of key operational flexibility and dispatchability attributes. Thus, the proposed

BESS/PSES project would represent a beneficial impact to the state's goal of increasing renewable energy and closing fossil fuel fired peaker power plants. Therefore, No Impacts are anticipated regarding energy.

6.7 GEOLOGY AND SOILS

This section contains a description of the setting regarding geology, soils, and paleontological resources in the proposed project lease area, along with a description of the existing regional physiography, geologic hazards, and soil characteristics in the area. Paleontological resources include any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth. The following discussion is based primarily on the following information sources, and other publicly available geologic literature:

- United States Geological Survey (USGS) topographic and geologic maps.

6.7.1 Background

6.7.1.1 Regulatory Context

Title 24 Uniform Building Code sets building construction standards for safety and protection in the event of ground shaking.

6.7.2 Methodology

Our geologic evaluation consisted of reviewing aerial photographs, researching readily available geologic reports and maps. No site-specific information was available for review at the time of this writing.

6.7.3 Environmental Setting

6.7.3.1 Geologic Setting

The Calneva BESS/PSES project area is in the northeastern corner of California within the Basin and Range geomorphic province. Areas within the Basin and Range geomorphic province typically exhibit abrupt changes in elevation due to flat arid valleys interspersed between faulted mountain ranges. The proposed project lease area is characterized by limited topography of predominantly 0 to 1 percent slopes.

Volcanoes, sedimentation, and erosion processes have formed the topography of the region. The Honey Lake Valley lies over unconsolidated to semi consolidated sediments and volcanic rocks which themselves overlie granitic bedrock. These rocks range in age from approximately 12 million years (Miocene era) to one million years (Pleistocene era). Pliocene and Holocene basin-fill deposits are intermixed with consolidated volcanic rocks along the north and northeast margins of the basin. These semi consolidated deposits consist of thick layers of volcanic tuff and ash that typically were deposited in shallow lakes in conjunction with lacustrine and fluvial deposits of clay, silt, and sand. This unit (lake deposit and a volcanic tuff) comprises the majority of the basin fill. Quaternary age sediments were deposited by an ancient lake of which Honey Lake is a remnant. Sands and gravels predominate in these sediments. The surface soil (top 25 feet) consists of sandy soils. The sand is generally light brown, fine- to medium-grained, and well-sorted. According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service's (NRCS) Web Soil Survey (WSS) for Lassen County, California, soils at and around the Site primarily consist of Incy fine sand, 0-5 percent slopes. The maximum exploration depth of our investigation was 25 feet.

There are several quaternary faults in Lassen County, and many have been identified on the proposed Calneva BESS/PSES project lease area (See Figure 6.6-1 Fault Map). Quaternary Faults are less than 1.8 million years old and are classified as "*potentially active*." A fault is considered "*active*" if displacement has occurred in the past 11,000 years; "*historic*" displacement is seismic activity which occurred within the past 200 years. Pre-quaternary faults are more than 1.8 million years old and are generally classified as "*inactive*" unless a detailed study concludes there is potential for activity. The Warm Spring Valley fault is located approximately three (3) miles south of the proposed BESS/PSES lease area and the Fort Sage fault is located approximately eight and half (8 ½) miles southwest of the proposed BESS/PSES lease area.

6.7.3.2 Topography Setting

Site topography is relatively flat with minimal elevation difference between various points. Site survey data was not available for this project at the time of preparing this report. An aerial photograph of the site layout is presented on various figures included in this report. The proposed project lease area is nearly level in elevation with the surrounding area based on topographic map data and observation.

6.7.3.3 Soils

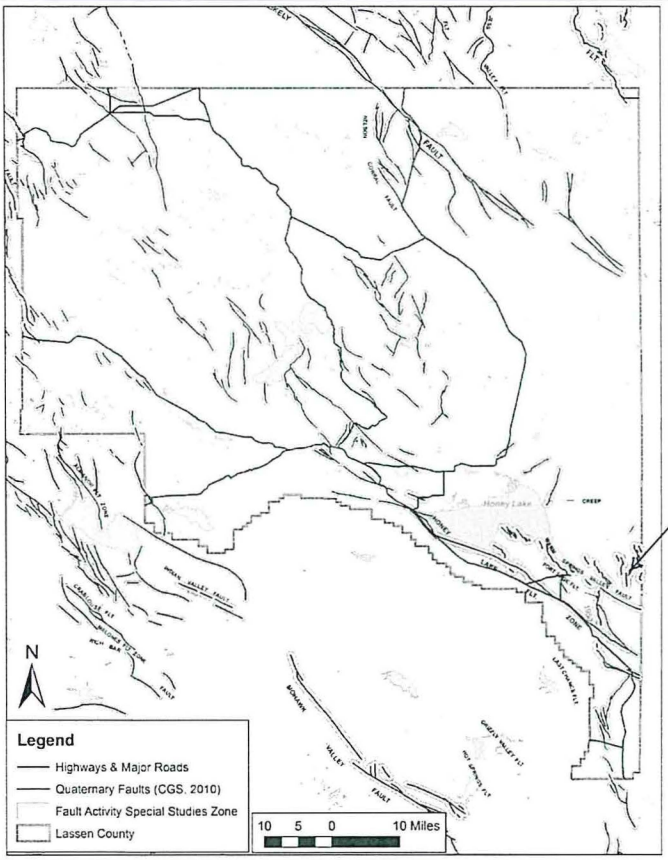
According to the NRCS Soil Survey of Lassen County, and the U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) SSURGO data only one soil type exist on the entire proposed project lease area known as Epot Soil Series. Soils typical of the project area in the eastern Honey Lake Valley are alkali lacustrine soils, which are not considered potentially irrigable. These soils are fine-textured and poorly drained, allowing for accumulation of salts. Epot soil series, is a very fine sandy loam, with class B moderate infiltration rates. The Epot soil series is deep to moderately deep, moderately well to well drained soils with moderately coarse textures.

6.7.3.4 Geologic Hazards

Earthquakes

There are several quaternary faults in Lassen County, and many have been identified on the proposed Calneva BESS/PSES project lease area (See Figure 6.6-1 *Fault Map*). Quaternary Faults are less than 1.8 million years old and are classified as "*potentially active*." A fault is considered "*active*" if displacement has occurred in the past 11,000 years; "*historic*" displacement is seismic activity which occurred within the past 200 years. Pre-quaternary faults are more than 1.8 million years old and are generally classified as "*inactive*" unless a detailed study concludes there is potential for activity. The Warm Spring Valley fault is located approximately three (3) miles south of the proposed BESS/PSES lease area and the Fort Sage fault is located approximately eight and half (8 ½) miles southwest of the proposed BESS/PSES lease area.

The proposed Calneva BESS/PSES project lease area is located within the Honey Lake Fault Zone. As mapped by the California Geological Survey, there are eight (8) quadrangle maps delineating Alquist-Priolo Earthquake Fault Zones in the area of the proposed project BESS/PSES lease area, as shown in the figure below (Figure 6.6-2: *Alquist-Priolo Earthquake Fault Zones*). From top to bottom, left to right, these quadrangle maps are: Standish, Stony Ridge, Milford, Herlong, Calneva Lake, McKesick Peak, Doyle and Constantia. Properties in the earthquake fault zones are required to have a geological evaluation prior to construction to avoid mapped fault traces of active faults (See Appendix G: Geotechnical Report).



Reference: USGS Quaternary Fault and Fold Database of the United States

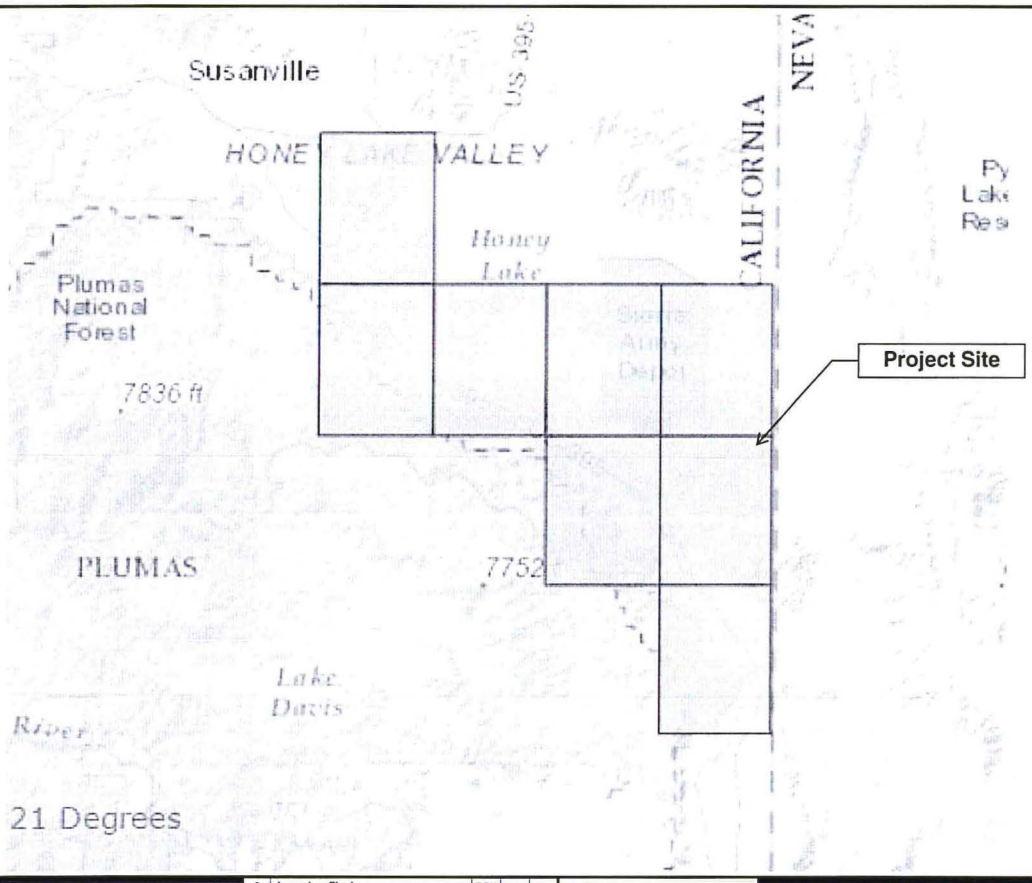
PROJECT: CALNEVA BESS/PSES FACILITY				
Calneva, CA	APN: 137-170-012, 013			

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

N W E S

FIGURE: Faults Map	
DATE: 04-11-2020	SCALE: NTS
BY: SCV	FIGURE: 6.7-1

SIERRA GEOTECH



PROJECT: CALNEVA BESS/PSES FACILITY	0	Issued as Final	SCV		BLM
Calneva, CA	APN: 137-170-012, 013				
	REV.	DESCRIPTION	BY	APP.	CHKD

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FIGURE: Alquist-Priolo Earthquake Faults Zone Map

DATE: 04-11-2020	SCALE: NTS
BY: SCV	FIGURE: 6.7-2

SIERRA GEOTECH

Seismic Ground Shaking

While several active faults are known to exist at or near the proposed project lease area, and are capable of generating an earthquake resulting ground shaking at the proposed project lease area. A design-level earthquake on a nearby fault could be capable of producing a mean, peak ground acceleration at this site of about 0.21g during an event of moment magnitude 6.9. However, this will be confirmed through geotechnical investigation during the final design phase of the BESS/PSES facility.

Liquefaction

Liquefaction is a seismic phenomenon in which loose, saturated, fine-grained granular soils behave like a fluid when subjected to high-intensity ground shaking. An increase in pore pressure occurs as the soil attempts to compact in response to the shaking, resulting in less grain-to-grain solid contact, and therefore loss of strength. Liquefaction occurs when three general conditions exist: shallow groundwater (i.e., 40 feet below ground surface or less); low density, fine-grained sandy soils; and high-intensity ground motion. Effects of liquefaction on level ground can include sand boils, settlement, and bearing capacity failures below structure foundations.

Review of publicly available information indicates liquefaction of underlying soils is possible during future seismic events. However, liquefaction conditions at the proposed project lease area will be confirmed through a site-specific geotechnical investigation during the final design phase of the BESS/PSES facility.

Lateral Spreading

Lateral spreading typically occurs as a form of horizontal displacement of relatively flat-lying alluvial material toward an open or "free" face such as an open body of water, channel, or excavation. In soils, this movement is generally due to failure along a weak plane and may often be associated with liquefaction. For the proposed project lease area, the risk of lateral spreading is considered very low.

6.7.3.5 Paleontological Records Search and Sensitivity

The UCMP records search indicates that 76 localities yielding a total 759 fossil specimens have been identified in Lassen County. Of these, two localities, Calneva Lake I and Calneva Lake II, are present less than one mile north of the proposed Calneva BESS/PSES project lease area. Among the vertebrate fossil remains recovered from the Calneva Lake localities are a calcaneum fragment from a Rancholabrean-aged (240,000 years to 11,000 years old) cricetid (ID: 143241), a kind of small rodent in the Cricetidae family such as a hamster, vole, lemming, gerbil, or rat or mouse; and an unspecified bone fragment from another mammal species of Rancholabrean age (ID: 143242; UCMP 2020).

Nine additional localities identified in Lassen County are associated with Lake Lahontan sediments similar to those underlying the proposed BESS/PSES lease area, all of which have yielded vertebrate remains. These include the Amedee, Honey Lake Deer, Long Valley, and multiple Alturas Intertie Project Localities. The Long Valley locality is found south of Herlong approximately 6.5 miles west of the proposed BESS/PSES lease area and has yielded the remains of an extinct mustelid (badger; McLeod 2018; Navient 2019). The Amedee locality roughly 12.5 miles northwest of the proposed BESS/PSES lease area yielded ulna and radius fragments (ID: 83878) of a Rancholabrean Western Camel (*Camelops hesternus*). The Honey Lake Deer locality roughly 18 miles northwest of the proposed BESS/PSES lease area yielded the remains of a Blancan-aged (4,750,000 to 1,806,000 years BP) American mountain deer (*Odocoileus lucasi*) including the fore and hind limb elements, pelvis, and scapula (ID: 170137; UCMP 2020).

Among the fossil remains recovered from Lake Lahontan sediments of the Alturas Intertie Project localities are a penultimate phalanx (ID: 174934) and carpal fragment (ID: 174935) of a Blancan horse (*Plesippus* sp.); a vertebrae (ID: 174952) of a Rancholabrean fish (*Oncorhynchus* sp.); a thoracic vertebra (ID: 174956) of a Rancholabrean cotton tail rabbit (*Sylvilagus* sp.); the left calcaneum (ID: 174957) of a Rancholabrean hare (*Lepus* sp.); and a maxilla fragment (ID: 174958) of a Rancholabrean ray-finned fish (*Chasmistes* sp.) (UCMP 2020). Significant fossils have also been recovered from the Secret Valley locality approximately 35 miles northwest of the proposed BESS/PSES lease area, including 78 specimens of mammals such as extinct species of camel, bison, coyote, horse, and mastodon. Finally, significant vertebrate fossils have been recovered from the Ravendale locality 66 miles northwest of the proposed BESS/PSES lease area, including 180 specimens of mostly extinct fish species (McLeod 2018; Navient 2019).

Paleontological resources occur in geologic units (e.g., formations or members). The probability for finding significant fossils at a given location can be estimated based on previous records of fossils recovered from the geologic units present in and/or adjacent to it. The geological setting and the number of known fossil localities help to estimate a location's paleontological sensitivity as defined by CEQA. As noted above, the treatment of paleontological resources on non-federal lands usually follows the SVP *Standard Guidelines for the Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontological Resources guidance from the Society for Vertebrate Paleontology* (2010). Treatment typically consists of identification, assessment, and mitigation for potential impacts to significant paleontological resources.

The SVP defines four levels of paleontological sensitivity: *High*, *Low*, *Undetermined*, and *No Potential*. High Potential geologic units are those from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered. These are regarded as having high potential to contain additional significant paleontological resources. Low Potential geologic units are those that are poorly represented by fossil specimens in institutional collections, or that are known to preserve fossils only in rare circumstances. Undetermined Potential geologic units are those for which little or no information is available concerning their paleontological content, geologic age, and depositional history. No Potential geologic units such as high-grade metamorphic rocks (e.g., gneisses and schists) and plutonic igneous rocks (e.g. granites and diorites) are those that would not preserve fossil resources under any circumstances (SVP 2010).

The proposed BESS/PSES project lease area is underlain by Early-to-Late Holocene aeolian, fluvial, and lacustrine deposits (Qhe) derived primarily from Lake Lahontan sediments (Adams et al. 2008; Meyer 2013; Grose et al. 2014). These geologic units have yielded an extensive catalog of vertebrate remains which are considered important paleontological resources for CEQA purposes. The fossil record for Lake Lahontan sediments in Lassen County indicates that the proposed BESS/PSES project lease area has variable sensitivity for paleontological resources ranging from low to high and increasing with depth. The precise depth that high sensitivity Early Holocene sediments are reached is not known, though significant fossils have been identified in similar lake deposits from depths as shallow as 5-10 feet below the ground surface (Jefferson 2003). However, current Calneva BESS/PSES project construction plans do not call for excavation or grading and so ground disturbance to these depths is not anticipated. For this reason, further paleontological resources work is not recommended at this time and the proposed Calneva BESS/PSES project will have No Impact on paleontological resources.

6.7.4 Standards of Significance

An impact to geology, soils, and seismicity would be considered significant if the project would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
  - strong seismic ground shaking;
  - seismic-related ground failure, including liquefaction;
  - landslides; and/or
  - subsidence;
- Result in substantial soil erosion, siltation, changes in topography, the loss of topsoil or unstable soil conditions from excavation, grading or fill;

- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; and/or
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

6.7.5 Impacts and Mitigation Measures

The project would be constructed to meet the safety standards listed in the Uniform Building Code. Best Management Practices (BMPs) for control of erosion would be executed on site as outlined in the Stormwater Pollution Prevention Plan (SWPPP). Grading and erosion control plans would be prepared in accordance with the County's engineer requirements for improvement plans. A detailed geotechnical survey will be completed, and grading, soil compaction, and structural design would be implemented in accordance with the recommendations of the geotechnical report during the final design phase of the BESS/PSES facility. (See Appendix H – Geotechnical Report) No significant impacts are anticipated.

6.7.6 Geology, Soils, and Seismicity Initial Study Responses

Table 6.7-1: Geology, Soils, and Seismicity Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☑	☐
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? *Refer to Division of Mines and Geology Special Publication 42.*	☐	☐	☐	☑
ii) Strong seismic ground shaking?	☐	☐	☑	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☑	☐

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
iv) Landslides?	☐	☐	☐	☑
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☑	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☑	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☑

6.7.7 Responses to Initial Study Questions

6.7.7.1 Exposed People to Potential Substantial Adverse Effects: Less than Significant

It is highly improbable that the proposed Calneva BESS/PSES project would be the cause of loss of life or other injury from risks associated with geologic and soil factors of the proposed BESS/PSES facility. The proposed BESS/PSES facility will be constructed in accordance with local, state, and federal regulations (as will be discussed in ensuing sections of the document). Included in these regulations are the California Building Code requirements which provide specific seismic regulations as discussed below to reduce risks to acceptable levels. Based on the known faults in the proposed project lease area and the fact that the BESS/PSES facility is unmanned and will have no structures for human occupancy it is unlikely persons will be exposed to potential adverse effects as a result of the development of the BESS/PSES facility at this location.

The proposed battery storage enclosures would be engineered to meet all local, state, and federal requirements pertaining to seismicity. The proposed battery storage enclosures would be placed on existing soils at 95 percent compaction with a pervious reinforced concrete slab. The storage enclosures would be

level. Each battery storage enclosure would be fastened to earth screws at all four corners of the enclosure. Within the enclosures, battery racks would be attached to the floor of the storage enclosure using methods and materials approved by a structural engineer to withstand damage from seismic ground shaking. No permanent occupancy is proposed at the BESS/PSES facility, and people would generally not be present except during construction or during scheduled or required maintenance or repairs of the BESS/PSES facility operations. With conformance to all applicable building codes and regulations, impacts would be less than significant. The proposed BESS/PSES facility will be constructed to these standards, and as such, will result in less than significant effects related to exposure to loss of life and/or injury.

6.7.7.2 Alquist-Priolo Earthquake Faults: No Impact

The proposed project lease area is located within a currently designated Alquist-Priolo Earthquake Fault Zone, with known surface expression of active faults believed to cross the proposed project lease area; therefore, fault rupture through the site is anticipated. Legally, the Alquist-Priolo Earthquake Faults act only applies to structures for human occupancy (houses, apartments, condominiums, etc.). The proposed Calneva BESS/PSES project will be an unmanned facility with no structures developed for human occupation. All standing structures to support the PV panels, and BESS will be subject to geotechnical engineering specifications to meet the design risks of earthquakes at the proposed lease area. There would be no impact. No Impact.

6.7.7.3 Ground Shaking: Less than Significant

While active faults are known to exist at or near the proposed project lease area, they are capable of generating an earthquake resulting ground shaking at the proposed project lease area. A design-level earthquake on a nearby fault could be capable of producing a mean, peak ground acceleration at this site of about 0.21g during an event of moment magnitude 6.9. The proposed BESS/PSES facility would be designed and constructed in compliance with the CBC Seismic design guidelines to address potential seismic-related hazards. Therefore, impacts related to seismic ground shaking would be less than significant.

6.7.7.4 Liquefaction: Less than Significant

All structures associated with the BESS/PSES facility would be designed to withstand strong ground motion and ground failure (liquefaction) resulting from a design earthquake in accordance to the adopted standards. Therefore, foundations will be designed to withstand strong ground motion and liquefaction. Such measures would ensure adequate protection of the BESS/PSES facility infrastructure. Following the site-specific geotechnical investigation during the final design phase of the Calneva BESS/PSES project, additional-project specific geotechnical design specifications will be adopted and impacts resulting from liquefaction are anticipated to be less than significant.

6.7.7.5 Landslides: No Impact

The proposed project lease area is relatively level and all BESS/PSES infrastructure will be placed upon compacted soils. Review of publicly available geotechnical data did not identify any potential project impacts from landslides. The lack of significant slopes on or near the proposed project lease area indicates that the hazard from slope instability, both landslides and debris flows, is negligible. Therefore, no impacts resulting from landslides are anticipated. No Impact.

6.7.7.6 Subsidence: Less than Significant

Some of the sand and silt layers at the proposed project lease area may theoretically liquefy and result in post-seismic total and differential settlement. A geotechnical investigation will be carried out at the site prior to any development to establish foundation design parameters, in order to resist or accommodate post-seismic total and differential settlement; therefore, this impact would be less than significant, and no project specific mitigation measures are required.

6.7.7.7 Soil Erosion: Less than Significant

Since the proposed project lease area is relatively flat, the potential for substantial soil erosion is considered minimal. BMPs for control of erosion would be implemented as part of the Lassen County's grading and building permits to reduce erosion of soils on the proposed project lease area. BMPs would be implemented

as part of the encroachment permits within public rights-of-way, which would mitigate potential impacts on soil erosion as a result of construction. Such BMPs could include but is not limited to the utilization of a sediment trap for all drains, straw bale barriers, the placement of mulch (straw or hydraulic) throughout the parcel and areas of disturbance, and the placement of geotextile mats for any of the sloped areas. Calneva BESS/PESS owners' implementation of BMPs will ensure that this impact would be less than significant.

6.7.7.8 Unstable Soils: Less than Significant

The proposed project lease area is not within an area of known ground subsidence, and the subsurface conditions beneath the proposed project lease area do not appear susceptible to subsidence. In general, subsidence is induced by construction activities such as dewatering or fill placement. Considering the proposed improvements, the potential risk for subsidence at the proposed project lease area appears to be very low because dewatering is not expected, thereby resulting in less than significant impacts.

6.7.7.9 Expansive Soils: Less than Significant

The proposed project lease area is not expected to contain expansive soils which exhibit expansion related hazards. However, a Geotechnical Investigation will be conducted to confirm the presence of expansive soils. If expansive soils are found, the slab-on-grade and exterior concrete flatwork would be supported on a layer of non-expansive fill; therefore, no additional-project specific mitigation measures are proposed, and the resulting impacts would be less than significant.

6.7.7.10 Septic Tanks and Wastewater Disposal System: No Impact

The proposed Calneva BESS/PSES project does not require septic tanks and wastewater disposal system as there will be no occupants. Therefore, no impacts are anticipated. No Impact.

6.7.7.11 Directly or Indirectly destroy Unique Paleontological or Geologic Feature Site or Resource: No Impact

On January 6, 2020, an online locality record search was conducted for the project on the University of California, Museum of Paleontology website (UCMP 2020). With regard to paleontological resources, background research indicates that the Project Area is underlain by Early-to-Late Holocene aeolian, fluvial, and lacustrine deposits (Qhe) derived primarily from Lake Lahontan sediments. These geologic units have yielded an extensive catalog of Blancan and Rancholabrean-aged vertebrate remains which are considered important paleontological resources for CEQA purposes. However, current Calneva BESS/PSES project construction plans do not call for excavation or grading to depths that would disturb these units. For this reason, further paleontological resources work is not recommended at this time and the proposed Calneva BESS/PSES project will have No Impact on paleontological resources. Furthermore, there are no unique geologic outcrops on the proposed BESS/PSES project lease area. Therefore, no impacts are anticipated to both unique paleontological or geologic features resources. No Impact.

6.8 GREENHOUSE GAS EMISSIONS

This section describes the potential effect on greenhouse gas (GHG) emissions as a result of implementing the proposed Calneva BESS/PSES project. In addition, this section provides a discussion of federal and state regulations regarding GHG emissions. Potential impacts to air quality, as a general matter, associated with implementation of the proposed Calneva BESS/PSES project, were previously discussed in this document. (See: Section 6.3: Air Quality). Updates to the CEQA Guidelines, codified in March 2010, require lead agencies to consider the potential for a project to result in significant emissions of GHGs.

6.8.1 Background

GHGs have been regulated internationally, federally, and at the state level for nearly a quarter of a century. While several regulations of the matter have failed, and the successes of others have yet to be determined, this section will discuss the application of several of these regulations as related to the proposed Calneva BESS/PSES project.

6.8.1.1 International Regulations

In 1988, nearly a decade after the first World Climate Conference (hosted by the World Meteorological Organization) was held to discuss the anthropogenic (human) effects of climate change, the United Nations established the Intergovernmental Panel on Climate Change (IPCC). As a result of subsequent years of IPCC discussions, the IPCC developed a worldwide treaty that outlined several general objectives and principles aimed at limiting worldwide GHG emissions. Known as the United Nation's Framework Convention on Climate Change (UNFCCC) agreement (developed in 1990, signed in 1992, and effective as of 1994). In November 1998, the IPCC hosted another series of meetings aimed at the worldwide reduction of GHGs. Throughout the course of these meetings, the IPCC developed the Kyoto Protocol which required specific reductions of GHGs (the Kyoto Protocol required each signatory country to commit to a particular goal in GHG emissions reductions). While the Kyoto Protocol was successful, in that it heightened global awareness of increasing GHGs, the Kyoto Protocol was seen by many as a failure, as the US, and several other nations which emit mass GHG emissions failed to sign or ratify the Kyoto Protocol. As such, these nations were never bound by the goals and implementation mechanisms of the Kyoto Protocol.

Again, in December 2009, representatives from 170 countries convened to prepare an updated international treaty for GHG emission reductions, known as the Copenhagen Protocol. The Copenhagen Protocol seeks to establish a two-degree limit (Celsius) on global warming by 2050. While the Copenhagen Protocol demonstrated the international attempt to regulate GHG emissions, many have considered the negotiations a failure, as the document produced failed to provide a legally binding document on the participant nations.

At the Conference of the Parties 21, (COP 21) in Paris, in December 2015, Parties to the UNFCCC reached a landmark agreement to combat climate change and to accelerate and intensify the actions and investments needed for a sustainable low carbon future. The Paris Agreement builds upon the Convention and – for the first time – brings all nations into a common cause to undertake take ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.

On June 1, 2017, United States President, Donald Trump announced that the United States would cease all participation in the 2015 Paris Agreement on climate change mitigation. President Trump stated that "The Paris accord will undermine (the U.S.) economy," and "puts (the U.S.) at a permanent disadvantage." In accordance with Article 28 of the Paris Agreement, the earliest possible effective withdrawal date by the United States cannot be before November 4, 2020, four years after the Agreement came into effect in the United States and one day after the 2020 U.S. Presidential Elections. The Trump White House later clarified that the United States would abide by the four-year exit process. Until the withdrawal takes effect, the United States may be obligated to maintain its commitments under the Agreement, such as the requirement to continue reporting its emissions to the United Nations.

6.8.1.2 Federal Regulations

In October 2009, EPA issued a Final Rule for mandatory reporting of GHG emissions. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufactures of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. The Final Rule went into effect on December 29, 2009, with data collection between January 1, 2010, and March 2011. This rule does not regulate the emission of GHGs, it only requires the monitoring and reporting of GHG emissions for sources above specific thresholds. Additional legislative measures have been taken to attempt to regulate GHGs, in other manners, however; each has failed in the process.

President Donald Trump in 2017 signed several Executive Orders which have impacted the EPA in carrying out GHG emission monitoring and management. President Trump's Executive Order, Promoting Energy Independence and Economic Growth has rolled back GHG regulations on the many energy sector companies. Section 2 of the Executive Order states "*Immediate Review of All Agency Actions that Potentially Burden the Safe, Efficient Development of Domestic Energy Resources. (a) The heads of agencies shall review all existing regulations, orders, guidance documents, policies, and any other similar agency actions (collectively, agency actions) that potentially burden the development or use of domestically produced energy resources, with particular attention to oil, natural gas, coal, and nuclear energy resources. Such review shall not include agency actions that are mandated by law, necessary for the public interest, and consistent with the policy set forth in section 1 of this order. (b) For purposes of this order, "burden" means to unnecessarily obstruct, delay, curtail, or otherwise impose significant costs on the siting, permitting, production, utilization, transmission, or delivery of energy resources.*"

6.8.1.3 State Regulations

As previously discussed, CARB is responsible for implementing state policy to address air quality issues and global climate change. CARB, in coordinating and administering state air pollution control programs adopted Resolution 07-55 on December 6, 2007. Resolution 07-55 approved a 427 million metric ton of CO2e as the statewide GHG emissions limit as of 2020. This statewide target is equivalent to 1990 level (of CO2e measured in the atmosphere), a common goal for several of California's emissions reductions programs.

California Executive Order S-03-05 (June 1, 2005) mandated a reduction of GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. Although the 2020 target is the core of AB 32, and has effectively been incorporated into AB 32, the 2050 target remains the goal of the Executive Order.

In an effort to further the vision of California's Global Warming Solutions Act (Assembly Bill 32), Governor Brown identified key climate change strategy pillars in his January 2015 inaugural address. The pillars recognize that several major areas of the California economy will need to reduce emissions to meet the 2030 greenhouse gas emissions target. The pillars include (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farm and rangelands, forests and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy: Safeguarding California.

Governor Gavin Newsom started his term in January 2019, presenting a set of policy proposals that should improve the state's chances of hitting its ambitious climate targets. California has been experimenting with techniques to get farmland to soak up carbon from the air under its Healthy Soils Initiative. Governor Newsom is seeking to restore funding to the Healthy Soils Initiative.

6.8.1.4 Local Regulations

The initial scoping plan for AB 32 called for local jurisdictions to assist in attaining statewide goals by setting communitywide GHG reduction targets through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. To that end, many jurisdictions throughout the state have drafted Climate Action Plans (CAPs) to assist lead agencies in assessing and reducing the

impacts of project specific GHG emissions on global climate change. These CAPs typically include greenhouse gas (GHG) inventories, emissions reduction targets, specific reduction measures, and emissions thresholds to ensure sustainable development which allow long term statewide targets to be met. However, as of the publication of this report, no such plan has been adopted by Lassen County or other local agencies with jurisdiction over the Calneva BESS/PSES project area.

6.8.2 Methodology

This GHG analysis is based on methodologies recommended by the California Air Pollution Control Officers Association (CAPCOA) CEQA and Climate Change white paper (2008) and adopted into the California Climate Action Registry General Reporting Protocol (2009). The analysis focuses on CO_2, N_2O, and CH_4 (reflected here in aggregate as CO_2e or CO_2 equivalent) as these are the GHG emissions with the greatest potential to be generated via onsite development.

In the absence of local guidance concerning acceptable GHG emissions in the jurisdiction, statewide data was used to determine the GHG emissions thresholds. A study conducted for San Bernardino County using a statewide list of projects compiled by the Governor's Office of Planning and Research (OPR) estimating emissions for each project within OPR's database found that 90% of CO_2e emissions are from CEQA projects that exceed 3,000 MT CO_2e per year. Both cumulatively and individually, projects that generate less than 3,000 MT CO_2e per year have a negligible contribution to overall emissions.

CalEEMod emissions modeling software (See: Section 6.3 Air Quality) was used to determine if GHG emissions associated with the Calneva BESS/PSES project exceed established thresholds. Complete CalEEMod results and assumptions can be viewed in Appendix G.

6.8.3 Environmental Setting

6.8.3.1 Climate Gases

Climate gases that trap heat in the atmosphere are often called greenhouse gases (GHGs), analogous to the way in which a greenhouse retains heat. Common GHG include water vapor, carbon dioxide (CO2), methane (CH4), nitrous oxides (N2Ox), fluorinated gases, and ozone. GHGs are emitted by both natural processes and human activities. Of these gases, CO2 and CH4 are emitted in the greatest quantities from human activities. Emissions of CO2 are largely by-products of fossil fuel combustion, whereas CH4 results from off-gassing associated with agricultural practices and landfills. Man-made GHGs, many of which have greater heat-absorption potential than CO2, include fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFC), and sulfur hexafluoride (SF6) (CalEPA 2006).
The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHGs, Earth's surface would be about 34° C cooler (CalEPA 2006). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

The environmental setting was previously discussed in detail in the air quality section (See: Section 6.3). To avoid duplicative discussions, please refer to Section 6.3.

6.8.3.2 Projected Temperature Change in Lassen County

Overall, temperatures are expected to rise substantially throughout this century. During the next few decades, scenarios project average temperature to rise between 1°F and 2.3°F in California. (*Public Interest Energy Research Program, CEC 2011*) The projected temperature increases begin to diverge at mid-century so that, by the end of the century, the temperature increases projected in the higher emissions scenario are approximately twice as high as those projected in the lower emissions scenario. The projected temperature changes in 2099 scenarios for Lassen County ranges from 5.6 degrees Fahrenheit to 7.3 degrees Fahrenheit. (*Public Interest Energy Research Program, CEC 2011*)

6.8.3.3 Overview of Climate Change and Health Impacts

Researchers have examined the pathways in which increased temperatures and hydrologic extremes can impact health and generally recognize three (3) main pathways: direct exposures, indirect exposures, and socioeconomic disruption. Based on the review of weather-related natural disasters and historical patterns and scientific judgment, public health researchers have suggested the nature and direction of health harms or benefits. (*Climate Change and Health Profile Report, Lassen County, California Department of Public Health, February 2017*)

Extreme Weather-Related Injury, Displacement, and Mental Health

Extreme weather events (storms, flooding) cause fatal and nonfatal injuries from drowning, being struck by objects, fire, explosions, electrocution, or exposure to toxic materials. A widespread weather-related natural disaster may destroy or ruin housing, schools and businesses and cause temporary or permanent displacement. Individuals and families may experience post-traumatic stress, depression, and increased risk of suicide.

Health Impacts of Heat

Increased temperatures manifested as heat waves and sustained high heat days directly harm human health through heat-related illnesses (mild heat stress to fatal heat stroke) and the exacerbation of pre-existing conditions in the medically fragile, chronically ill, and vulnerable. Increased heat also intensifies the photochemical reactions that produce smog and ground level ozone and fine particulates (PM2.5), which contribute to and exacerbate respiratory disease in children and adults. Increased heat and carbon dioxide enhance the growth of plants that produce pollen, which are associated with allergies. Increased temperatures add to the heat load of buildings in urban areas and exacerbate existing urban heat islands adding to the risk of high ambient temperatures.

Health Impacts of Drought

Lack of moisture, already at a severe level in California due to a current multi-year drought and decades of fuel accumulation from historical forestry and fire suppression practices, increases the risk of wildfires. Devastating wildfires like the Campfire of 2018 impact watersheds and increase the risk of landslides or mudslides, and sediment in run-off that reduce water quality. In addition to fire related injuries, local and regional transport of smoke, ash, and fine particles increases respiratory and cardiovascular risks. Increasing temperatures and changes in precipitation may lead to intensified drought conditions. Drought decreases the availability and quality of water for humans. This includes reduced water levels to fight wildfires. Drought may increase exposure to health hazards including wildfires, dust storms, extreme heat events, flash flooding, degraded water quality, and reduced water quantity. Dust storms associated with drought conditions have been associated with increased incidents of Valley fever, a fungal pathogen.

Vector-borne Illnesses

Climatic changes alter the range, biogeography, and growth of microbes and the vectors of food, water, and vector-borne illnesses. This includes the changes in aquatic environments that could increase harmful algal blooms and lead to increases in foodborne and waterborne illnesses.

Food Insecurity

Climate change is expected to have global impacts on food production and distribution systems.19 This can cause food prices to increase, which makes food less affordable and increases food insecurity, obesity, and malnutrition in economically constrained households.

Socioeconomic Disruption

Widespread social and economic disruption includes damage to the infrastructure for the delivery of health services and for general economic well-being. Health care facilities, water treatment plants, and roads for emergency responders and transportation for health care personnel can be damaged in climate-related extreme weather events. Increased burden of disease and injury will test the surge capacity of health care facilities. Economic disruption can lead to income loss, income insecurity, food insecurity, housing insecurity, and mental health problems, which in turn may increase substance abuse, suicide and other health problems. Energy production and distribution is also threatened by heat and wildfires through loss

of efficiency, generating capacity, and fires disrupting transmission lines. California's ports that provide the gateway to goods for California, national, and international markets are at risk from sea level rise and coastal storms.

6.8.3.4 Health Status, Health Inequities, and Population Vulnerabilities in Lassen County

There is a broad range of environmental hazards attributed to climate change including heat waves, wildfires and wildfire smoke, air pollution, sea level rise and inland flooding. All Californians are at risk from extreme heat. In 2010, approximately 31% (10,680 residents) of Lassen County's population lived in fire hazard zones of moderate to very high severity. From 1980 to 1989 (a pre-climate change baseline), wildfires at least 490 acres in size consumed a total of 66,363 acres in Lassen County. Climate change affects the social and environmental drivers of health outcomes. The effects of climate change can exacerbate existing health conditions and compound the risks of adverse health outcomes. The age adjusted death rate, which considers the effect of the population's age distribution, is a basic indicator of the health status of communities. In 2010, the age adjusted death rate in Lassen County was higher than the state average. Pooled with several nearby counties (Trinity, Modoc and Siskiyou), nearly 59% of adults (42,896) reported one or more chronic health conditions like heart disease, diabetes, asthma, severe mental stress or high blood pressure in 2012. In 2012, 14% of adults reported having been diagnosed with asthma (pooled for Del Norte, Lassen, Modoc, Plumas, Sierra, Siskiyou, and Trinity Counties). In 2012, approximately 31% of adults were obese (pooled for Del Norte, Lassen, Modoc, Plumas, Sierra, Siskiyou, and Trinity Counties; statewide average was 25%). In 2012, nearly 16% of residents aged 5 years and older had a mental or physical disability (statewide average was 10%). In 2005- 2010, there was an annual average of 7 heat-related emergency room visits and an age-adjusted rate of 17 emergency room visits per 100,000 persons (the statewide age-adjusted rate was 10 emergency room visits per 100,000 persons). Among climate-vulnerable groups in 2010 were 1,625 children under the age of 5 years and 3,474 adults aged 65 years and older. In 2010, there were approximately 9,774 people living in nursing homes, dormitories, and other group quarters where institutional authorities would need to provide transportation in the event of emergencies.

Social and demographic factors and inequities affect individual and community vulnerability to the health impacts of climate change. In 2010, 1% of households (63) did not have a household member 14 years or older who spoke English proficiently (called linguistically isolated; of adults aged 25 years and older had less than a high school education (statewide average was 19%).

In 2010, 14% of the population had incomes below the poverty level (the statewide average was 14%). Eighteen percent of households paid 50% or more of their annual income on rent or a home mortgage (statewide average was 22%). In 2012, approximately 46% (pooled for Del Norte, Lassen, Modoc, Plumas, Sierra, Siskiyou, and Trinity Counties) of low-income residents reported they did not have reliable access to a sufficient amount of affordable, nutritious food (called food insecurity; statewide average was 42%).

In 2010, Lassen County had approximately 570 outdoor workers whose occupation increased their risk of heat illness. In 2010, roughly six percent of households did not own a vehicle that could be used for evacuation (statewide average was 8%). In 2009, approximately 53% of households were estimated to lack air conditioning, a strategy to counter adverse effects of heat (statewide average was 36%). In 2011, tree canopy, which provides shade and other environmental benefits, was present on 9% of the county's land area (statewide average was 8%).

Social capital is embedded in social relationships and networks and refers to the existence of trust and mutual aid among the members of society. These relationships are important in building resilience when confronted with extreme climates. There is evidence that populations with higher levels of political participation also have greater social capital. Sixty-six percent of registered voters voted in the 2010 general election (statewide average was 58%).

Natural disasters worsened by climate change increase the displacement of victims, which in turn increase population densities and tensions over resources. Violent crime also increases during heat events. Safe neighborhoods that are free of crime and violence are an integral component of healthy neighborhoods and

community resilience. In 2010, Lassen County experienced approximately 3 violent crimes per 1,000 residents (statewide rate was 4 per 1,000 residents). These findings highlight specific populations that are most susceptible to health risks, as well as the social determinants of health and adaptive capacity that contributes to resilience or conversely intensifies the impacts from climate change.

6.8.4 Standards of Significance

GHG emissions project would be considered significant should the proposed Calneva BESS/PSES project:

- Generate greenhouse gas emissions. either directly or indirectly, that may have a significant impact on the environment; and
- Conflict with an applicable plan, policy or regulations adopted for the purpose of reducing the emissions of greenhouse gasses.

6.8.5 Impacts and Mitigation Measures

6.8.5.1 Calneva BESS/PSES project GHG-specific Impacts

Construction activities would primarily produce GHG emissions from the combustion of fossil-fuel based by construction equipment. According to the model produced with CalEEMod emissions modeling software, the construction of the proposed Calneva BESS/PSES project without the adoption of any mitigation measures would generate an estimated a 779.06 MT of CO_2e emissions in 2020 and 935.38 MT CO_2e emissions in 2021 for a total of 1,714.44 MT. When amortized over a 30-year period (the assumed life of the project), construction emissions would constitute approximately 57.14 MT CO_2e per year. The proposed Calneva BESS/PSES project, falls well below the established significance threshold of 3,000 MT CO_2e/year. Furthermore, these estimations do not factor in the reduction of total GHG emissions that would result from the increased efficiency the BESS would provide for the regional power grid, nor does it calculate the GHG emission offsets to be expected from the PSES. It is, therefore, considered that the project would not generate emissions exceeding established thresholds and impacts would be less than significant.

No specific mitigation measures will be required for the GHG emissions of the proposed Calneva BESS/PSES project. However, mitigation measures previously discussed in the air quality section would contribute to further limiting the release of GHGs. These measures include:

AQ-3: Use alternative fuel or catalyst-equipped diesel construction equipment.
AQ-4: Minimize idling time (e.g., 10-minute maximum).
AQ-5: Replace fossil-fueled equipment with electrically driven equivalents when possible.

6.8.6 Green House Gas Initial Study Responses

Table 6.8-1: Green House Gas Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☑	☐

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulations adopted for the purpose of reducing the emissions of greenhouse gasses?	☐	☐	☐	☑

6.8.7 Response to Initial Study Questions

6.8.7.1 Generate Green House Gas Emissions: Less Than Significant Impact

The operations of the proposed Calneva BESS/PSES project does not entail the emissions of GHGs and as a replacement power source for existing thermal power plants currently servicing the electric grid, will only serve to reduce GHG emissions. As documented above, the only noteworthy GHG emissions associated with the Calneva BESS/PSES project are associated with the construction phase which will last up to 10 months. The long term GHG emissions associated with the construction and operation of the proposed Calneva BESS/PSES project would fall well below threshold levels of significance established at 3,000 MT of CO_2e/year. The proposed Calneva BESS/PSES project is therefore deemed to represent a less than significant impact. Furthermore, although the likely GHG impacts associated with the Calneva BESS/PSES project have been shown to be less than significant prior to mitigation, additional mitigation measures will be employed throughout the construction phase to ensure that air pollution emitted from the construction equipment is as low as reasonably practicable. As such, the impact on GHG emissions from both the construction and operation of the proposed Calneva BESS/PSES project is Less Than Significant.

6.8.7.2 Conflict with an Applicable Plan Adopted to Reduce Green House Gas Emissions: No Impact.

The proposed Calneva BESS/PSES project will not conflict with any regional or local Climate Action Plans and, therefore, will have no impact on any such plan. Additionally, the implementation of the Calneva BESS/PSES project will help improve efficiency on the electric grid and provide an additional source of zero emissions, renewable energy, thus helping to achieve statewide GHG emissions targets. There will, therefore, be No Impact to applicable plans that have been adopted to reduce GHGs.

6.9 HAZARDS AND HAZARDOUS MATERIALS

This section contains a description of hazards and hazardous materials in the proposed project lease area as well as hazardous materials which may be found within the vicinity and within the region, generally. The discussion is based primarily on environmental records, and available environmental hazard literature. These data sources were supplemented by observations made during site reconnaissance visits conducted on December 20, 2019 and documented in a Phase 1 Environmental Site Assessment. (See Appendix H: *Phase 1 Environmental Site Assessment*)

Hazards related to the proposed Calneva BESS/PSES project primarily fall under two categories based on the origin of the hazard: (1) hazards created by project operations that impact facilities and/or people on the proposed project lease area or nearby and (2) hazards created by nearby uses that impact the BESS/PSES facilities and/or people on or near the proposed project lease area. Exposure to hazardous chemicals could fall under both categories (hazardous chemicals could originate onsite or offsite), whereas risk to people and property on the proposed project lease area by proximity to airports would fall under the second category.

6.9.1 Background

6.9.1.1 Hazardous Substances Defined

Hazardous materials can be defined as such based on various criteria, including toxicity, ignitability, corrosivity, or reactivity. The term "hazardous material" is defined as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment. (California Code of Regulations (CCR) Title 22, Division 4.5 Chapter 10, Article 2, §66260.10).

Once a hazardous material becomes ready for discard, it becomes a hazardous waste. A hazardous waste, for the purpose of this report, is any hazardous material that is abandoned, discarded, or (planned to be) recycled. In addition, hazardous wastes may occasionally be generated by actions that change the composition of previously non-hazardous materials. The same criteria: toxicity, ignitability, corrosivity, or reactivity that renders a material hazardous makes waste hazardous. (CCR Tit. 22, Div. 4.5 Ch. 10, Art. 3).

6.9.1.2 Regulatory Context

Numerous federal, state, and local agencies regulate the storage, use, transport, generation, or handling of these materials. The transfer, handling, storage, and transport of hazardous liquid bulk cargoes within the proposed project lease area are governed by the Lassen County Environmental Health Services (LCEHS).

Federal Regulations

Regulations Pertaining to Hazardous Substances

Federal regulatory agencies include the United States Environmental Protection Agency (U.S. EPA), Occupational Safety Health Administration (Fed/OSHA), the United States Department of Transportation (DOT) and the National Institute of Health (NIH). The following represent some of the federal laws and guidelines governing hazardous substances:

- Clean Air Act (CAA) (42 US Code Section 7401, et seq./40 CFR)
- Occupational Safety and Health Act (29 US Code Sections 651, et seq./29 CFR)
- Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (42 US Code Section 9601, et seq./29, 40 CFR)
- Superfund Amendments and Reauthorization Act Title III (42 USC Section 11001, et seq./29, 40 CFR)
- Resource Conservation and Recovery Act (RCRA) (42 US Code Section 6901, et seq./40 CFR)
- Safe Drinking Water Act (42 US Code Section 300f, et seq./40 CFR)
- Toxic Substances Control Act (15 US Code Section 2601, et seq./40 CFR)
- Hazardous Materials Transportation Act (49 U.S.C. 1801, et seq.) and regulations issued under that Act by the US Department of Transportation

- Pollution Prevention Act (42 US Code Section 13101, et seq./40 CFR)
- Renewable Fuel Standard Program and RIN Generation registration (40 CFR 80.1126(e)(2).
- Emergency Planning and Community Right-to-Know Act 40 CFR 355
- Reporting Hazardous Chemical Storage – Tier II Reporting

At the federal level, the principal agency regulating the generation, transport, and disposal of hazardous substances is the U.S. EPA, under the authority of RCRA. U.S. EPA regulates hazardous substance sites under CERCLA. Applicable federal regulations are contained primarily in Titles 29, 40, and 49 of the CFR.

Hazardous Substances Worker Safety Requirements

The Fed/OSHA is the agency responsible for ensuring worker safety. Fed/OSHA sets federal standards for implementation of training in the workplace, exposure limits, and safety procedures in the handling of hazardous substances (as well as other hazards). Fed/OSHA also establishes criteria by which each state can implement its own health and safety program.

Hazardous Materials Transportation

The DOT regulates the interstate transport of hazardous materials and wastes through implementation of the Hazardous Materials Transportation Act. This Act specifies driver training requirements, load labeling procedures, and enclosure design and safety specifications. Transporters of hazardous wastes must also meet the requirements of additional statutes such as RCRA.

Hazardous Substances Handling Requirements

RCRA established a federal hazardous substance "cradle-to-grave" regulatory program that is administered by U.S. EPA. Under RCRA, U.S. EPA regulates the generation, transportation, treatment, storage and disposal of hazardous substances. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle-to-grave" and specifically prohibits the use of certain techniques for the disposal of certain hazardous substances.

U.S. Environmental Protection Agency (EPA)

The EPA is responsible for the National Contingency Plan and acts as the lead agency in response to an onshore spill. EPA also serves as co-chairman of the Regional Response Team, which is a team of agencies established to aid and guidance to the on-scene coordinator (OSC) during the response to a spill. The EPA also regulates disposal of recovered oil and is responsible for developing regulations for Spill Prevention, Control, and Countermeasures (SPCC) Plans. SPCC Plans are required for non-transportation-related onshore and offshore facilities that have the potential to spill oil into waters of the U.S. or onto adjoining shorelines. The proposed Calneva BESS/PSES project would be required to prepare and maintain a SPCC Plan.

State Regulations

Regulations Pertaining to Hazardous Substances

The agency which has primary State jurisdiction to regulate and enforce hazardous materials regulations within the proposed project lease area is LCEHS. However, the Regional Water Quality Control Board (RWQCB) and the California Department of Toxic Substances Control (DTSC) have secondary jurisdiction, and in instances in which hazardous waste may cause air pollution, the LCAPCD would also have jurisdiction. Lastly, both the federal and state Occupational Safety and Health Administration (Fed/OSHA and Cal/OSHA) in the preparation of hazardous materials remediation site safety plans intended to protect the health of construction and contamination remediation workers.

The California Environmental Protection Agency (Cal/EPA) and the Office of Emergency Services (OES) establish rules governing the use of hazardous substances. The California State Water Resources Control Board (SWRCB) has primary responsibility to protect water quality and supply.

Cal/EPA was created in 1991 to better coordinate state environmental programs, reduce administrative duplication, and address the greatest environmental and health risks. Cal/EPA unifies the state's

environmental authority under a single accountable cabinet-level agency. The Secretary for Cal/EPA oversees the following agencies: Air Resources Board, Integrated Waste Management Board, Department of Pesticide Regulation, SWRCB, DTSC, and OES.

Applicable State laws include the following:

- California Accidental Release Prevention Law (California Health and Safety Code Section 25531, et seq./19 CCR)
- California Fire Code (California Health and Safety Code Section 13000, et seq./19 CCR)
- Uniform Fire Code (California Code of Regulation Section 1924(b), 3221, 6150, 6184)
- Carpenter-Presley-Tanner Hazardous Substance Account Act "State Superfund" (California Health and Safety Code Section 25300, et seq./California Revenue and Tax Code Section 43001, et seq.)
- California Building Code (California Health and Safety Code Section 18901, et seq./24 CCR)
- Hazardous Waste Control Law (HWCL) (California Health and Safety Code Section 25100, et seq./22 CCR)
- California Occupational Safety and Health Act (Cal/OSHA) (California Labor Code Section 6300-6718/ 8 CCR)
- Hazardous Materials Handling and Emergency Response "Waters Bill" (California Health and Safety Code Section 25500, et seq./19 CCR)
- Hazardous Substances Act (California Health and Safety Code Section 108100, et seq.)
- Safe Drinking Water and Toxic Enforcement Act "Proposition 65" (California Health and Safety Code Sections 25180.7, 25189.5, 25192, 25249.5-25249.13/8, 22 CCR)
- California Air Quality Laws (California Health and Safety Code Section 39000, et seq./17 CCR)
- California Clean Air Act (California Health and Safety Code Section 44300, et seq./17 CCR)
- Hazardous Substances Information and Training Act (Cal/OSHA) (Worker Right-to-Know Law) (California Labor Code Section 6360, et seq.)
- Hazardous Substances Release Response Plans and Inventory Act
- Air Toxics "Hot Spots" Information and Assessment Act of 1987 (A.B. 2588) (California Health and Safety Code Section 44300, et seq.) (17 California Code of Regulations Section 90700, et seq.)

Hazardous Substances Handling Requirements

Within the Cal/EPA, DTSC has primary regulatory responsibility, with delegation of enforcement to disposal of hazardous substances under the authority of the Hazardous Waste Control Law (HWCL). Regulations implement the HWCL list of hazardous chemicals and more common substances that may be considered hazardous; establish criteria for identifying, packaging and labeling hazardous substances; prescribe management of hazardous substances; establish permit requirements for hazardous substances treatment, storage, disposal and transportation; and identify hazardous substances that cannot be deposited in landfills.

Under both RCRA and the HWCL, the generator of a hazardous substance must complete a manifest that accompanies the waste from the point of generation to the ultimate treatment, storage, or disposal location. The manifest describes the waste, its intended destination, and other regulatory information about the waste. Copies must be filed with the DTSC. Generators must also match copies of waste manifests with receipts from the treatment, storage, or disposal facility to which it sends waste.

Hazardous Substances Worker Safety Requirements

Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations within the State. Cal/OSHA standards are more stringent than federal regulations. Cal/OSHA regulations concerning the use of hazardous substances include requirements for safety training, availability of safety equipment, hazardous substances exposure warnings, and emergency action and fire prevention.

Cal/OSHA enforces the hazard communication program regulations, which include provisions for identifying and labeling hazardous substances, describing the hazards of chemicals, and documenting employee-training programs.

Both federal and state laws include special provisions for hazard communication to employees who work with and/or encounter hazardous materials and wastes. The training must include safe methods for handling hazardous substances, an explanation of MSDS, use of emergency response equipment, implementation of an emergency response plan, and use of personal protective equipment.

Groundwater Regulatory Background

Acting through the RWQCB, the SWRCB regulates surface and groundwater quality pursuant to the Porter-Cologne Water Quality Act, the federal Clean Water Act, and Underground Tank Regulations. Under these laws, RWQCB is authorized to supervise the cleanup of hazardous wastes sites when two conditions are met: (1) the potential for water pollution exists and (2) RWQCB assistance is requested by local agencies.

Depending on the nature of contamination, the lead agency responsible for the regulation of hazardous materials at the site can be the DTSC, RWQCB, or both. DTSC evaluates contaminated sites to ascertain risks to human health and the environment. Sites can be ranked by DTSC or referred for evaluation by the RWQCB. Cal/EPA (DTSC) and Cal/OSHA are responsible for ensuring that appropriate measures are taken to protect workers from exposure to potential groundwater contaminants.

Hazardous Materials Transport

California law requires that Hazardous Waste (as defined above) be transported by a California registered hazardous waste transporter that meets specific registration requirements. The requirements include possession of a valid Hazardous Waste Transporter Registration, proof of public liability insurance, which includes coverage for environmental restoration, and compliance with California Vehicle Code registration regulations required for vehicle and driver licensing.

State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and the California Department of Transportation (Caltrans). Together, these agencies determine enclosure types used and license hazardous waste haulers for hazardous waste transportation on public roads.

Local Regulations

The Unified Hazardous Waste and Hazardous Management Regulatory Program (SB 1082, 1993) is a state and local effort to consolidate, coordinate, and make consistent existing programs regulating hazardous waste and hazardous materials management. Cal/EPA adopted implementing regulations for the Unified Program (CCR, Title 27, Division 1, Subdivision 4, Chapter 1) in January 1996. The Unified Program is implemented at the local level by Certified Unified Program Agencies (CUPAs).

The LCEHS is the Certified Unified Program Agency (CUPA) for cities and unincorporated areas within Lassen County (County). LCEHS regulates the use, storage and disposal of hazardous materials by issuing permits, inspecting facilities, and investigating complaints. LCEHS issues permits for installation and removal of aboveground and underground storage tanks. LCEHS inspects businesses for compliance with the Hazardous Waste Control Act which places limitations on hazardous waste: storage duration, disposal, and labeling. LCEHS also requires businesses that handle hazardous materials and hazardous wastes to submit an annual inventory of hazardous materials and hazardous wastes as well as an emergency response to incidents involving those hazardous materials and wastes.

6.9.1.3 Required Permits and Approvals

The Doyle Fire Protection District and CUPA will require Calneva BESS/PSES project to prepare and submit contingency plans: Fire Protection Plan, Emergency Response Plan, and Hazardous Materials Business Plan.

6.9.2 Methodology

Surrounding potential hazards, hazardous materials, and public health impacts associated with the proposed Calneva BESS/PSES project were evaluated through the review of historical records and government agency-maintained databases and records of known hazards at within the area, hazardous materials contamination, generation, and/or storage as part of the Environmental Database Report (EDR).

A Phase 1 Environmental Site Assessment (ASTM 1527-E) was performed on the property in December 2019, neither of which revealed existing hazardous conditions on the property. See Appendix H: *Phase 1 Environmental Site Assessment.*

Four steps have been undertaken to assess the safety impacts and the hazards associated with the proposed Calneva BESS/PSES project : (1) develop a range of potential upset scenarios associated with the proposed Calneva BESS/PSES project ; (2) estimate the likelihood of the upset scenarios occurring; (3) estimate the consequences of the scenarios, should they occur; and (4) determine the significance of risk based on the probability of occurrence and the severity of consequences.

The risk-of-upset analysis evaluates outcomes of potential upset scenarios, which are the culmination of several events that result in a hazard to the public and/or environment. Some upset scenarios could lead to a significant impact to public safety (e.g., battery storage system malfunction, runaway reaction or overcharging event, results in fire, toxic air release that reaches a residence and results in an injury). Other upset scenarios do not create a significant impact to safety but create a significant impact to the environment (e.g., battery storage system malfunction resulting in emitting pollutants into the atmosphere). Parts of a given scenario have different likelihoods or probabilities. Probabilities and consequences of various project-related upset events and scenarios are assessed in this section.

6.9.3 Environmental Setting

6.9.3.1 Phase 1 Environmental Site Assessment (ESA)

A Phase 1 Environmental Site Assessment (ESA) was conducted by Sierra Geotech, Inc. for the parcel and proposed project lease area. (See Appendix H: *Phase 1 Environmental Site Assessment*) The review included a preliminary review of past and present land use practices; a records review (historical site plans, environmental regulatory/agency lists and records); reconnaissance of the parcel and proposed project lease area and surrounding area; and interviews with Dr. Charles Hooper, DO, CDR (RET) MC, USN, the property owner regarding the current and past operations on the proposed project lease area. Subsurface investigations were not performed. However, based on the ESA, no potential subsurface impacts were identified. EDR records were reviewed in conjunction with the ESA completed by Sierra Geotech, Inc. staff in December 2019. The December 2019 ESA encompassed the entire parcels from which the proposed project lease area will be carved out. No Recognized Environmental Condition (REC) or other contamination was found on the parcels in December of 2019.

6.9.3.2 Setting.

The proposed lease area for the Calneva BESS/PSES project is approximately 278 +/- acres located on Lassen County Assessor's Parcel Numbers (APNs) 137-170-12, (180 acres) and 137-170-13, (98 acres) off of Lassen County road, Calneva Road within Lassen County. The proposed lease area is currently vacant land. The Calneva BESS/PSES project will occupy land that is on both sides of the Union Pacific railroad tracks.

To the north, of the Calneva BESS/PSES project is a vacant range land for several miles. Across Calneva Road, is also open range land for several miles with no improvements. No improvements or land use activities are present within a five (5) mile range of the proposed lease area in all directions. There are no sensitive receptors within miles of the proposed project lease area. The nearest school, Fort Sage Middle School, and Herlong High School are located approximately five (5) miles west of the proposed project lease area. The Calneva BESS/PSES project lease area is not located near any airport or aviation facility. The nearest airport is located approximately eight (8 +) plus miles from the proposed project lease area known as Herlong Airport-H37.

6.9.3.3 PSES PV Panels

The PV panels may include solid materials that are considered to be hazardous. To address management of such materials, the Calneva BESS/PSES project contract with the selected PV panel manufacturer would include a provision requiring the manufacturer to receive and recycle or dispose of any broken or defective modules. Because such materials are in a solid and non-leachable state, broken PV panels would not be a source of pollution to stormwater and can be easily contained.

6.9.3.4 BESS Safety Systems and Controls.

Safety and reliability systems would be implemented in accordance with a Design Failure Mode and Effects Analysis (DFMEA) performed as part of the BESS facility's early design phase. Safety and reliability systems would include voltage and current protection via software controls; physical protection via component isolation; and fire alarm and suppression systems. The battery storage control system has built-in, redundant protection functions at multiple equipment and software levels for:

- Battery cell over/under temperature protection
- String over voltage protection
- String over-current protection
- Environment over/under temperature protection
- Islanding (i.e., "anti-islanding" protection that would cause an automatic shutdown in the event of a power outage or other grid problem)

The battery system would be comprised of lithium ion pouch cells that are arranged into a module, where multiple modules are placed into a rack, and racks are placed into an enclosure and enclosures are clustered. There are physical, electrical, and control designs at each level that mitigate safety risks. These multiple layers of protection are summarized below, as well as protections external to the enclosure provided at the Calneva BESS/PSES project lease area and from local agency fire and emergency response services (Doyle Fire Protection District).

Lithium Ion Battery Technology Overview. In general, a Lithium Ion (Li-ion) battery is a rechargeable type of battery consisting of three (3) major functional components: a positive electrode made from metal oxide; a negative electrode made from carbon; and, electrolyte solution made from lithium salt. Lithium ions move from negative to positive electrode during discharging and in the opposite direction when charging.

There are five major Li-ion battery sub-chemistries that are commercially available. They are:

1. Lithium Nickel Cobalt aluminum (NCA)
2. Lithium Nickel Manganese cobalt (NMC)
3. Lithium Manganese oxide (LMO)
4. Lithium titanite oxide (LTO)
5. Lithium-iron phosphate (LFP)

It is anticipated by the Calneva BESS/PSES project that the battery storage system would utilize an LFP technology developed by many manufacturers (*Final Determination will be made at 90% Plans and Specifications Stage*). The proposed battery storage system would be designed, constructed, operated and maintained in accordance with applicable industry best practices and regulatory requirements, listed below in Table 6.9.1: *Industry Design Standards*.

Table 6.9-1: Industry Design Standards

Regulations & Standards	Compliance
Inverter, Converter, Controllers & Interconnection System Equipment	UL 1741 (Inverter only)
Interconnecting Distributed Resources with Electric Power Systems	IEEE 1547
Seismic Rating	IBC / CBC Zone 4
Communication	FCC Part 15B Class A
National Electric Code	The system would conform to NEC 2011, ANSI/NFPA 70 with regards to wire sizing, fuses, and circuit breakers.
Sizing of the Halon fire suppression system	NFPA 2003
Transportation	UN Manual Section 38.3, DOT, PHMSA Class 9
Harmonic Control in Electrical Power Systems	IEEE 519
Signage of Hazardous Materials for Emergency Response	NFPA 704
Product Safety Signs and Labels	ANSI Z535
Transformer Standards	ANSI C57
Surge Withstand Capabilities	ANSI C37
Battery Cell safety	UL1642, IEC62133, EN62133, UN38.3
Battery Module safety	UL1973, UN38.3

Industry standards are outlined in a 2014 study prepared by Pacific Northwest National Laboratory for US Department of Energy (Conover 2014). A partial list of these design materials includes:

- Computer software analysis for battery storage system heat generation and HVAC capacity based on final selection of the battery chemistry
- Battery rack design drawings
- A jurisdictional agency (e.g. Doyle Fire Protection District) evaluation of fire suppression system adequacy
- Vendor report on effectiveness of Stat-X (aerosol) Fire Suppression System
- CAISO accepted power system load flow (PSLF) modeling for evaluation of the battery storage system's effect on the electrical grid
- Transformer short circuit duty requirements (short circuit duty is a description of the severity of overcurrent that a device can reasonably be expected to withstand)

This study also provides recommended safety measures based on other California battery storage projects. Lithium batteries are used as a cathode material for electric vehicles and stationary energy storage facilities due to their low cost, thermal stability, abundance and lack of toxicity. Numerous tests are performed to examine the risk of fire and explosion to these products. According to many manufacturers of Lithium-ion batteries no fire or explosion has occurred under the scenarios tested to date.

Governing Regulations and at BESS Existing Facilities. The components of BESS battery systems are qualified to the following international standards:

- Battery Cell: UL 1642, UN DOT Transportation Testing and Certifications (UN DOT 38.3) for Lithium Batteries
- Battery Module: UL 1973, CE, EMC, UN DOT Transportation Testing and Certifications (UN DOT 38.3) for Lithium Batteries. UL 1973 requires that a battery storage system cannot be an

explosion hazard when attacked by an external fire source, and that a single cell failure in an energy storage system pack would not result in a cascading thermal runaway.

- Production facilities and quality procedures: ISO9001; ISO14001; OHSAS18001[1]; and Technical Specification (TS) 16949.

Lithium Ion Cell Level Features. Each battery is built up from several small, pouch-type cells. Each cell measures approximately 9.8 inches in length, 6.5 inches in width, and is 0.2 inches thick. The battery cell must pass abuse tests according to UL Standard 1642 for Lithium Batteries. This standard includes protocols for several tests designed to reduce the risk of fire or explosion, including electrical tests, mechanical tests, environmental tests, and fire exposure tests.[2] In the case of any cell-level thermal event, the module is designed to provide additional containment to prevent thermal runaway.

Module Level Features. The system is designed to prevent events such as: over currents, over voltage, under voltage and over temperature. The module must also comply with UL Standard 1973 - Batteries for Use in Light Electric Rail and Stationary Applications.[3] Additional physical containment and electrical protection is provided in both the hardware and the software such as module metal encasing, rack structure and fastening, battery management system (BMS) software for diagnosing abnormal characteristics, fuses in each module and at the rack level.

Many BESS facilities have tested the fire suppression system in a test where they artificially created a short circuit in a module. The fire was put out after a minute from the start of gas injection (gas injection for 90 seconds). Tests have also verified that a fire in one battery module would not result in the fire spreading to adjacent modules. The potential risk of explosion is also addressed in the cell and module design. The cell's metal electrodes are contained in a thin, non-rigid aluminum 'pouch'. During normal charge and discharge cycling of the battery, there would be some limited degradation of the electrolyte and cathode, and the chemical processes would result in the production of a small quantity of CO_2 gas. This results in a slight swelling of the pouch with the volume increasing by about 5 percent. Such swelling is accounted for in the design of the battery sub-modules (i.e., stacks of battery cells) by (1) inclusion of compressible pads between cells, and (2) design of the sub-modules' end-plates, such that there is no risk to the integrity of the cells, sub-modules, or complete battery systems.

Rack Level Features. Typical BESS facility battery modules are assembled into self-contained racks. Battery protection at the rack level includes BMS communication, pre-charge relay and resisters for inrush current prevention, circuit breakers to protect overcurrent, sensors for measuring voltage and current, and emergency stops.

Enclosure and Control System Features. Inside the enclosure that houses the battery cells, modules, and racks, there is a broader system that enables the racks' energy to be aggregated, inverted from DC to AC power, and transformed to the interconnection voltage level. The enclosure that would house the battery racks (roughly 24 racks per enclosure) would have several safety systems including an HVAC system that is sized to maintain the advised temperature range and account for the heat dissipation from the batteries when being charged or discharged. The heating and cooling system is designed with redundancy.

System-level protections designed to maintain battery health and safety include an automatic stop to battery operations at certain temperatures and dangerously high and low states of charge (i.e., near 0 percent and 100 percent).

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[1] See: http://www.ohsas-18001-occupational-health-and-safety.com/

[2] See: http://ulstandards.ul.com/standard/?id=1642_5

[3] See: http://ulstandards.ul.com/standard/?id=1973_1

The battery storage system control system would detect and categorize all device or internal communication faults as Warning, Normal Error or Critical Error faults. All fault occurrences would generate alerts that are sent to monitoring systems and over Web Service to the battery storage system supplier's portal, and email notifications to the BESS operator. If any critical error occurs, the system stops charge/discharge operations within milliseconds and the DC contactor is opened to cut off any current flow.

The battery storage system would be controlled remotely from offsite offices. However, the battery storage system's onsite emergency shutdown system (ESS) controller has a Human Machine Interface (HMI) accessible from the front of the inverter in the PCS that would enable onsite personnel to view status information, including state of charge, charge/discharge modes, and the ability to input commands to operate the system in local mode.

This HMI also enables Lassen County emergency responder (Doyle Fire Protection District) personnel to shut off the equipment in the event of an emergency. In addition, security lighting and surveillance cameras would be installed and continuously monitored from Calneva project offsite operations facility.

The battery storage system design adheres to requirements related to posted safety and warning placards. The battery storage system supplier would develop site specific operating and maintenance and safety manuals. As part of the BESS facility commissioning process, the battery storage system supplier would provide classroom and field training (operations, maintenance and safety) to the Calneva operators including instructions and procedures on PCS and battery/module safety during maintenance and replacement. Manual disconnects would be installed on the auxiliary power, PCS, and battery strings, enabling manual shutdown of all electrical equipment during maintenance and service.

Fire Safety and Suppression Systems. The battery storage system would be designed and operated in accordance with applicable industry best practices and regulatory requirements, including fire safety standards (Table 6.9.1: *Industry Design Standards*). In addition, the battery installation would follow NFPA 850 standards (NFPA 2015).

The battery storage unit enclosure includes a fire suppression system designed to detect and suppress fires. If smoke or heat is detected or if the system is manually triggered, an alarm would sound, horn-strobes would flash, and the system would release Stat-X aerosol fire suppression from pressurized storage cylinders in the battery enclosure. Stat-X aerosol fire suppression generators provide highly effective, environmentally friendly fire suppression for fires in enclosed facilities and local spaces. Unlike FM-200, Halon or C02, the Stat-X systems don't require the pressure vessels, pipe work, and installation manpower. The aerosol generators are virtually maintenance free. The Stat-X generators effectiveness is a function of its patented design, aerosol composition, and the ultra-fine aerosol particles produced. Both are non-toxic, and non-corrosive. The agent is potassium based and is 5 times as effective as Halon. Primary extinguishing mechanism is chemical interference with free radicals of flame, which interrupts the propagation of fire. Stat-X is an ideal fire solution for energy storage containers, or sea cans with power generators.

Stat-X system is listed as "acceptable for occupied areas" under the Significant New Alternatives Program (SNAP), the U.S. EPA program to evaluate and regulate substitutes for ozone-depleting chemicals. When discharged, the Stat-X aerosol flows through a network of nozzles in the battery enclosure and vaporizes, extinguishing a fire within seconds. Stat-X aerosol is specifically designed to extinguish Li-ion battery fires, and does not contain water, which is reactive with Lithium. The aerosol agent is used as a propellant in pharmaceutical inhalers that dispense asthma medications. Activation of the Stat-X system would not endanger Calneva, BESS facility operating personnel or emergency responders.

Calneva BESS Facility Safety Systems. Emergency response plans will be prepared for the Calneva BESS Facility prior to operations. Calneva project operators will initiate consultation with the Doyle Fire Protection District to address potential contingency situations associated with the battery storage systems. In coordination with the Doyle Fire Protection District, and Lassen County Environmental Health Department, the facility's contingency plans, including the Hazardous Materials Business Plan and

Emergency Response Plan would be prepared with appropriate plans and procedures to address battery storage system safety components.

Local Agency Response. Additional fire protection and emergency response capability is available from local fire and emergency response services. The proposed Calneva BESS/PSES project is located outside all fire service areas. The Doyle Fire Protection District is the only fire department which has the ability to respond to structure fires in the proximity of the proposed lease area. Wildland fires protection is contracted by Susanville Bureau of Land Management (BLM) to the Cason BLM Fire team for fire protection on wildland fires. The nearest fire station to the project lease area is located approximately 14.5 miles to the southwest at 747-150 East Main Street, Doyle, at the dead end of East Main Street in Doyle. Response time to the project lease area is approximately fifteen to twenty minutes.

Lithium Ion Transportation. Transportation of lithium ion batteries is subject to 49 CFR 173.185 – DOT Pipeline and Hazardous Material Administration. These regulations include requirements for prevention of a dangerous evolution of heat; prevention of short circuits; prevention of damage to the terminals; and the requirement that no battery come in contact with other batteries or conductive materials.

6.9.3.5 Hazardous Materials which may occur within the vicinity.

The agricultural community and military community (Sierra Army Depot) within Lassen County has many agricultural and military uses related to shipping and receiving of goods and commodities which include hazardous materials. Numerous facilities that handle, store, or transport hazardous material are located within the proximity of the proposed project lease area. Regulated, hazardous materials in the Lassen County agricultural community may include ag-use compounds such as chlorinated solvents, ammonia, petroleum products, compressed gases, paints, cleaners, fertilizers, herbicides and pesticides. Numerous federal, state, and local agencies regulate the storage, use, transport, generation, or handling of these materials. The transfer, handling, storage, and transport of hazardous materials within Lassen County is planned for by regional and community plans and is also under the review of a number of agencies and regulations, including the Doyle Fire Protection District, LCEHD-CUPA, and state and federal departments of transportation (49 CFR 2 Part 176).

The Sierra Army Depot stores, transports, and uses a variety of materials that are physically hazardous include combustible and flammable substances, compressed gases, oxidizers, etc. Health hazards are associated with materials that cause acute or chronic reactions, including toxic agents, carcinogens, and irritants. Most of the hazardous chemicals that are stored at the Sierra Army Depot occur in small quantities including pesticides, cleaners, janitorial supplies, paints, bleaches, and photographic chemicals.

6.9.4 Standards of Significance

An impact regarding hazards or hazardous material would be considered significant if the project would:

- Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.

- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

6.9.5 Impacts and Mitigation Measures

There would be no impacts related to airports, airstrips, fire dangers related to wildlands or residential housing, or emergency plans. With construction of the proposed Calneva BESS/PSES project, these impacts (or lack thereof) would remain the same as no airport/air strip would be located within the 8-mile radius, and no wildlands or residences would be constructed within 250 feet of the proposed BESS facilities.

The following analysis reviews the risk of upset and hazards associated with the proposed Calneva BESS/PSES project.

6.9.5.1 Risk Battery Transport in case of Replacement

Battery storage systems, such as the proposed Calneva BESS/PSES project, are designed so that batteries would not degrade to the point of needing to be replaced during the life of the project. However, if transport of batteries is necessary, this material would be classified mostly as universal waste under the Department of Toxic Substances Control (DTSC) regulations and guidance (DTSC 2015). Transportation of lithium ion batteries is subject to 49 CFR 173.185 – DOT Pipeline and Hazardous Material Administration. These regulations include requirements for prevention of a dangerous evolution of heat; prevention of short circuits; prevention of damage to the terminals; and the requirement that no battery meet other batteries or conductive materials. Adherence to the requirements, Calneva BESS/PSES personnel training, safe interim storage, and segregation from other potential waste streams would minimize any public hazard related to transport, use, or disposal of BESS facility batteries. In order to ensure that these requirements would be in place, mitigation measure HM-1 requires that the emergency plans be prepared for the Calneva BESS/PSES project and include the planning and training elements. Other uses of hazardous materials on the proposed project lease area would be those normally associated with modern electric utility infrastructure, including copper wiring and insulators. No liquid or gaseous compounds are expected to be used for the proposed BESS/PSES facility operations. Adherence to these requirements and mitigation measure HM-1 would ensure that project impacts would be less than significant.

6.9.5.2 Fire Hazards

The proposed Calneva BESS/PSES project would be a passive use that would not use hazardous materials on a regular basis that could be upset and cause a hazardous condition for the public. However, there is a risk of fire on the site resulting from overheating or other electrical fault conditions in the battery storage system, or fire that spreads to the proposed project from an adjacent property. If the multiple fire suppression systems that are proposed to be included in the battery storage system were to fail and emissions from the battery equipment were to be released to atmosphere, the fumes and smoke could be irritating and toxic. Depending on specific lithium chemistry, fumes could contain hydrogen fluoride or phosphorous compounds containing fluorides (Andersson et al. 2013).

The proposed battery storage system would include physical, electrical, and control features in order to control potential adverse conditions at the sources, and thus prevent offsite impacts. Protective measures are included in the project at the lithium ion cell level, the module level, the rack level, and the enclosure level to mitigate fire hazards.

The proposed Calneva BESS/PSES project proposes to use one of the standard type lithium-ion batteries (To be determined at 90% plans and specification). All battery manufacturers have performed multiple tests to examine the risk of fire and explosion when using lithium-ion type batteries. Under the scenarios tested

to date, no fire or explosion has occurred. The battery system would be protected by alerts, alarms, fire suppressions systems inside the enclosure, and external to the enclosure in the Calneva BESS facility. The battery storage system is designed in accordance with various electrical and safety codes and regulations and includes numerous safety features as described in the existing conditions section above. Key features include DFMEA in early design; voltage and current protection via software controls; physical protection via component isolation; and, fire alarm and suppression systems. The battery storage system enclosure would include a fire suppression system designed to detect and suppress fires. If smoke is detected or if the system is manually triggered, alarm bells would sound, horn-strobes would buzz and flash, and the Stat-X system would release a dry aerosol agent from canisters mounted in the battery storage system enclosure. The Stat-X aerosol agent is stored in pressurized cylinders. When discharged, the aerosol composition (potassium based), and the ultra-fine aerosol particles produced in the enclosure, creates chemical interference with free radicals of flame, which interrupts the propagation of fire. The system is designed to extinguish a fire within 10 seconds.

The aerosol agent is specifically designed to extinguish Li-ion battery fires, and would not contain water, which is reactive with Lithium. The aerosol agent is used as a propellant in pharmaceutical inhalers that dispense asthma medications, and exposure represents no risk to first responders if Stat-X activation occurs. There are some battery manufacturers that are producing batteries for BESS facilities that can use water for fire suppression. Other potential upset conditions include intentional or unintentional damage, theft, or vandalism resulting in damage to the battery storage system or exposure of the battery system components to the environment. Under such conditions, the equipment would be shut down and rendered inoperable, with no potential for offsite impacts. To prevent these types of upset conditions, the battery storage system would be located inside a secure gated and fenced area. Security lighting and surveillance cameras would be installed and continuously monitored from Calneva BESS/PSES offsite operations facility. Emergency response plans will be prepared and coordinated with Doyle Fire Protection District and Lassen County Sheriff. In order to ensure that the Doyle Fire Prevention District approves of all safety plans for the proposed Calneva BESS/PSES project , mitigation measure HM-1 requires that the Calneva BESS/PSES facilities contingency plans, including the Fire Protection Plan, Emergency Response Plan, and Hazardous Materials Business Plan incorporate appropriate plans and procedures to address potential contingency situations associated with the battery storage system in coordination with the Doyle Fire Prevention District, and the Lassen County Environmental Health Department-Certified Unified Program Agency (CUPA).

6.9.5.3 Public Safety

Sensitive public receptors are those locations such as residences, schools, daycare centers, etc. which might have persons present for extended periods of time, and thus would be potentially affected by a nearby catastrophic event. In the event of an accident in the vicinity of a sensitive receptor, consequences of the accident could be much greater than at other locations. There are no sensitive receptors located near the proposed Calneva BESS/PSES facility. The nearest sensitive receptor is the community Herlong some six and half (6 ½) miles from the proposed lease area which contains public schools (Herlong High, Fort Sage Middle School) Sierra Army Depot, Skedaddle Inn, and the Interdenominational Chapel.

During normal operation there would be no emissions from the project. However, in the event of a battery storage system malfunction, such as a runaway reaction or overcharge event, the project could emit pollutants to the atmosphere. The expected pollutants emitted from the modeled scenarios are listed in Table 6.9-2: *Compounds Emitted During a Battery Storage System Malfunction.*

Table 6.9-2: Compounds Emitted During a Battery Storage System Malfunction

Constituents Emitted		
Hydrogen	Carbon Monoxide	Carbon Dioxide
Methane	Acetylene	Ethylene
Ethane	Propene	Propane
Hydrogen Fluoride	Sulfur Dioxide	Nitrogen Oxides
Phosphine	1,1,1,2,3,3,3-heptafluoropropane (Fire Suppressant)	

To determine the reasonable worst-case public health impacts for this analysis, it was assumed that the battery storage system fire suppression system would activate but not control the system malfunction. For this event, it was further assumed that the system malfunction would continue for up to one hour at which time the Doyle Fire Prevention District would arrive onsite and open the enclosure. (Doyle Fire Prevention District response time is fifteen to twenty minutes from the time of notification).

Three (3) different system malfunctions are considered: (1) an elevated temperature situation due to a runaway reaction with no combustion (venting with no combustion); (2) an elevated temperature situation due to a runaway reaction with combustion; and (3) and an overcharge event with combustion. For all three (3) malfunction scenarios, it was assumed that the release of pollutants to the atmosphere would occur within a relatively short period of time (i.e., one hour or less). The primary pollutants released due to the malfunction scenarios would be five hazardous substances: 1) hydrogen chloride (HCl); 2) hydrogen fluoride (HF); 3) hydrogen cyanide (HCN); 4) carbon monoxide (CO); and 5) carbon dioxide (CO2) along with lesser amounts of other compounds, including the chemicals released by the fire suppression system.

Sensitive receptors were defined as the locations occupied by groups of individuals who may be more susceptible to health risks from a chemical exposure. The nearest residential receptor are residences located approximately six and half (6 ½) miles to the west of the battery storage system location, in the community of Herlong. As mentioned above several sensitive receptors are located within Herlong besides the residential land uses.

Project emissions to the air would consist of combustion and vent products from the burning and/or venting of the battery cells due to a system malfunction. Inhalation is the main pathway by which air pollutants could potentially cause public health impacts. Significance criteria used in this review of public safety were based on the prioritization method developed by the California Air Pollution Control Officers Association (CAPCOA) in consultation with the California Air Resources Board (ARB) and Office of Environmental Health Hazard Assessment (OEHHA) as part of the implementation of the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Air Toxics "Hot Spot" Act, Health and Safety Code §44344.4(c)). The significance criteria used by the prioritization method is based on a Total Score (TS) for chronic and acute impacts. These score thresholds are presented in Table 6.9-3: *Prioritization Thresholds*. The thresholds are based on the application of several conservative air dispersion modeling scenarios coupled with air pollutant toxicities as reported by OEHHA and the EPA.

Table 6.9-3: Prioritization Thresholds

Facility Score	Facility Designation
Total Score ≥ 10	High Priority
1 ≤ Total Score < 10	Intermediate Priority/Consider Other Factors
Total Score < 1	Low Priority

The expected pollutants emitted from the modeled scenarios included several conservative factors, including allowing both the non-combustion and combustion malfunction events to continue without control for over an hour and using an external ignition source to force combustion when the malfunction itself did not result in enough heat to cause a fire. The tests performed by leading battery manufacturers concluded that, for a high temperature event of a single cell with no combustion, there will be no propagation from this cell to surrounding cells. The tests also concluded that for a combustion event of a module (a module is comprised of 28 cells) there will be no propagation from one module to surrounding modules. However, because there were no tests performed to determine if combustion of a single cell would propagate to surrounding cells, for both combustion scenarios the emissions and health impacts were determined based on emissions from an entire module (28 cells). The impacts for the non-combustion event were based on the emissions from a single cell.

The release of emissions to the atmosphere would occur over a relatively short period of time (approximately one hour or less). Therefore, only the public health impacts associated with acute exposure to short term releases were analyzed for the three (3) system malfunctions. The acute impact prioritization scores for the three (3) system malfunction scenarios are shown in Table 6.9-4: *BESS Prioritization Scores for Three System Malfunction Scenarios*. Each score is below 1, indicating that all of these release scenarios receive a Low Priority classification. Therefore, the public health impacts associated with the three (3) system malfunctions are not considered significant at the nearest receptors (i.e., residences, schools, churches, and Sierra Army Depot in Herlong west of proposed project lease area). By extension, potential impacts at other nearby but more distant receptors, such as Doyle and scattered trailers and rural dwellings in the area are not considered significant.

Table 6.9-4: BESS Prioritization Scores for Three System Malfunction Scenarios

Malfunction Scenario	Acute Prioritization Score	Exceeds Prioritization Threshold of 1?
Runaway with No Combustion	1.1E-4 (0.0011)	No
Runaway with Combustion	1.0E-01 (0.1)	No
Overcharge with Combustion	2.9E-01 (0.29)	No

6.9.5.4 Electric and Magnetic Fields (EMF)

Electric and magnetic fields (EMF) are invisible lines of force that are part of the natural and man-made environment. A natural source is the earth's magnetic field. Manmade sources include household or building wiring, electrical appliances and electric power transmission and distribution facilities. EMF strength decreases rapidly with distance from the source. Electric fields are created around appliances and wires wherever a voltage exists, like the water pressure in a hose. Electric field strength is measured in units of volts per meter (V/m). Health-related research around EMF focuses primarily on magnetic field exposures. Magnetic fields are created whenever electrical current flows, like the way water flows when the nozzle of a hose is opened. Magnetic field strength is measured in units of gauss (G) or more commonly in milligauss (mG).

Potential EMF sources from the battery storage system, photovoltaic panels, or the battery system electronic components, the offsite interconnection power line and electrical grid. EMF is not normally associated with the batteries or photovoltaic panels themselves, as these are a pure DC source. The proposed battery storage system will not add incremental EMF to the existing offsite electrical grid. The battery storage system provides a new point of interconnection with the grid, and the grid will experience the same load as it would without the battery storage system.

The battery storage system would tie into PSREC's existing 120 kV distribution system that is planned to run along the northside of Fort Sage Road south of the proposed lease area. It is anticipated by PSREC that the planned 120 kV line will be in place between Fort Sage Substation and Herlong Substation to support the proposed Calneva BESS/PSES project for the interconnection of the project to the electrical grid at the Fort Sage and Herlong power substations. Given the low levels of EMF from the battery storage system's electronic components and the absence of new incremental EMF to the existing offsite electrical grid, no impacts from EMF would occur.

Potential impacts to the public are determined by delineating "hazard footprints" for the type of accidents that can potentially occur. It is then determined if the hazard footprints would reach the sensitive receptors or vulnerable resources identified in the area, as well as the number of injuries and/or fatalities that could occur. Types of hazards evaluated include radiant heat from a fire, flammable gas cloud from a release, and EMF emissions. Due to the large distance from any component of the proposed Calneva BESS/PSES facility and the closet sensitive receptor, no significant impact is anticipated from the risk of upset or EMF emissions.

The following mitigation measures have been incorporated to diminish any potentially significant impacts related to hazards and hazardous materials to a less than significant level:

HM-1 **Contingency Plans.** Calneva BESS/PSES facility contingency plans shall be prepared to address potential contingency situations associated with the battery storage systems. These existing contingency plans include: Fire Protection Plan, Emergency Response Plan, and Hazardous Materials Business Plan. In addition, the plans will include where fire suppression material is stored on the site, how the Doyle Fire Prevention District will access the material, what the material is, and where copies of the plan are stored. All updates will occur in coordination with applicable agencies, including but not limited to the Doyle Fire Prevention District, and the Lassen County Environmental Health Department-CUPA. Contingency plans shall be stored onsite.

Plan Requirements and Timing: Contingency plans shall be completed prior to the initiation of construction activities for the proposed battery storage system, in order to ensure that appropriate contingency plans are in place through all project phases. The Lassen County Planning and Building Services, or their designee, shall ensure completion of contingency plans and approval by Doyle Fire Prevention District and Lassen County Environmental Health Department-CUPA.

Monitoring: The Doyle Fire Prevention District, or their designee, shall inspect the contingency plans on an annual basis, and following any emergency or unanticipated situation during which contingency plan procedures are required to be implemented, in order to ensure that contingency plans remain relevant and applicable to the Calneva BESS/PSES facilities and surroundings. Calneva BESS/PSES shall pay Doyle Fire Prevention District inspections fees as may be adopted by the District from time to time.

6.9.6 Hazards and Hazardous Materials Initial Study Responses

Table 6.9-5: Hazardous Waste Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☑	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☑	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substance, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☑
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☑
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☑
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☑

6.9.7 Responses to Initial Study Questions

6.9.7.1 Significant Hazard to the Public or Environment through Transport or Use of Hazardous Materials: Less than Significant with Mitigation

The project design minimizes the risk of hazardous materials release through appropriate technological development and design; some of these design factors are required by law, as previously discussed, and others will be implemented as mitigation measures or required contingency plans and will receive additional treatment in subsequent portions of this document.

Construction Activities. Construction of the proposed Calneva BESS/PSES facility would require the limited use of heavy machinery and construction equipment, such as graders, backhoes, and front-end loaders. The operation of this equipment and machinery could result in a spill or accidental release of hazardous materials, including fuel, engine oil, engine coolant, and lubricants. Because the proposed project would require more than one acre of construction, the project would be required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ) to comply with Clean Water Act National Pollutant Discharge Elimination System (NPDES) requirements. Calneva BESS/PSES project will incorporate and comply with these requirements which would include preparation of a construction SWPPP, which would specify BMPs to quickly contain and clean up any accidental spills or leaks. Due to the relatively short-term construction period (approximately 10 months) and implementation of a construction SWPPP, the potential for an accidental release of hazardous materials to harm the public or the environment would be low. This potential would be further reduced through compliance with applicable regulations and good construction practices.

Other hazardous wastes that would be used during construction would be typical of most construction projects, including detergents, degreasers, paints, ethylene glycol, and welding materials. During project construction, material safety data sheets for all applicable materials present at the site would be made readily available to onsite personnel. Small quantities of hazardous wastes would most likely be generated from construction, including spent construction solvents, waste cleaners, waste oil, oily rags, waste batteries, and spent welding materials. Workers would be trained to identify and handle hazardous materials properly. Hazardous waste would be either recycled or disposed of at a permitted and licensed treatment and/or disposal facility. All hazardous waste shipped off site for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler. Implementation of the construction SWPPP and proper handling and disposal of hazardous materials and wastes during construction would result in less than significant construction impacts.

All use, storage, transport, and disposal of hazardous materials used in construction or operation of the Calneva BESS/PSES facility would be in strict accordance with federal, State, and local laws, ordinances, regulations, and standards. No extremely hazardous materials (i.e., governed under 40 CFR 335) are anticipated to be produced, used, stored, transported, or disposed of as a result of the Calneva BESS/PSES project. During construction and operation of the BESS/PSES facilities, Safety Data Sheets (SDS) for all applicable materials present on-site would be kept on the site and made readily available to on-site personnel and regulatory agencies and inspectors. Additionally, an inventory and contingency plan for all hazardous materials in reportable quantities will be maintained onsite and submitted to the Lassen County CUPA annually, as appropriate.

All transport, handling, use, and disposal of substances such as petroleum products, paints, and solvents related to the operation and maintenance of the Calneva BESS/PSES project would comply with all Federal, State, and local laws regulating management and use of hazardous materials. Therefore, the use of such material would not create a significant hazard to the public and impacts would be less than significant.

Operational Activities. The batteries and other materials for the BESS/PSES facilities would be manufactured off site and transported to the proposed project lease area by truck. If removal of defective batteries on photovoltaic panels from the proposed project lease area is required during operations, this material would be classified mostly as universal waste under the California Department of Toxic Substances Control (DTSC) regulations and guidance (DTSC 2015). Transportation of lithium ion batteries is subject to 49 Code of Federal Regulations (CFR) 173.185 – US Department of Transportation Pipeline and Hazardous Material Administration. These regulations include requirements for prevention of a dangerous evolution of heat; prevention of short circuits; prevention of damage to the terminals; and require that no battery meet other batteries or conductive materials. Adherence to the requirements and regulations, personnel training, safe interim storage, and segregation from other potential waste streams would minimize any public hazard related to transport, use, or disposal of batteries.

The photovoltaic panels may include solid materials that are considered to be hazardous. To address management of such materials, Calneva's contract with the selected photovoltaic panel manufacturer would include a provision requiring the manufacturer to receive and recycle or dispose of any broken or defective modules. Because such materials are in a solid and non-leachable state, broken photovoltaic panels would not be a source of pollution to stormwater.

The proposed Calneva BESS/PSES project would be subject to regulations and requirements of Doyle Fire Prevention District, and Lassen County Environmental Health Department-CUPA governing the storage of hazardous materials, liquids, and chemicals, including a provision that any storage of hazardous materials would be subject to conditions established by the Doyle Fire Prevention District or the Lassen County Environmental Health Department-CUPA. After it becomes operational, the BESS/PSES facility would be subject to annual inspection by the Doyle Fire Prevention District. It would also be required to comply with Chapter 27 of the 2016 California Fire Code, which sets limits on hazardous materials storage.

Therefore, this impact would be reduced to less than significant with the implementation of the discussed mitigation measure **HM-1** and design factors.

6.9.7.2 Significant Hazard to the Public or Environment through Reasonably Foreseeable Accident: Less than Significant with Mitigation

As previously discussed, the typical foreseeable accident would include fire that resulted from overcharging, overheating, or other electrical fault conditions within the BESS/PSES facility, or a fire that spreads to the BESS facility from an adjacent property. In most cases, mechanical damage would probably rank as the highest risk factor for initiating a thermal runaway event as discussed above. Improper handling could also result in crush or puncture damage possibly leading to the release of electrolyte material or short-circuiting.

Lithium-ion battery fire risks can be managed through proper planning, risk assessment, storage methods, and response protocols. The project would use a fire protection system with the suppression through cooling, isolation, and containment strategy. Each BESS enclosure would include a gaseous fire suppressant agent (e.g., Stat-X aerosol) and an automatic fire extinguishing system with sound and light alarms. The system would be designed in accordance with National Fire Protection Association (NFPA) safety standards including an automatic shut-down system for fans that keep the enclosure sealed when the fire extinguishing system is activated. The fire suppressant agent is released by a releasing panel that uses an aspirating smoke detection system and has a manual release. The aspirating smoke detection system provides for four levels of signaling before release of the fire suppressant agent. A disable switch is provided for maintenance personnel to allow for work on the enclosure without accidental discharge. Stat-X aerosol fire suppression generators are not regulated as a hazardous material and is identified as safe to use in occupied spaces by the EPA as a non-toxic halon substitute.

Norms such as NFPA 2010: Standard for Fixed Aerosol Fire Extinguishing Systems and UL 2775: Fixed Aerosol Extinguishing Systems Units now govern its use in a wide variety of applications such as with BESS enclosures. Stat-X technology is also listed by the EPA as a Halon alternative under its Significant New Alternatives Policy (SNAP) program. It has no Ozone Depletion Potential (ODP) and zero effective Global Warming Potential (GWP) meaning Stat-X agent is not prone to future bans like many halocarbon agents.

At the system level, a three-tiered battery management system (BMS) would monitor parameters critical to safety, including all cell voltages, all currents, and representative temperatures. A robust system of logic-based isolation interlocks would prevent exposing cells to unsafe voltages, currents, and temperatures by providing both active and passive isolation. If the three-tiered BMS were to fail, each of the battery cells include several features designed to reduce the potential for short-circuits, excessive pressure, overheating, and other factors that could potentially lead to a thermal runaway and a resulting fire.

Calneva BESS/PSES project personnel training would be required to help address the unique issues associated with lithium ion battery technology, such as battery fire behavior, emergency response procedures, and fire extinguisher use (lithium-ion battery focus). To ensure compliance with the Occupational Safety and Health Administration's (OSHA) Emergency Action Plan Standard, 29 CFR

1910.38, and to prepare personnel for dealing with emergency situations, an emergency action plan would be developed. All personnel working onsite would receive instruction and training on the emergency action plan.

While the proposed BESS/PSES facility would include the Stat-X fire suppression system described above, if this system were to fail and emissions from the battery equipment were to be released to the atmosphere, there are five hazardous substances that may be potentially released: 1) hydrogen chloride (HCl); 2) hydrogen fluoride (HF); 3) hydrogen cyanide (HCN); 4) carbon monoxide (CO); and 5) carbon dioxide (CO2) along with lesser amounts of other compounds, including the chemicals released by the fire suppression system. Based on battery manufacturers data for the batteries it is predicted hazards impacts may extend to approximately 100 feet from the fire event. The toxic endpoint distance of 100 feet may extend beyond the proposed project lease area depending on the location of the fire event. The toxic endpoint distance is the distance a toxic vapor cloud will travel before dissipating to the point that serious injuries from short-term exposures will no longer occur. Thus, if a battery storage enclosure close to the project lease area boundary were to ignite, the 100-foot toxic endpoint distance may overlap by approximately 50 feet into the surrounding properties. None of these areas have full time occupancy. With proper protocols established and readily implementable in the event of such a release, impacts would be mitigated to a less than significant level.

During a fire, toxic concentrations of hydrogen chloride and hydrogen fluoride may be present within the interior of the burning storage enclosures. There would be potential for firefighters responding to the fire to be exposed to hazardous materials at potentially dangerous levels unless personal protection equipment and self-contained breathing apparatus are used. Other potential upset conditions include intentional or unintentional damage, theft, or vandalism, resulting in damage to the BESS/PSES facility or exposure of the battery system components to the environment. Site security would consist of a 7-foot-high perimeter fence around the BESS/PSES facility and site security measures may include a monitored camera system designed to cover the entire facility and an intrusion detection system. With the aforementioned fire suppression systems and site security measures and with implementation of the mitigation measure **HM-1** above there is a very low likelihood of the project creating a significant hazard to onsite or offsite receptors. Therefore, this impact would be reduced to less than significant level with the implementation of the discussed mitigation measure **HM-1** and design factors.

6.9.7.3 Emit Hazards within 0.25 Mile of a Proposed or Existing School: No Impact

The nearest existing school is the Fort Sage Middle School located approximately six and half (6 ½) miles to the west and Herlong High School, located just over seven (7) miles west of the proposed project lease area. No school has been proposed within the 0.25-mile radius of the proposed BESS/PSES facilities. As described above, in the event of a potential upset and accident conditions, including fire that results from overheating or other electrical fault conditions, potential hazard emissions could affect areas up to 100 feet beyond the proposed Calneva BESS/PSES facility. The Herlong schools are beyond this distance. Adherence to all requirements and regulations, personnel training, safe interim storage, and segregation from other potential waste streams would minimize any hazard related to transport, use, or disposal of batteries within proximity to schools. No Impact.

6.9.7.4 Located On a Hazardous Materials Site: No Impact

As determined by the EDR records search and Phase 1 Environmental Site Assessment, the proposed Calneva BESS/PSES lease area is not located on a hazardous materials site (See Appendix H: *Phase 1 Environmental Site Assessment and EDR Records*). The following databases were queried in December of 2019, for known hazardous materials contamination at the proposed project lease area:

- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database (United States Environmental Protection Agency).
- United States Environmental Protection Agency EnviroMapper database.
- California State Water Quality Control Board GeoTracker database; and
- California Department of Toxic Substances Control EnviroStor database.

The proposed project lease area does not appear on any of the above lists. The proposed project lease area is not identified on the Hazardous Waste and Substance Site List database compiled pursuant to Government Code Section 65962.5 (the "Cortese" list). No impact.

6.9.7.5 Create a Safety Hazard for People Working or Residing Within 2 Miles of a Public Use Airport: No Impact

The Herlong Airport-H37 is the nearest airport to the proposed project lease area and is roughly eight (8) plus miles to the west. Sierra Army Depot operates an airport nearly ten (9.82) miles northwest of the proposed lease area. As such, the proposed project lease area does not pose a threat to the safety of those residing or working within airport zones. According to the Lassen County Airport Land Use Commission, the project lease area is not located within any airport safety zones or height restriction zones of the Herlong Airport-H37 or the Sierra Army Depot Airport facilities. As such, there will be no impact to a nearby airport. No Impact.

No private airstrip is within the vicinity of the proposed project lease area and as such, the proposed project lease area does not pose a threat to the safety of those residing or working within a private airstrip area. No impact to airstrips would occur from the proposed Calneva BESS/PSES project. No Impact.

6.9.7.6 Physically Impair or Interfere with the Implementation of an Emergency Response Plan: No Impact

The Lassen County Office of Emergency Services is responsible for planning, response and recovery activities associated with natural and man-made emergencies and disasters throughout Lassen County and coordination of those activities with Local Agencies, California Emergency Management Agency (CalEMA) and the Federal Emergency Management Agency (FEMA). Lassen County Office of Emergency Services provides an Emergency Management Guide for Business and Industry within Lassen County. The proposed Calneva BESS/PSES project would not impair implementation of or physically interfere with implementation of an adopted emergency response plan or emergency evacuation plan. No impact.

6.9.7.7 Create Risk Involving Wildfires or Wildlands: No Impact

While all of California is subject to some degree of fire hazard, there are specific features that make some areas more hazardous. CAL FIRE has documented current fire hazard severity zones in Lassen County. Fire Hazard Severity Zones (FHSZ) were developed using a computer model by CAL FIRE. They predict the physical damage a fire is likely to cause based on the factors that influence fire likelihood and behavior. Many factors are considered such as fire history, existing and potential fuel (natural vegetation), flame length, blowing embers, terrain, and typical weather for the area. Fire Hazard Severity Zones are categorized into three (3) categories for areas designated State Responsibility Area (SRA):

- **Moderate**
  Wildland areas supporting areas of typically low fire frequency and relatively modest fire behavior, or developed/urbanized areas with a very high density of non-burnable surfaces (including roadways, irrigated lawn/parks, and low total vegetation cover (<30%) that is highly fragmented and low in flammability).
- **High**
  Wildland areas supporting medium-to high-hazard fire behavior and roughly average burn probabilities or developed/urbanized areas with moderate vegetation cover and more limited non-burnable cover. Vegetation cover typically ranges from 30-50% and is only partially fragmented.
- **Very High**
  Wildland areas supporting high to extreme fire behavior resulting from climax fuels typified by well-developed surface-fuel profiles (e.g., mature chaparral) or forested systems where crown fire is likely, or developed/urban areas typically with high vegetation density (>70% cover) and associated high fuel continuity. This allows for flames to spread over much of the area impeded only by isolated non-burnable areas.

The FHSZ also has a designation called Local Responsibility Area (LRA) Unincorporated which is deemed an Unzoned Area in regard to fire hazards.

The north half of the Calneva BESS/PSES project lease area is designated by CAL FIRE as an Unzoned Area regards to fire hazards in the LRA. The southern half of the Calneva BESS/PSES is located in a Moderate FHSZ in the SRA. No High or Very High FHSZs are located within close proximity of the proposed Calneva BESS/PSES project lease area. The nearest Very High FHSZ is located approximately seventeen (17) miles to the west and the nearest High FHSZ is located twenty-six (26) miles to the south.
No Very High or High FHSZ is within the vicinity of the proposed Calneva BESS/PSES project, and as such, the proposed BESS/PSES facility does not pose a threat to destruction of any such lands. The site is surrounded by open range lands, and no wildlands or forests. Therefore, there would be No Impact to wildfires or wildlands. No Impact.

6.10 HYDROLOGY AND WATER QUALITY

This section analyzes the potential impacts on water quality and hydrology that may result from the proposed Calneva BESS/PSES project located in the North Lahontan Hydrologic Region, Susanville Hydrologic Unit and Herlong Hydrologic Area. Additionally, this section addresses the following potential issues related to the implementation of the proposed Calneva BESS/PSES project: general water quality issues, flood hazards, storm drainage issues, and project-specific impacts. These data sources were supplemented by observations made during site visits conducted during the months of November and December 2019.

6.10.1 Background

6.10.1.1 Regulatory Context

The water surface quality is federally regulated by the Environmental Protection Agency (EPA). In California, the SWRCB and its RWQCBs regulate groundwater quality. The RWQCB is the primary agency tasked with protecting California surface and groundwater quality, including the regulation of discharges from wastewater treatment facilities and of urban stormwater runoff.

The RWQCB for the Lahontan Region has established a Water Quality Control Plan (WQCP) for the Honey Lake Valley Basin that designates surface and ground waters in the region and assigns beneficial uses to such waters. Additionally, the WQCP and establishes water quality objectives to protect those waters. The water quality objectives and beneficial uses are collectively referred to as Water Quality Standards.

Federal Regulations

The Clean Water Act (CWA) (33 USC 1251-1376), is the federal legislation that governs water quality. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

Applicable sections of the act are as follows:

- Section 301 prohibits the discharge of any pollutant by any person, except as in compliance with sections 302, 306, 307, 318, 402, and 404 of the CWA.

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines.

Section 303(d) of the CWA requires states to develop a list of impaired water bodies. In California the SWRCB has developed the list of impaired waters, applying the following criteria: chlorpyrifos, DDT, diazinon, Group A pesticides, mercury, unknown toxicity, and organic enrichment/low Dissolved Oxygen (DO).

State Regulations

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code § 13000 et seq.), which is the principal law governing water quality regulation in California, establishes a comprehensive program to protect water quality and the beneficial uses of State waters. The Act established the SWRCB and nine RWQCBs, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The Porter-Cologne Water Quality Control Act also implements many provisions of the federal CWA, such as the NPDES permitting program. CWA § 401 gives the SWRCB the authority to review any proposed federally permitted or federally licensed activity which may impact water quality and to certify, condition, or deny the activity if it does not comply with State water quality standards. If the SWRCB imposes a condition on its certification, those conditions must be included in the federal permit or license.

RWQCB Construction Permit

The RWQCB administers the NPDES stormwater permitting (federal stormwater permitting program which is implemented by each state) program in the Lahontan Region for construction and industrial activities. Because the proposed project lease area is not an industrial site, but rather an agricultural site and the proposed use is a community utility facility, Calneva BESS/PSES, would not be required to obtain both a construction and industrial NPDES permit from the RWQCB prior to construction and/or operation.

To require a construction permit, a construction site must disturb one (1+) acre or more of land (this is more commonly referred to as a General Construction Permit). The proposed project lease area will be more than 278 +/- acres and thus will require a General Construction Permit. Qualifying projects require the applicant to submit a Notice of Intent (NOI) to the SWRCB prior to the beginning of construction. The General Construction Permit requires the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP), which must be completed before construction begins. The SWPPP must describe the BMPs and monitoring programs that would be implemented during the construction phase to ensure that runoff from the construction site does not cause or contribute to exceedances of water quality standards relevant to receiving waters downstream of the site. Implementation of the plan starts with the commencement of construction and continues through the completion of the project. Upon completion of the project, the applicant must submit a Notice of Termination to the RWQCB to indicate that construction is completed. It is anticipated Calneva BESS/PSES, will require the project's contractor to prepare a SWPPP and BMPs to ensure no water quality impacts will occur during construction, since more than one (1+) plus acres of disturb ground will take place.

California Toxics Rule (CTR) of 2000 (40 CFR Part 131)

This rule establishes numeric criteria for priority toxic pollutants in inland waters as well as enclosed bays and estuaries to protect ambient aquatic life (23 priority toxics) and human health (57 priority toxics). The CTR also includes provisions for compliance schedules to be issued for new or revised NPDES permit limits when certain conditions are met. The numeric criteria are the same as those recommended by the EPA in its CWA Section 304(a) guidance.

Spill Prevention, Control, and Countermeasure

SPCC regulations require Calneva BESS/PSES's construction contractors to have in-place measures that help ensure spills do not occur. However, if they do, there are protocols and response equipment in place to contain the spill and neutralize the potential harmful impacts. A SPCC Plan would be prepared that would be reviewed and approved by the Regional Water Quality Control Board. The SPCC Plan would detail and implement spill prevention and control measures.

Local Regulations

Lassen County Small MS4 General Permit Stormwater Management and Discharge Control

Due to amendments to the Clean Water Act, the USEPA developed a Phase I and a Phase II program requiring municipalities to develop and implement stormwater pollution management programs. Smaller municipalities and contiguous areas with small, but still urban, communities come under the Phase II regulations of the State Board's General Permit for Discharges of Storm Water from Small Municipal Separate Storm Sewer Systems (hereafter called the "Small MS4 General Permit" where MS4 stands for Municipal Separate Storm Sewer System). Lassen County is subject to the Phase II regulations, which requires the submittal of a Notice of Intent (NOI) to seek coverage under the "Small MS4 General Permit."

Lassen County permitted under the Waste Discharge Requirements for Small Municipal Separate Storm Sewer Systems (Order No. 2003-0005-DWQ), which also serves as a National Pollutant Discharge Elimination System Permit (No. CAS000004) under the Federal Clean Water Act. Under the provisions of this permit, the County is required to possess the necessary legal authority and implement appropriate procedures, to regulate the entry of pollutants and non-stormwater discharges into the County. Lassen County is subject to the current State of California—General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board; the

pollutant control provisions of a County-issued Building Permit; or any other instrument of the County that establishes pollutant control provisions for construction sites.

6.10.2 Methodology

This analysis considers the potential for the proposed Calneva BESS/PSES project impacts to local surface and groundwater hydrology and water quality. The impact analysis focuses on foreseeable changes to existing hydrological and water conditions. The impact analysis provides a separate discussion for major proposed BESS/PSES project components. Potential water and sediment quality impacts of the proposed Calneva BESS/PSES project are assessed through a comparison of literature data (including all applicable water quality criteria) and results from past projects in Lassen County, to estimated discharges from the proposed Calneva BESS/PSES project using scientific expertise of the preparers. Mitigation measures are identified where appropriate.

6.10.3 Environmental Setting

6.10.3.1 Project Setting

Water Supply

The proposed Calneva BESS/PSES project will require minor amounts of water for the BESS/PSES facility associated with periodic cleaning and rinsing of the photovoltaic panels. The proposed Calneva BESS/PSES project will have no employees working long term at the BESS/PSES facility requiring water, nor does the BESS/PSES require water for fire suppression purposes. Watering required during construction will be supplied by the contractor's water truck. During project construction, water would be required for dust suppression, to support project soil compaction, and sanitary use. Water necessary for project construction would be delivered to the project lease area via truck. During operations there may be a need from time to time to clean the photovoltaic panels which will be accomplished with a water truck which will bring water to the facility from off-site.

Stormwater Runoff and Drainage

The topography of the BESS facility will be within a proposed perimeter screening fence and is relatively flat, sloping less than 1 percent to the southeast, and with an unpaved graveled surface. The BESS Layout Plan (See Figure 6.10-3: *Calneva BESS/PSES Layout Plan)* calls for a pervious concrete pavement area of 180 feet by 750 feet to locate the battery/inverter enclosures, SCADA enclosure, MV switchgear, IT and PSREC equipment. The pervious concrete will have compressive strengths of 4000 psi and flexural strengths of 600 psi, which are on par with conventional concrete to support the BESS equipment, however, will the pervious concrete will reduce stormwater runoff, reduce contaminants in waterways, and renew groundwater recharge on site. Other major benefits provided by pervious concrete include reduction in heat island effects (water percolating through the pavement can exert a cooling effect through evaporation, and convective airflow can also contribute to cooling, and reductions in standing water on pavements.

The photovoltaic panels within the solar array area will be installed on the ground supported by a piling foundation system. The foundation system's support footings will be driven into the ground at a depth of 6-10' depending on soil conditions. If adverse subsurface conditions are encountered in any area that prohibit the use of the intended vibratory driven steel piles, an alternate foundation type may be used to ensure a secure base given the wind load at the site. The pile foundation system will allow the solar array area to go undisturbed and allow all surface areas under the photovoltaic panels be natural earth to allow stormwater percolation.

Surface runoff in the BESS/PSES facility area typically infiltrates into the site soils inside the proposed perimeter fencing. Runoff of surface water outside of the perimeter fenced area of the BESS/PSES facility will be negligible or close to that which occurs under the existing conditions, due to on-site infiltration of stormwater. During a heavy precipitation events, sheet flows from the BESS/PSES facility area may reach the natural ground south of the perimeter fenced area and perk into the ground on adjoining acreage as did historically. The small amount of new impervious surfaces required for the proposed BESS/PSES project (i.e., small pedestal footings for the battery storage system, small foundations for ancillary equipment, and pilings to support the photovoltaic panels) would not inhibit continued infiltration of rainwater into the

proposed project lease area soils. Any runoff that may sheet flow beyond the perimeter wall of the BESS/PSES area would enter the adjacent open range land parcel and would then infiltrate in the undeveloped area of the parcel, consistent with current practices.

6.10.3.2 Regional Setting

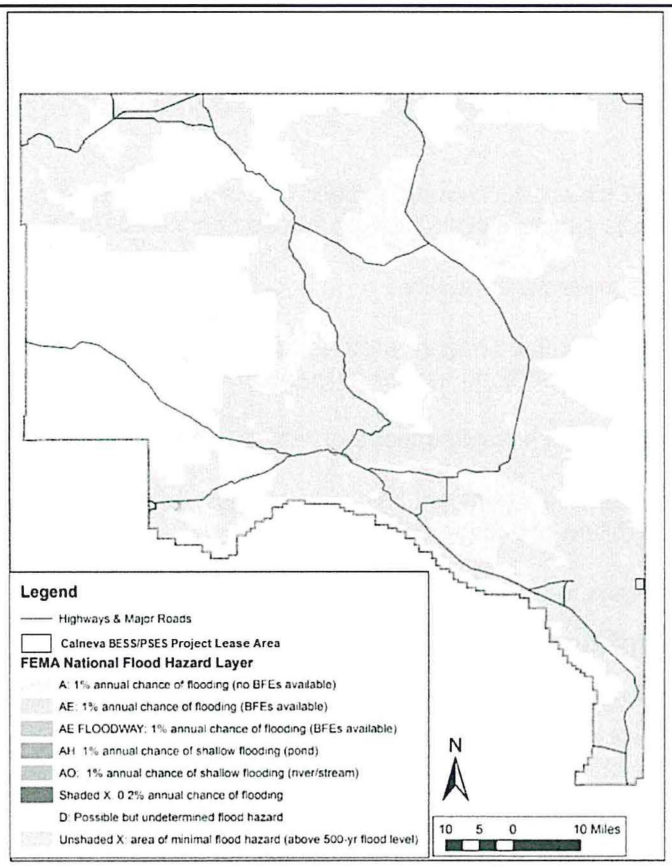
The proposed Calneva BESS/PSES project is in a rural portion of Lassen County without stormwater drains or improved all weather roadways. The proposed Calneva BESS/PSES project lease area is located within the Honey Lake Valley Basin. Average annual precipitation in Calneva, Lassen County is 13 inches of rain. The parcel is flat and nearly featureless with the topography sloping southeast towards the California/Nevada state border. The proposed project lease area is not located in an area subject to inundation by seiche, tsunami, or mudflow, and it is not adjacent to topographic elevations which would induce or permit mudflow.

6.10.3.3 Flooding

The Lassen County Public Works Department maintains Flood Insurance Risk Maps (FIRMs) as required by the Federal Emergency Management Agency (FEMA). These FIRMs indicate potential of flooding for various locations. The proposed project lease area is in an "X" zone, as shown on the Flood Insurance Rate Map which indicates the proposed project lease area is outside of an area determined for a 500-year flood event. Furthermore, the proposed project lease area is not located in an area subject to inundation by seiche, tsunami, or mudflow, and it is not adjacent to topographic elevations which would induce or permit mudflow. The proposed project lease area and surrounding parcels are located outside of designated flood zone areas as shown on Flood Insurance Rate Map #06035C2550D (FEMA September 3, 2010). See *Figure 6.9-1: FEMA Flood Map*.

6.10.3.4 Surface Water Quality and Supply

The Susan River flows into Honey Lake which is located approximately eight (8) miles west of the proposed project lease area. The proposed project lease area is in the Lahontan Hydrologic Region, Susanville Hydrologic Unit and Herlong Hydrologic Area. The Susan River will continue to be 303(d)-listed for "unknown toxicity", but a TMDL is not currently recommended as the appropriate regulatory response since the pollutant(s) causing toxicity has not been decisively identified. Water Board staff have notified the Department of Pesticide Regulation (DPR) of the pesticide and toxicity detections in the Susan River. A collaborative process between the DPR and the Water Board to identify and address the pesticide use practice(s) responsible for the water quality violations will be implemented in accordance with the Management Agency Agreement between the State Board and DPR.



PROJECT: CALNEVA BESS/PSES FACILITY

Calneva, CA | **APNs: 137-170-012,013**

REV.	DESCRIPTION	BY	APP.	CHKD
0	Issued as Final	SCV		BLM

FIGURE: FEMA Flood Map

DATE: 04-09-2020	SCALE: NTS
BY: SCV	FIGURE: 6.10-1

SIERRA GEOTECH

6.10.4 Standards of Significance

An impact to hydrology and water quality would be considered significant if the project would:

- Violate any water quality standards or waste discharge requirement.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate of amount of surface runoff in a manner which would result in substantial erosion or siltation on- or offsite. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate of amount of surface runoff in a manner which would result in flooding on- or off-site.
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place housing within a 100-year flood hazard area as mapped on a federal flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Place hazard area structures which would impede or redirect flood flows within a 100-year flood.
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Inundation by seiche, tsunami, or mudflow.

6.10.5 Impacts and Mitigation Measures

6.10.5.1 BMPs to be Employed Throughout Construction to Limit Run-Off

Standard storm water BMPs will be incorporated by Calneva BESS/PSES project construction contractors, such as erosion controls, soil barriers, sedimentation basins, site contouring, and others would be used during construction activities to minimize runoff of soils and associated contaminants. Erosion controls are used during construction to reduce the amount of soils disturbed and to prevent disturbed soils from entering runoff. Erosion controls can include both logistical practices, such as scheduling construction during seasons with the least potential for erosion (e.g., non-storm seasons), and sediment control practices. The combined effectiveness of the erosion and sediment control systems is not easily predicted or quantified (EPA 1993). The proposed Calneva BESS/PSES project would be required to obtain coverage under a Construction General Permit to comply with Clean Water Act NPDES requirements, because the project footprint is greater than one (1+) acre. Calneva BESS/PSES project, will require construction contractors to implement a SWPPP and associated BMPs.

Given the relatively flat topography of the BESS construction site, distance from surface waters, the minimal grading and excavation required for construction, soil disturbance footprint greater than one (1+) acre, and implementation of a SWPPP, construction of the proposed BESS/PSES facility would not violate any water quality standards or waste discharge requirements. During operations of the BESS/PSES facility, wastewater discharge would be expected to be minimal amounts of stormwater runoff generated during precipitation events. Given the nearly flat topography of the proposed project lease area, and the minor amounts of impervious surfaces that the proposed BESS/PSES facility would create, precipitation would be expected to infiltrate or evaporate onsite more so than sheet flow over land and discharge offsite at

substantial rates or volumes. Any runoff leaving the BESS/PSES facilities during operations would flow onto the adjoining open rangeland like previous historical storm events. Lithium-ion batteries would be fully contained within the storage enclosures, and battery fluids or substances would not be susceptible to spills or release as runoff. If the BESS facility did have a spill it would be contained within the battery storage containers. Operation of the proposed BESS facility would not be expected to violate any water quality standards or waste discharge requirements. The proposed Calneva BESS/PSES project would have less than significant impacts on water quality standards and discharge requirements.

Spills associated with construction equipment, such as oil/fluid drips or gasoline/diesel spills during fueling, typically involve small volumes that can be effectively contained in the work area and cleaned up immediately. Other spills of fuels and lubricants from construction equipment would have a very low potential to occur and enter surface water, including during the rainy season, due to implementation of BMPs in the project specific SWPPP and assuming the following are included in the SWPPP:

- Equipment shall be inspected regularly (daily) during construction, and any leaks found shall be repaired immediately.
- Refueling of vehicles and equipment shall be in a designated, contained area.
- Drip pans shall be used under stationary equipment (e.g., diesel fuel generators), during refueling, and when equipment is maintained.
- Drip pans that are in use shall be covered during rainfall to prevent washout of pollutants; and
- Monitoring to verify that the BMPs are implemented and kept in good working order.

Construction activities associated with the proposed Calneva BESS/PSES project would not result in discharges that create pollution, contamination, or nuisance, or cause regulatory standards to be violated. Therefore, construction activities would have less than significant impacts on water quality.

6.10.5.2 Impacts on Potential Flooding

Construction of the proposed battery storage facilities, foundation pads for transformers or switching gears and interconnections would add minor amounts impervious surfaces at the BESS facility. It is anticipated no new off-site storm flows will occur as a result of the proposed BESS/PSES facility. Construction activities would not increase the potential for flooding, impede runoff flows, or endanger people, property, or biological resources because the staging and storage areas would be protected with stormwater controls in accordance with the project's construction SWPPP. Construction activities for the proposed BESS/PSES facilities would not cause or increase the potential for flooding that could harm people or sensitive biological resources or damage property. Therefore, impacts from construction operations on flood flows would be less than significant. No mitigation is required.

6.10.5.3 Impacts on Natural Processes of Erosion and Sedimentation

Construction of the proposed BESS/PSES facility would require very minor grading and trenching that would disturb the ground surface. Ground surface disturbance also would result from installation of foundation systems, pervious concrete slab, pilings to support the photovoltaic panels, for the BESS/PSES facilities and equipment components, the proposed underground electric lines and interconnection, and for excavation of battery storage structures/ equipment foundations. Since construction activities may include work in one rainy season, soils exposed by grading and trenching would be subject to erosion by stormwater runoff and/or possibly wind.

Construction sites would be managed by complying with the project's BMPs for stormwater management, and implementation of a project specific SWPPP. Standard construction BMPs would include both procedural and structural controls. Procedural controls include minimizing the amount and duration of soils exposed during grading and trenching, washing dirt off construction equipment, and refueling only in designated areas. Structural BMPs can include silt fences/straw bale barriers or sedimentation basins that would be installed and maintained during construction to minimize sediment runoff. Maintenance of these control measures would include daily checks during the rainy season of systems. The construction contractor would be responsible for ensuring compliance with SWPPP and adopted BMPs for the job.

With implementation of procedural and structural BMPs, erosion of site soils is expected to be minimal. Small amounts of sediment added to the parcel via runoff would not cause localized erosion or sedimentation because sediment particles would be sufficiently dispersed prior to settling to the bottom. No water quality standards or objectives would be exceeded because of the implementation and maintenance of adopted BMPs.

Construction activities associated with the proposed Calneva BESS/PSES project would not accelerate erosion or sedimentation that could not be contained on-site due to implementation and maintenance of adopted BMPs, as described above. Therefore, impacts to water quality from erosion and sedimentation would be less than significant. No mitigation is required as the voluntary SWPPP and adoption of BMPs will provide adequate environmental protection for erosion and sediment.

6.10.5.4 Operational Impacts to Water Quality

During long-term operations of the BESS/PSES facilities, no wastewater discharges would occur, and the proposed battery storage system components would be enclosed. Site maintenance would include visual inspections for any inadvertent spills of materials that could enter the onsite soils (e.g., due to heavy precipitation event that sheet flows out of the perimeter fenced battery storage area and solar array area). Based on these site conditions and maintenance practices, the potential for water quality impacts over the life of the project are less than significant.

The BESS/PSES facility lease area is nearly level and will be confined inside an existing perimeter fenced area. The existing drainage pattern would be generally unchanged. Detailed site engineering would consider the present and future drainage patterns. No new or expanded storm drain system is anticipated because the remainder of the unpaved gravel-surfaced area inside the project lease area (after installation of the small equipment, pervious concrete slab, pilings, foundations and footings) should continue to provide adequate onsite infiltration. As discussed above, appropriate BMPs would be maintained onsite to ensure that sediment or other pollutants are contained onsite and do not travel or export off the parcel. During and after construction any excess soil, construction waste or other debris would be removed from the BESS/PSES facility lease area. BMPs and soil management procedures would be listed on the project construction plans. In addition, the proposed project lease area and surrounding parcels are located outside of designated flood zone areas. Therefore, potential erosion and flood-related impacts would be less than significant.

The following additional Mitigation Measures have been volunteered for the project, to further reduce and ensure project specific potential impacts to hydrology or water quality remain less than significant.

WQ-1 Calneva BESS/PSES owner and/or contractor will develop and implement an SWPPP and adopt BMPs prior to beginning construction activities.

WQ-2 Spill prevention kits shall always be in close proximity when using hazardous materials (e.g. crew trucks and other appropriate locations).

WQ-3 For equipment that must be fueled on-site, containment shall be provided in such a manner that any accidental spill of fuel shall not be able to enter the water or contaminate sediments that may come in contact with water.

WQ-4 Calneva BESS/PSES owner, or construction contractor will prepare a pollutant control plan that specifies logistics and schedule for construction activities that will minimize the potential for erosion and standard practices that include monitoring and maintenance of control measures.

6.10.6 Hydrology and Water Quality Initial Study Responses

Table 6.10-1: Hydrology and Water Quality Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☑	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☑
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☐	☑
i. result in a substantial erosion or siltation on- or off-site;	☐	☐	☐	☑
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	☑
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☑
iv. impede or redirect flood flows?	☐	☐	☐	☑
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☑
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☑	☐

6.10.7 Responses to Initial Study Questions

6.10.7.1 Violate Any Water Quality Standards: Less than Significant

Construction of the proposed BESS/PSES facility will have minor grading take place, and soil disruption will be restricted to 180 feet by 750 feet pervious concrete slab for equipment, minor trenching for conduit to allow interconnection to the PSREC electrical grid. The footprint of the BESS/PSES facility is greater than one acre thereby triggering the requirement for a RWQCB General Construction Permit. In addition, Calneva BESS/PSES owner's construction contractor will implement all relevant source control BMPs as part of the project and incorporate project design features to reduce potential for water pollution.

During long-term operations, no wastewater discharges would occur, and the proposed battery storage system components would be enclosed. Site maintenance would include visual inspections for any inadvertent spills of materials that could enter the onsite soils (e.g., due to heavy precipitation event that sheet flows out of the walled battery storage area). Based on these site conditions and maintenance practices, the potential for water quality impacts over the life of the project are less than significant. Furthermore, through the inclusion of the BMPs it is anticipated that the proposed Calneva BESS/PSES project would: not violate any applicable water quality requirements; that water quality standards in receiving waters would be maintained; and that the proposed Calneva BESS/PSES project would have less than significant water quality impacts.

6.10.7.2 Substantially Deplete Groundwater: No Impact

Design of the proposed project lease area has provided for minimal impervious area which allows stormwater runoff to infiltrate within the proposed project lease area. The existing site drainage pattern, which allows rainwater infiltration will remain unchanged. The small amount of new impervious surfaces required for the project (i.e., small pedestal footings for the battery storage system, piling foundations for the photovoltaic panels and small foundations for ancillary equipment) would not inhibit continued infiltration of rainwater into parcel soils. Potable water and sanitary sewer are not required for the BESS/PSES facility, since the facility is un-manned. The proposed Calneva BESS/PSES project would not result in groundwater depletion and there would be No Impact.

6.10.7.3 Substantially Alter Drainage That Would Result in Erosion: No Impact

The proposed Calneva BESS/PSES project would not alter existing drainage patterns. A SWPPP will be prepared prior to project construction to ensure that erosion is limited to the greatest extent feasible. The parcel and proposed project lease area is nearly level. Detailed site engineering would consider the present and future drainage patterns. In general, no new or expanded storm drain system is anticipated because the remainder of the unpaved gravel-surfaced area of the parcel (after installation of the pervious concrete slab, small equipment foundations and footings) should continue to provide adequate onsite infiltration. Calneva BESS/PSES owner will ensure appropriate BMPs would be maintained onsite to ensure that sediment or other pollutants are contained onsite and do not exit the parcel. During and after construction any excess soil, construction waste or other debris would be removed from the BESS/PSES facility lease area. BMPs and soil management procedures would be listed on the project construction plans. No Impact has been identified.

6.10.7.4 Substantially Alter Drainage That Would Result in Flooding: No Impact

The proposed Calneva BESS/PSES project would not alter existing drainage patterns. A SWPPP would be incorporated into the final plans and specifications to limit the potential of flooding due to the construction of the proposed Calneva BESS/PSES project. There are no streams, canals or rivers located on or adjacent to the proposed project lease area. The proposed BESS/PSES facility would not alter the course of a stream or river. In addition, the proposed project lease area and surrounding parcels are located outside of designated flood zone areas. Therefore, potential project erosion and flood-related impacts would be less than significant. No Impact has been identified.

6.10.7.5 Contribute to Runoff that Would Cause Polluted Runoff: Less than Significant

The proposed project lease area has little topographic relief and is nearly flat. Any runoff from the minor addition of impervious surfaces by the proposed Calneva BESS/PSES project would be anticipated to flow

over impervious surfaces until reaching soils, gravels, or other pervious surfaces within the parcel, and then would either infiltrate or evaporate as drainage did in the past. The proposed Calneva BESS/PSES project will not alter the surface infiltration characteristics of the parcel, thereby not changing the volume and discharge rate of stormwater runoff, that could raise the risk of polluted runoff. Throughout the construction phase of the proposed Calneva BESS/PSES project, it is possible that some of the runoff water will be polluted, either from leaky equipment or from workers leaving refuse/waste in the open (enclosures will be provided). With the implementation proper design, SWPPP, and BMPs the potential pollution would be greatly limited, and, therefore, the potential affects from water pollution runoff would be less than significant.

6.10.7.6 Otherwise Degrade Water Quality: Less than Significant

As discussed above in section 6.9.7.1, Calneva BESS/PSES owner would employ BMPs throughout the construction and operations phases of the project to ensure that discharges are limited to the greatest extent possible. Runoff from the BESS facilities would either infiltrate or evaporate. Any runoff that does not infiltrate or evaporate onsite would be contained by a berm that would be constructed along western and southern parcel boundaries to allow for further infiltration on the parcel. Site-specific BMPs would be designed by the contractor in compliance with all applicable regulations. Lithium-ion batteries would be fully contained in battery storage enclosures, and in the event of a rupture or otherwise defective battery, no battery fluids would discharge from within the enclosures. Given that much of the BESS facilities would be pervious and nearly flat, operation of the BESS facility would not substantially degrade water quality. Impacts would be less than significant.

6.10.7.7 Place Housing or Structures within a 100-Year Flood Plain: No Impact

The proposed project lease area is not located within a FEMA-designated flood zone; no housing, no structures, nor occupied dwelling is proposed by the Calneva BESS/PSES project; therefore, no housing or structures would be placed within any such zone and the proposed Calneva BESS/PSES project will have No Impacts.

6.10.7.8 Place Structures within 100 Year Flood Plain: No Impact

The proposed project lease area is not located within a FEMA-designated flood zone; therefore, no structure would be placed within any such zone and the project will have No Impacts.

6.10.7.9 Inundation by seiche, tsunami, or mudflow: No Impact

Seiches are seismically induced waves that occur in large bodies of water, such as lakes and reservoirs. The proposed project lease area is not in proximity to a large body of water, and seiches are a not risk to the proposed Calneva BESS/PSES project.

A tsunami is a tidal wave produced by offshore seismic activity. The proposed project lease area is not located within a tsunami inundation area as shown on the California Emergency Management Agency's Tsunami Inundation Map (2009) and would not be subject to inundation by tsunami. The proposed project lease area is not located within areas that are inundated by seiche, tsunami, or mudflows; therefore, no such impacts would occur. No impact.

6.10.7.10 Obstruct Implementation of Water Quality Control Plan or Sustainable Groundwater Management Plan. No Impact

As discussed above in section 6.9.7.1, Calneva BESS/PSES owner would employ BMPs throughout the construction and operations phases of the project to ensure that discharges are limited to the greatest extent possible. Runoff from the BESS/PSES facilities would either infiltrate or evaporate. Any runoff that does not infiltrate or evaporate onsite would be contained by a berm that would be constructed along eastern and southeastern parcel boundaries to allow for further infiltration on the parcel. Site-specific BMPs would be designed by the contractor in compliance with all applicable regulations. Lithium-ion batteries would be fully contained in battery storage enclosures, and in the event of a rupture or otherwise defective battery, no battery fluids would discharge from within the enclosures. Given that much of the BESS/PSES facilities would be pervious and nearly flat, operation of the BESS/PSES facility would not substantially degrade water quality, obstruct implementation of water quality control plans. The BESS/PSES facilities requires only small amounts of water for cleaning of the photovoltaic panels from time to time which will be

supplied from a water truck which will bring water from offsite. Thus, the BESS/PSES facilities water demands will have no impact on sustainable groundwater management plans. No Impacts.

6.11 LAND USE AND PLANNING

This section analyzes the potential impacts on land use and planning that may result from the proposed Calneva BESS/PSES project. The discussion is based primarily on observations made during site visits conducted during September 2019 through January of 2020, as well as other available land use planning documentation from the current Lassen County 2000 General Plan. The goals and policies of the Lassen County 2000 General Plan are implemented by zoning regulations found in Lassen County Code Title 18, Zoning. Each area within the County is assigned a land use plan designation and zoning classification, which describes the standards for use or development. The zoning regulations set forth development standards for such items as building height, property-line setbacks, and landscaping.

6.11.1 Background

6.11.1.1 Regulatory Context

Federal Regulations

No applicable federal plans or policies are anticipated to influence land.

State Regulations

California Environmental Quality Act

The primary applicable state regulation is CEQA, Public Resources Code Sections 21000-211781 and the CEQA Guidelines Code of Regulations Sections 15000-15387. No other applicable State land use plans or policies have been identified.

Government Code – Land Use Laws

California Government Code Sections 65000 et seq. is the foundation for local planning in California. California Government Code Sections 65000 et seq. contains many of the laws pertaining to the regulation of land uses by local governments including: the general plan requirement, specific plans, subdivisions, and zoning.

Local Regulations

City and County Zoning and General Plan Designations

The California State Legislature, pursuant to Government Code Section 65300, requires each city and county jurisdiction in the state to prepare a local general plan. The general plan is the primary planning document that establishes policies to regulate the development, function, and use of land within the boundaries and planning area of each city or county. General plans are required to contain the following seven elements or chapters: land use, circulation, housing, conservation, open space, noise, and safety. Although all elements carry equal weight, the land use element designates the pattern and scope of development. Land use designations are one of the primary tools cities and counties use to establish a comprehensive plan for guiding development. Typical land use designations are Residential, Commercial, Agricultural, Industrial, and Open Space, with subcategories based on densities or uses. Land use designations are supported by general plan policies that generally define how land can and cannot be used.

General plan policies are supported by local ordinances such as zoning, which describe the specific requirements for developing a parcel within an identified land use designation. Zoning ordinances define the specific allowable uses for each type of land use designation. Land uses may be classified in the zoning ordinance as principally permitted, conditionally permitted, or permitted under other special circumstances. Under most zoning ordinances, principally permitted land uses require a simplified land use permitting process, whereas Conditional Use Permits and other special circumstance use permits have additional criteria for being considered allowable. Conditional Use Permits are discretionary actions of the local government and as such require the appropriate CEQA document to allow the approval of the Conditional Use Permit request.

Lassen County 2000 General Plan

Lassen County's General Plan outlines a vision of a long-range physical and economic development as well as conservation. The Calneva BESS/PSES project lease area is designated by the general plan as "Extensive Agriculture," land use designation. Pertinent policies for electric utility use in Lassen County are outlined in the Lassen County 2000 General Plan and listed in Table 6.11-1.

Lassen County Code of Ordinances – Title 18, Zoning, Chapter 18.08 Designation of Districts; Chapter 18.14 Definitions; Chapter 18.16 A-1 General Agricultural District; Chapter 18.102 General Provisions and Exceptions; Chapter 18.112 Use Permits; and Chapter 18.126 Enforcement, Legal Procedures, Penalties

The zoning classification for the proposed project lease area is A-1 General Agriculture District (A-1). The A-1 zoning district is applied to all unincorporated territory in the County not indicated specifically to use for other precise zoning districts. The Lassen County Zoning Code Chapter 18.16.050 "Uses Allowed by Use Permit" subsection 10 "*Uses allowed by use permit in an A-1 district shall be as follows: (10) Uses allowed by use permit in the following zones: R-1, U-C, U-C-2, and E-A.*" In Chapter 18.66.040 the E-A Exclusive Agricultural District, Uses Allowed by Use Permit states *"(7) Commercial electrical generating facilities utilizing…. solar…. if the produced power is intended for sale or distribution off premises.*" The A-1 zoning district is consistent with Extensive Agriculture land use designation of the General Plan.

Table 6.11-1: Applicable Land Use Policies

Policy Document/ Section	Policy Number	Policy Statement
Lassen County 2000 General Plan		
Land Use	LU-6	The County recognizes general plan land use designations and consistent zoning as the appropriate and primary tools for attempting to achieve and maintain compatibility of land uses within the context of the County's land use authority and local control.
Land Use	LU-7	The County shall consider the land use compatibility implications of proposed changes in land use, including proposed general plan amendments and rezoning, to determine the significance and acceptability of the extent to which proposed changes may affect the pattern and well-being of neighboring land uses.
Land Use	LU-11	In the process of approving use permits for certain land uses which are allowed pursuant to the provisions of particular zoning districts, the County may approve the creation of specific parcels which will be smaller than the minimum parcel size otherwise stipulated for the zoning district if the reduced size of the parcels are necessary for the development and operation of the use being approved. Creation of such parcels shall comply with all relevant subdivision requirements and may further be subject to specified conditions of approval.
Land Use	LU-32	The County encourages and will facilitate the development of new, environmentally responsible industrial projects for the economic benefit of the County.

Sources: Lassen County 2000 General Plan, Adopted 21 Sept 1999

6.11.2 Methodology

Guidelines and key sources of data used in the preparation of this section include the following:

- A site reconnaissance survey
- Review of current U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps
- Aerial photography
- Review of Lassen County Zoning Code Ordinances and the Lassen County 2000 General Plan
- Review of State Code pertaining to land uses and development standards

- Review of California Public Utilities Commission Resolution E-4909 ordering Public Utilities to develop Battery Energy Storage Systems for electric service sub-areas to meet local capacity shortfalls.

6.11.3 Environmental Setting

6.11.3.1 Regional Land Use

The City of Susanville is the only incorporated city in Lassen County and holds half the County's population. City of Susanville is the county seat of Lassen County located approximately 50 miles northwest of the Calneva BESS/PSES project lease area. Lassen County population of 30,560 estimated in 2019 by California Department of Finance. There is only one major highway that pass near the proposed project lease area, U.S. Route 395 which is located approximately 12 miles from the Calneva BESS/PSES project. The project lease area is connected to US Route 395 via Calneva Road, (County Unimproved Roadway) and Fort Sage Road (County Maintained Gravel Roadway). Lassen County seats in the Basin and Range province on the eastern slopes of the Sierra Nevada Mountains and primarily range lands, mining, and timber area. Susanville and Lassen County is connected approximately fifty (50) miles southward with the Reno Metropolitan area by US Route 395. The southern portion of Lassen County is primarily range land with the Sierra Army Depot as the dominate land use in the vicinity of the proposed Calneva BESS/PSES project lease area.

6.11.3.2 Surrounding Land Use

The proposed project lease area is surrounded by agricultural use types as defined by the Lassen County zoning code as General Agricultural and range lands. In addition, several facilities of essential public electric facilities are in close proximity to the proposed project lease area which include: PSREC, High-power Transmission Lines and Towers, and PSREC Electric Power Substation. Residential structures (mobile home/travel trailer) are located approximately 7 miles to the south off Fort Sage Road and nine (9) miles to the west is the community of Herlong and the Sierra Army Depot. In addition, the Union Pacific Railroad runs east and west through the middle of project lease area, as well as the Tuscarora Gas Transmission Line. Open space range lands are located on all sides of the proposed project lease area. Due to the A-1 zoning classification and the long historic use of the land as vacant range lands around the proposed project lease area, no other development of any type is foreseen. The project lease area is bordered immediately to the north by a vacant range land owned by the State of California in a parcel of approximately 412.00 +/- acres in size as well as a privately owned parcel of 105 +/- acres. Two vacant range land parcels of approximately 50 +/- acres border the project lease area to the west. To the south are two privately owned parcels of 160 +/- acres and 125 +/- acres. To the east is the California-Nevada State Border and large parcels of range lands. (*See Figure 3.8-1 Project Setting*)

6.11.3.3 Planning

Lassen County 2000 General Plan

The proposed project lease area (contains the BESS, PSES, and Power Substation), and interconnection facilities (3 Miles of 120 kV Transmission Line in Calneva Road right-of-way) are designated as Extensive Agriculture (EA) land use designation by the Lassen County 2000 General Plan (*See Figure 6.10-1 General Plan Map*). The agricultural land use designation (EA) provides for typical rangeland areas with grazing and general rangeland values, natural wildlife habitat, open space and scenic values, and/or low intensity outdoor-oriented recreational values.

Typical permitted uses include crop production, grazing, pasture and rangeland, and associated residences and agricultural support uses. The general plan includes considerations limiting population/housing and uses allowable in agriculture land use designations. It is unlikely that an appreciable population will develop around the proposed project lease area.

Lassen County Zoning Code

As discussed above, the zoning classification for the proposed project lease area, (contains the BESS, PSES, and Power Substation), and interconnection facilities (3 Miles of 120 kV Transmission Line in Calneva Road right-of-way) are A-1 General Agricultural (A-1) zoning district, which is consistent with the Extensive Agriculture, (EA) land use designation of the Lassen County 2000 General Plan. The

development and operations of the proposed BESS/PSES facility is designated as a conditionally permitted use within the zoning classification requiring a Lassen County discretionary approval under the zoning code.

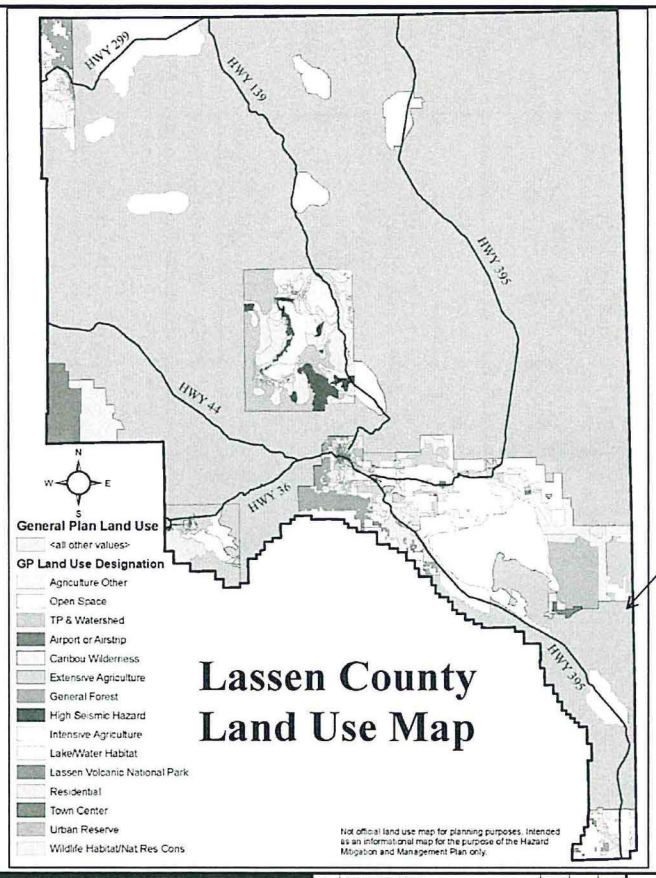
The proposed BESS/PSES facility and associated interconnection facilities are considered an allowed use by use permit and meets the definition of a land use permitted by use permit called out in the Zoning Code Chapter 18.66.40 Uses Allowed by Use Permit, *"(7) Commercial electrical generating facilities….if the produced power is intended for sale or distribution off premises*," since it was ordered by the CPUC as an electrical production facility to meet the electric service sub-area local capacity shortfalls. The development standards for the EA land use designation and A-1 zoning district is outlined in Chapter 18.16.060 Development Standards in Title 18 of the Lassen County Code which include: Front Yard – Twenty (20) feet setback; Side Yard – Ten (10) feet setback on street side yard; Rear Yard – Ten (10) feet setback; and Design Review for all commercial and industrial structures.

The purpose (Lassen County Code Title 18 Zoning, Chapter 18.06.020 Purpose of Title) of the A-1 General Agricultural (A-1) zoning classification is intended to protect and promote the long-term viability and productivity of Lassen County's agricultural resources, uses and economy. This district provides for minimum of forty (40) acre parcel sizes to sustain a wide variety of agricultural and farming activities, low intensity rural uses and open space. Agricultural support services and industries that are compatible with adjacent uses and operations are encouraged. The A-1 District implements the General Plan Extensive Agriculture (EA) land use designations.

Utility Planning

Section 701 of the Public Utilities Code gives the CPUC authority to take any action to conduct its duties: The commission may supervise and regulate every public utility in the State and may do all things, whether specifically designated in this part or in addition thereto, which are necessary and convenient in the exercise of such power and jurisdiction. Several areas of California law give the CPUC authority to act to ensure a safe and reliable energy supply for the state as well as just and reasonable retail rates for such services. The CPUC's authority over utility regulation and supervision arises from the California Constitution, state law and court decisions as well as federal law including, but not limited to, the Federal Power Act, 16 U.S.C. § 791 et seq., and section 714 of the Energy Policy Act of 1992, 16 U.S.C. §824(g). (*General Order 167, Section 1; see generally Southern California Edison Company v. Public Utilities Commission (2014) 227 Cal.App.4th 172, 186-196.*) Several state statutes direct the CPUC to assure the long-term reliability of California's electric energy supply. Section 380 of the California Public Utilities Code requires the Commission to establish and enforce resource adequacy requirements to assure "development of new generating capacity and retention of existing generating capacity that is economic and needed." (Section 380, subds. (b)(1); see also subds. (c)-(f).) As such the CPUC in its planning for the delivery of electric service to portions of Lassen County and Eastern Range of the Sierra Nevada's authorized utilities to solicit and procure a battery energy storage system for the various sub-area by passage of CPUC Resolution E-4909 on January 11, 2018. PG&E, California Energy Storage Association (CESA), Sierra Club, Earth Justice, and California Environmental Justice Alliance and Environmental Defense Fund all expressed support for the CPUC Resolution E-4909. Calneva BESS/PSES project is responding to the CPUC Resolution E-4909, subject to Calneva BESS/PSES project obtaining Lassen County clearance and approval for the proposed Calneva BESS/PSES project.

The CPUC recognizes battery energy storage systems can be fast-responding, reliable, and may be able to be procured at sufficient quantity and reasonable cost to alleviate a projected capacity shortfall and a high voltage issue in many sub-areas of the grid within California. Battery energy storage systems can be constructed in a short timeframe and may be able to be brought on-line in sufficient time as to obviate the need for RMR contracts, or their extension, for the operation of fossil fuel peaker power plants, subject to Lassen County approval of the Conditional Use Permit for the project. California Public Utilities Code Section 451 requires that every public utility maintain adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities to ensure the safety, health, and comfort of the public.



Project Site

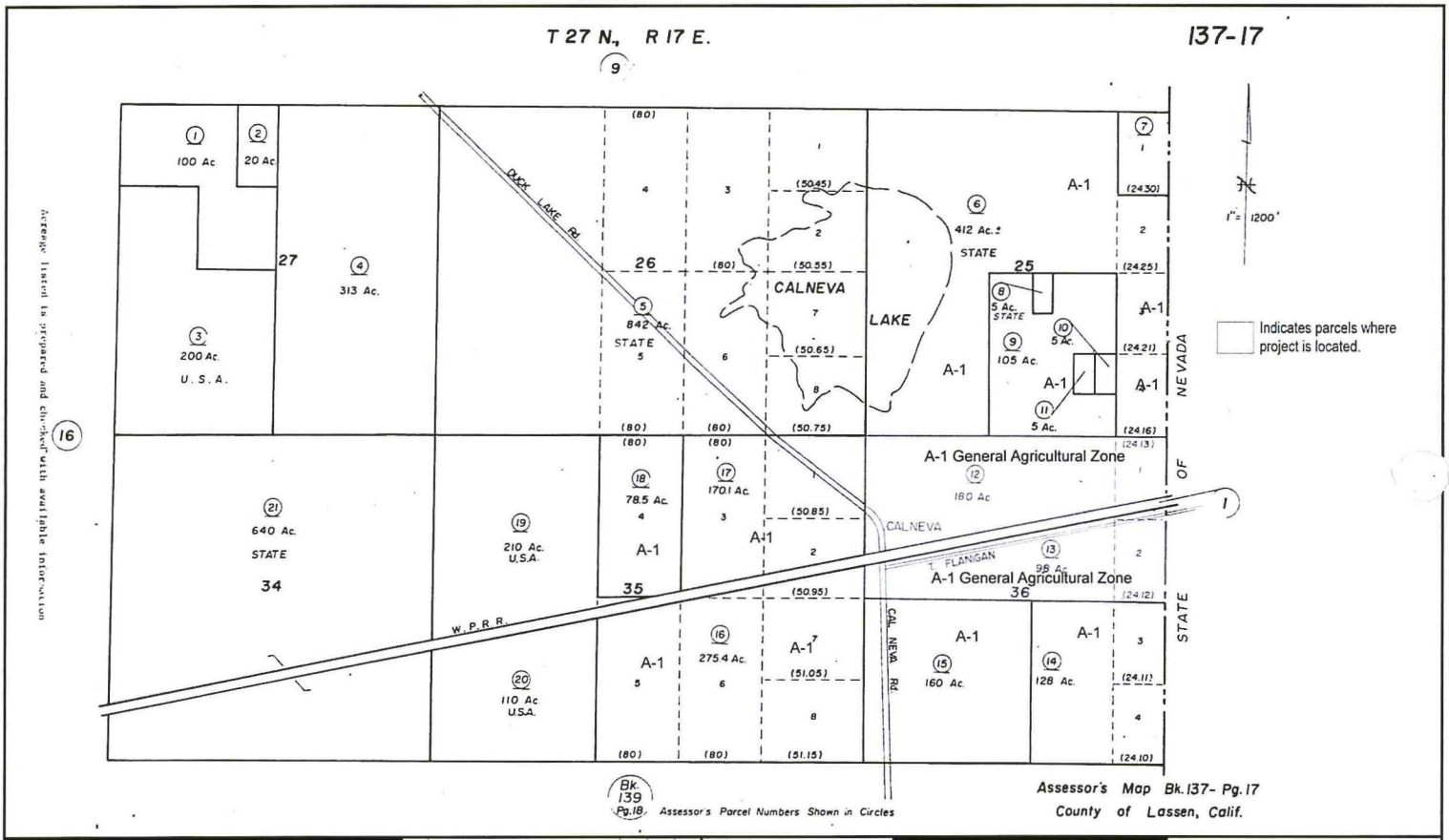
PROJECT: CALNEVA BESS/PSES FACILITY	0	Issued as Final	SCV		BLM
Calneva, CA	APNs: 137-170-012,013				
	REV.	DESCRIPTION	BY	APP.	CHKD

N W E S

FIGURE: General Plan Map

DATE:	04-09-2020	SCALE:	NTS
BY:	SCV	FIGURE:	6.11-1

SIERRA GEOTECH



PROJECT: CALNEVA BESS/PSES FACILITY							FIGURE: Zoning Map	
Calneva, CA	APNs: 137-170-012,013						DATE: 04-09-2020	SCALE: As Shown
							BY: AKM	FIGURE: 6.11-2
		REV.	DESCRIPTION	BY	APP.	CHKD		
		0	Issued as Final	SCV		BLM		

N W E S

SIERRA GEOTECH

6.11.4 Standards of Significance

An impact to land use would be considered significant if the proposed project would:

- Physically divide an established community.
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; and/or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

6.11.5 Impacts and Mitigation Measures

6.11.5.1 Project Design and Layout – Consistency with Zoning Development Standards

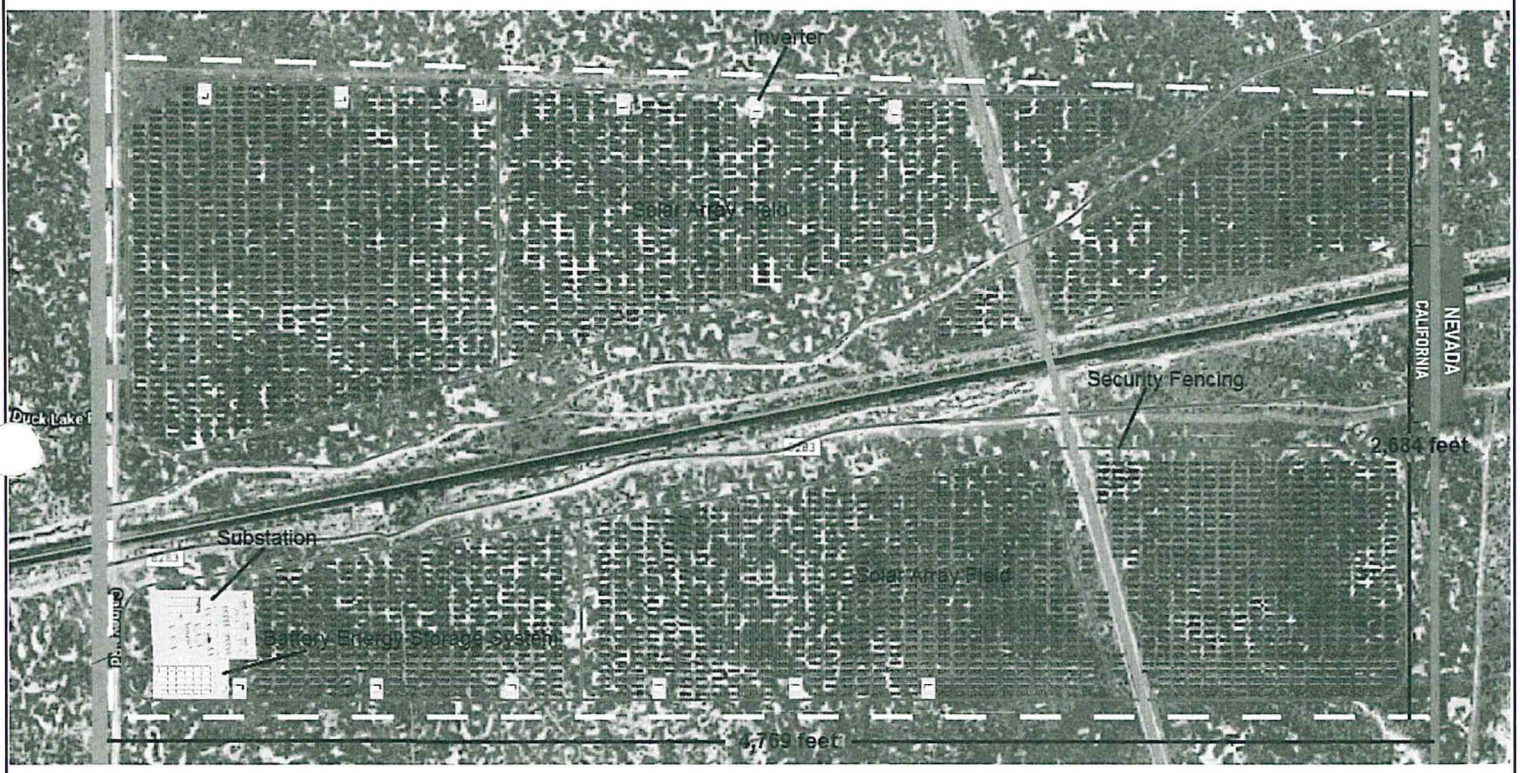
The proposed Calneva BESS/PSES project has been designed and developed a site plan/layout to be compliant with the Lassen County Zoning Code Development Standards and Exceptions (Zoning Code Title 18) for the A-1 zoning district classification. Minor modifications are proposed to the existing PSREC 120 kV transmission line located some four (4) miles south of the proposed Calneva BESS/PSES project lease area off of Calneva Road for the interconnection between the BESS/PSES facilities and the PSREC pole as part of the proposed BESS/PSES facilities. The proposed Calneva BESS/PSES project is an ordered source of peaker power energy for the grid by the CPUC. The interconnection facilities consist of approximately 18 power poles for an above-ground 120 kV electrical transmission line, located within the Calneva Road right-of-way, would be required for the BESS/PSES facilities for interconnection with PSREC and the grid system. The BESS/PSES systems will interconnect with an existing PSREC 120 kV transmission line, which connects to the Fort Sage and Herlong substations to the south approximately four (4) miles away.

The proposed Calneva BESS/PSES project would include modular battery storage system situated in an enclosure measuring forty (40) feet long, eight (8) feet wide, and six feet six inches (6.6) feet high. The BESS facility will have thirty (30) forty (40) feet long battery enclosures which would house arrays of lithium ion (Li-ion) batteries and associated wiring and controls. Perimeter fencing is proposed as part of the project for security purposes surrounding the entire project. The battery storage unit will be placed in the southwestern portion of the parcel adjacent to Calneva Road. The modular battery unit enclosures will be placed on a pier foundation system and will be setback from the parcel boundaries by twenty-six (26) feet. The area under the battery unit enclosures and associated ancillary improvements would be pervious which will allow water to simply filter under the storage enclosures and recharge the groundwater on site.

The PSES portion of the project will install approximately 143,000 to 163,000 PV modules. Each PV modules takes up approximately 21.00 square feet. Each PV module will be supported on steel support piles. The Project would also have approximately 10 to 14 inverter Skids. Each Skid would be mounted on concrete piers or footings, with the entire structure being approximately 12 feet wide by 35 feet long by 15 feet high. The project will also have a power substation which will consist of several steel support and dead-end structures up to 90 feet tall, prefabricated modular control building ten feet by ten feet, transformers and switchgear.

Due to the level topography of the proposed project lease area, no formal grading will be required. Earthwork will be limited to excavation of soil for pervious concrete slab, piles, conduit banks, transmission utility poles, steel support dead-end structures, and this soil material will be kept on-site. The project's interconnection facilities will utilize single pole, self-weathering steel double circuit structures. Single steel pole structures are typically placed on a large concrete foundation. The arms on the pole would be approximately 85 feet above the ground depending on span length and extend approximately 18 feet from the center of the pole. The proposed interconnection facilities will share Calneva Road ROW, and Calneva BESS/PSES project will acquire necessary approvals and encroachment permits from Lassen County. The proposed interconnection 120kV transmission line and project power substation will be designed to meet or surpass all relevant local and State codes, NESC and NERC requirements and PSREC standards. Appropriate standards will be met for construction and installation and all applicable safety procedures will

be followed during and after installation. *Figure 6.10-3: Calneva BESS/PSES Layout Plan*, below depicts the site plan.



Scale: 1" = 475'

PROJECT: CALNEVA BESS/PSES FACILITY	0	Issued as Final	SCV		BLM
Calneva, CA	APNs: 137-170-012,013				
	REV.	DESCRIPTION	BY	APP.	CHKD

N W E S

FIGURE: Layout Plan	
DATE: 04-09-2020	SCALE: As noted above (11"x17")
BY: AKM	FIGURE: 6.11-3

SIERRA GEOTECH

Dimensions of the proposed project components are summarized in *Table 6.11-2: BESS/PSES Facility Component Dimensions*, below.

Table 6.11-2: BESS/PSES Facility Component Dimensions

BESS/PSES System Component	Number Of Units	Height (ft)	Width (ft)	Length (ft)	Foundation Design	Surface Area (sq. ft)	Excavation Volume (cy)
Battery Storage System Enclosures	30	6.6	8	40	Pervious Concrete Slab,4 to 6 inches above grade, 18 inches below grade	9600	80
Power Conversion System (PCS)	5	9	11	5	Pervious Concrete Slab, 11 ft by 5 ft, 4 to 6 inches above grade, 18 inches below grade	275	35
Power Distribution Center (PDC)	5	8	12	10	Pervious Concrete Slab, 4 to 6 inches above grade, 18 inches below grade	600	60
2032 kVa Pad-Mounted Transformer	5	6	6	7	Pervious Concrete Slab, 4 to 6 inches above grade, 18 inches below grade	215	25
Power Inverter Pad-Mounted	5	7.5	9	5	Pervious Concrete Slab, 4 to 6 inches above grade, 18 inches below grade	225	30
Pad-Mounted Switchgear	5	4	5	2.5	Pervious Concrete Slab, 4 to 6 inches above grade, 18 inches below grade	60	10
PV Modules	163000	8	3.25	6.5	Steel Support Piles, 4 to 8 feet Above grade, 7 to 10 feet below grade	3.4 mil	100
Inverter Skids	14	15	12	35	Post & Pile Foundation	5880	40
Steel Support Dead-End Structures	2	90	5	5	Cast in Place Concrete 15 to 20 feet below grade	50	1000
Cable Trench	NA	2	2	4000		NA	600
Totals	**163071**					**3416905**	**2000**

6.11.5.2 General Plan Consistency

The proposed Calneva BESS/PSES project is required to be consistent with the Lassen County 2000 General Plan. The General Plan land use designation for the proposed project lease area is Extensive Agriculture (EA). Typical permitted uses in the EA general plan land use designation include crop production, grazing, pasture, rangeland, open space, and associated residences and agricultural support uses. The Lassen County General Plan addresses land use for ancillary facilities for the production of

energy in the following: "*LU35 POLICY: Subject to case-by-case review (including review for compatibility with surrounding agricultural uses) and in compliance with relevant area plan; zoning, permitting and environmental review requirements and the development and operation of the following land uses would typically be deemed consistent with the Extensive and Intensive Agriculture land use designations and would not require zoning to an "Industrial" zoning district, nor would they be interpreted by the County to constitute an "agricultural conversion" pursuant to this General Plan: …Energy Production Facility".* The proposed BESS/PSES facility is considered an allowed land use subject to a conditional use permit as an electrical production facility under the general plan designation of EA and zoning district of A-1. The proposed Calneva BESS/PSES project is in response to the CPUC resolution regarding peaker power in California and is an essential service land use to meet the electric service sub-area local capacity shortfalls. The BESS/PSES facility was ordered by the CPUC to replace existing gas powered peaker generated power in California and to service the public electric grid system. The electrical power grid system in Lassen County was installed in Lassen County prior to the adoption of a zoning code and general plan. The proposed BESS/PSES facility would be a separate accessory use to the existing PSREC, LMUD, NV Energy, and PG&E electrical systems, providing greater electricity reliability in an environmentally friendly way.

The proposed Calneva BESS/PSES project is a planned public utility energy storage project necessary for electric power capacity required to allow the build-out of the Lassen County 2000 General Plan and support the future electrical demands of the County. CPUC has endorsed new technologies for the grid, including battery energy storage, which will alter the traditional real-time requirements for grid operations and the nature of production, transmission, and distribution of power—opening up new avenues for flexible and cost-effective operation of the grid in supporting existing and future development within Lassen County. The proposed Calneva BESS/PSES project is consistent with the Lassen County General Plan Goal N-17: "*Conservative management of Lassen County's energy resources so that those resources can be developed and utilized for the benefit of County residents with a high degree of efficiency and productivity."* The new technology of BESS and PSES have created the most efficient and environmentally friendly way of producing and distributing electrical energy on demand to meet peak loads and energy demands of the public grid. The primary intent of the Lassen County General Plan Energy Element is to present specific policies and procedures that will not only ensure a balance between energy development, environmental protection, and preservation of other natural resources, but will also facilitate the siting and permitting of energy facilities within the County, thereby enhancing and diversifying the County's economic base. The Lassen County General Plan Goals and Energy Element mandates that projects such as the proposed Calneva BESS/PSES project be granted support and approval from the Lassen County Planning Commission in upholding and endorsing the General Plan Goals and Energy Element Goals, Policies, and Implementation Measures, in making discretionary land use decision.

The existing Fort Sage and Herlong power substations and the 120kV transmission line that connects the two are a significant part of the infrastructure providing electricity throughout Lassen County, and the proposed Calneva BESS/PSES project would improve the reliability of electricity distribution throughout the grid and to the general public by storing excess electrical energy from the PSES or the electric grid as electro-chemical energy and delivering it back to the grid as electrical energy. This is a proposed land use that would serve the residents, agricultural community and businesses in the Lassen County to address regional limitations of power capacity; stabilize voltage service levels; meet expected demand, particularly the needs of the Federal Government at the Sierra Army Depot and at the Federal and State Correctional Facilities; and satisfy regulatory requirements. In addition, the proposed Calneva BESS/PSES project's construction and operation would further the goals, policies, and objectives of the Lassen County General Plan and Energy Element in the following ways:

- Provide necessary source of power into PSREC's system, increasing the reliability of power delivery to the area and stabilizing the PSREC electric system and
- Provide sufficient power to meet the anticipated area's traditional growth as planned for in the Lassen County General Plan 2000.
- Provide necessary facilities to meet the requirements outlined in the following studies: 1) VIASYN, Inc. *Plumas-Sierra Rural Electric Cooperative, 2008 Power System Stability Study, 120 kV Service*

from Sierra Pacific Power Company and 2) *Sierra Pacific Power Company Small Generation Interconnection Study, Plumas-Sierra Leavitt Power Project, December 2005.*

- Provide load requirements for the area's energy needs
- Support PSREC requirement for a portfolio of renewable energy projects
- Offset the inherent fluctuations in renewable energy projects, which have been mandated to replace fossil fuel produced power
- Meet regional electrical energy needs that are time sensitive, increase the reliability of power delivery to Lassen County, and stabilize the PSREC, and LMUD electric systems.

Therefore, the proposed project is consistent with the stated objectives of the EA land use designation as defined in the General Plan Land Use Element and the goals and objectives of the Energy Element of the Lassen County General Plan. Therefore, the battery storage and photovoltaic solar energy project would not result in any conflict with the Lassen General Plan Land Use standards as the Herlong power substation, PSREC Fort Sage to Herlong 120kV interconnect project, Calneva interconnect facilities, Calneva BESS facility, Calneva PSES facility, as a separate CPUC ordered accessory use of the existing public utility infrastructure in the Lassen sub-area of the electrical public grid. The PSREC power substations and electric transmission lines are legally permitted, the intensity and character of the proposed project is planned for within the General Plan, and the overall BESS/PSES project would remain in compliance with the Lassen County General Plan's stated Guiding Principles and Goals.

The proposed Calneva BESS/PSES project is consistent with and furthers in many respects the goals and policies of the Lassen County 2000 General Plan. Specifically, the BESS/PSES facility is an "allowed land use by permit" as defined in the Lassen County 2000 General Plan and Title 18 Zoning Code and is properly located within the EA land use designation, consistent with the General Plan. The Calneva BESS/PSES project would further key goals and policies stated in the General Plan's Land Use, Energy, Natural Resources, Agriculture, Wildlife, Open Space, Circulation, Safety and Seismic Safety Elements, and is consistent with the goals, as noted below:

- GOAL N-22: *Air quality of high standards to safeguard public health, visual quality, and the reputation of Lassen County as an area of exceptional air quality.* This BESS/PSES facility will produce no air pollutants during operations and will assist California in shifting electrical production away from fossil fuel burning power production to renewable clean energy production. Thus, the proposed project will further the goal of high air quality standards by proposing a land use which does not have any emissions.

- GOAL N-17: *Conservative management of Lassen County's energy resources so that those resources can be developed and utilized for the benefit of County residents with a high degree of efficiency and productivity.* The proposed Calneva BESS/PSES project fulfills this Goal by providing Lassen County with energy storage and transformative technologies in electrical energy production and storage. With the state's renewable energy goal of 100% by 2045 as a driver, the Calneva BESS/PSES project is helping to meet the State's goal. With the CPUC mandating energy storage, decreasing system costs, and a FERC (order 841) decision to allow energy storage to participate in regional energy markets, the future of energy storage is assured within Lassen County.

- GOAL A-4: *Support for the economic viability and continuation of agricultural operations and the protection of agricultural resource lands.* The proposed BESS/PSES facility will be built consistent with the existing character of the Herlong region of Lassen County, which is characterized by Union Pacific rail facilities, natural gas transmission lines, electrical transmission lines, Sierra Army Depot, electrical power substations (Fort Sage/Herlong) public utility facilities, agricultural storage buildings and similar development to the proposed BESS/PSES facilities. Meeting the design standards of the zoning code, such as parcel line setbacks, security fencing, ensures the BESS/PSES facility is in character to the surrounding land uses and development improvements.

- GOAL A-3: *Maintain an orderly process and review criteria for the consideration of project proposals which may result in the conversion of agricultural lands to uses which are not primarily*

agricultural or directly related to agriculture, consistent with related policies of the General Plan which are intended to protect agricultural resources and land uses. The proposed BESS/PSES facility is a quasi-public use, since its purpose is to provide the peaker power needs of the Lassen County sub-area as ordered by CPUC and remove the Lassen sub-area off dependence on gas-fired power generation, reducing the greenhouse gas footprint in Lassen County, and avoiding rolling black outs of electrical services in the region. The placement of the proposed BESS/PSES facility is vital to the Lassen County region in planning out reliable and sustainable electrical service and supporting the various utilities within the region (LMUD, PSREC, PG&E, and NV Energy). The BESS/PSES facility is also required to implement the full build-out of the Lassen County 2000 General Plan by providing the required electric utility infrastructure capacity to meet the demands of existing and future growth under the General Plan. The approval of the BESS/PSES facility furthers attainment of SB100, "*The 100 Percent Clean Energy Act of 2018*", calling for 100% sustainable electrical energy in California.

6.11.5.3 Zoning Code Consistency

The proposed Calneva BESS/PSES project is required to be consistent with the Lassen County Title 18: Zoning Ordinance. The proposed project lease area and interconnection facilities corridor (3 miles Calneva ROW) is zoned A-1 General Agricultural District (A-1) (Zoning Code Chapter 18.16). BESS/PSES facilities are allowed in the zone by Use Permit to be approved by the Lassen County Planning Commission. BESS/PSES facilities that are accessory to the existing electrical transmission systems, substations (Fort Sage/Herlong) and uses, buildings, and structures accessory and customarily incidental to the electric transmission substation use are conditionally permitted uses within the A-1 Zone.
Chapter 18.16.050 Subsection (10) states the following uses are allowed by Use Permit: "*(10) Uses allowed by use permit in the following zones: R-1, U-C, U-C-2 and E-A."* Under Chapter 18.66 Exclusive Agricultural (E-A) District further defines land uses allowed by use permit called out in Chapter 18.16.050 as, "*(7) Commercial electrical generating facilities utilizing biomass, cogeneration, gas, oil, geothermal, solar, and wind if the produced power is intended for sale or distribution off premises."* The proposed Calneva BESS/PSES meets the above defined land use as a solar powered facility with battery storage of the solar power produced by the Calneva PSES facilities. Due to the special character and possible effect on surrounding land uses, the proposed BESS/PSES facilities requires the issuance of a Conditional Use Permit pursuant to Zoning Code Title 18, Chapter 18.16.050 to allow the BESS/PSES facilities as a use incidental to the previously permitted and existing PSREC 120kV transmission line and Fort Sage/Herlong power substations.

The proposed BESS/PSES facilities would be consistent with the Lassen County Zoning Development Standards (Zoning Code 18.66.050) and meets the required Mandatory Findings (Zoning Code 18.112.100). The proposed Calneva BESS/PSES project would not cause an increase in noise, odors, smoke, or vibration and all battery storage areas are screened from outside views by a proposed perimeter security fence. The BESS facility would be setback approximately twenty-two (26) feet from all parcel boundaries. The ingress/egress to the proposed lease area will utilize the driveways off Calneva Road. All access driveways, internal perimeter roadways, and internal access roadways will be adequate in size (20 feet width minimum) to meet Doyle Fire Prevention District requirements. Therefore, the proposed Calneva BESS/PSES project is consistent with the Lassen County Zoning Ordinance.

6.11.5.4 Conditional Use Permit

The proposed project lease area and the Calneva Road ROW which will support the interconnection facilities are adequate in terms of location and physical characteristics to accommodate the BESS/PSES and interconnection facilities. The proposed project lease area is currently being utilized as range land, rail transportation infrastructure (Union Pacific Railroad) and a Tuscarora Gas Transmission Line/Herlong Lateral Tap Valve Assembly. The interconnection line corridor will be on shared ROW for Calneva Road and ROW for the PSREC 120kV transmission line.

In addition, the proposed BESS/PSES facility meets the performance standards established for uses within the A-1 zoning district. Improvements associated with BESS/PSES facilities would be located within the proposed screening fenced perimeter and would be largely screened from view. Therefore, the project does

not change the adequacy or character of the site. As such, the parcel will remain adequate in size, shape, location, and physical characteristics to accommodate the intensity of the BESS/PSES facilities development proposed within the parcels.

The existing streets and highways (Calneva Road, Fort Sage Road, U.S. Route 395) in the vicinity of the parcels are adequately designed to support the safe and efficient movement of construction crews and Calneva BESS/PSES employees in the project area because they are of adequate size to accommodate the surrounding uses. The transportation system is also adequate to service the transport of BESS/PSES equipment to the proposed project lease area.

The parcel will continue to be served by the Doyle Fire Protection District and Sherriff's Department. No water service or wastewater service from any County Service District is required. To the extent service is required, the Doyle Fire Protection District and the Sheriff's Department have adequate capacity to continue to serve the parcels based upon communications with the above-mentioned county agencies.

The Calneva BESS/PSES project will not be detrimental to the health, safety, comfort, convenience, and general welfare of the neighborhood and will not be incompatible with the surrounding areas, as the improvements are minor in nature and would not expand the existing use and activity footprint of the existing parcels. The Calneva BESS/PSES project will maintain the existing PSREC Fort Sage and Herlong power substation use and will improve reliability of energy delivery to the grid by constructing a battery storage system and meeting the projected electric load shortfalls forecasted by the CAISO for the Lassen sub-area.

The BESS/PSES facility well be designed in accordance with various electrical and safety codes and regulations and includes numerous safety features. Key features include voltage and current protection via software controls; physical protection via component isolation; and fire alarm and suppression systems. The battery storage system enclosure would include a fire suppression system designed to detect and suppress fires. If smoke is detected or if the system is manually triggered, alarm bells would sound, horn-strobes would buzz and flash, and the suppression system would release a dry aerosol agent from canisters mounted in the battery storage system enclosures. The system is designed to extinguish a fire within 10 seconds.

A Public Health Screening-Level Assessment in Section 6.8 *Hazards and Hazardous Materials* of this IS was conducted to characterize the public health effects in the event of a battery malfunction. The expected pollutants emitted from the modeled scenarios included several conservative factors, including allowing both the non-combustion and combustion malfunction events to continue without control for over an hour. The results of this analysis concluded that public health impacts associated with the system malfunctions are not considered detrimental to the nearest receptors (i.e., residences in Herlong and off Fort Sage Road). The potential impacts at other nearby but more distant receptors, such as Sierra Army Depot, Herlong, and Doyle, are similarly not considered detrimental.

6.11.5.5 Summary of Land Use Impacts

In accordance with the checklist criteria, the proposed Calneva BESS/PSES project would not have a significant impact to land use or planning. The proposed Calneva BESS/PSES project is consistent with the Lassen County 2000 General Plan and the Lassen County Zoning Code (Title 18 et seq.) The proposed Calneva BESS/PSES project would not impair the integrity or the character of the surrounding area. In addition, this BESS/PSES facilities land use would not be: (1) unreasonably incompatible with or injurious to surrounding properties; (2) detrimental to the health and general welfare of persons residing or working in the neighborhood; or (3) detrimental to the general health, welfare, and safety of residents of Lassen County. No mitigation measures are needed. No Impacts.

6.11.6 Land Use and Planning Initial Study Responses

Table 6.11-3: Land Use and Planning Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☑
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☑

6.11.7 Response to Questions

6.11.7.1 Divide a Community: No Impact

The proposed Calneva BESS/PSES project would not result in the physical division of any established community or neighborhood nor would it include changes to the existing circulation network. The proposed Calneva BESS/PSES project represents a type of community services utility land use on a parcel that has been used for agricultural range land and railroad transportation infrastructure land uses and adjoining parcels for electric substation and electric distribution and transmission lines for decades. Therefore, there would be no impact related to dividing an established community.

6.11.7.2 Conflict with Plans or Policies: No Impact

The Lassen County 2000 General Plan land use designation for the subject parcel is Extensive Agriculture (E-A). The General Plan does not describe the BESS/PSES facility designation as a discrete land use, and, instead, as a "*Associated Agricultural Support Use*" land use within the General Plan land use designation of E-A. The current zoning classification for the subject property is A-1 General Agricultural (A-1). The proposed Calneva BESS/PSES project is a conditionally permitted use in this land use zoning classification under the Lassen County Zoning Code, Title 18.

The *CEQA Guidelines* require consideration of whether a proposed project may conflict with any applicable land use plan, policy, or regulation that was adopted for the purpose of avoiding or mitigating an environmental impact. This environmental determination differs from the larger policy determination of whether a proposed project is consistent with a jurisdiction's general plan. The former determination that is intended for consideration in a CEQA document is based on, and limited to, a review and analysis of environmental effects. Policy conflicts are considered environmental impacts only when they would result in direct environmental effects.

The potential environmental impacts of the proposed project are disclosed and analyzed in this Initial Study/Mitigated Negative Declaration. As described in this document, the project would not have any potentially significant and unavoidable environmental impacts. With the incorporation of the mitigation measures identified in this document, all impacts would be less than significant. There would be no conflicts with any applicable land use plan, policy, or regulation of an agency adopted for the purpose of avoiding or mitigating an environmental effect. The proposed Calneva BESS/PSES project is consistent with the existing zoning classification and general plan designations. In addition, the proposed land use is compatible and consistent with surrounding land uses. Therefore, there is No Impact.

6.11.7.3 Conflict with Habitat Conservation Plan: No Impact

The proposed Calneva BESS/PSES project would not conflict with any applicable habitat conservation plan or natural community conservation plan. As discussed throughout Section 6.4, Biological Resources, the proposed Calneva BESS/PSES project will not conflict with the Doyle Wildlife Area located just south of the proposed project lease area. As such, there would be No Impact to an HCP from the implementation of the proposed Calneva BESS/PSES project.

6.12 MINERAL RESOURCES

This section describes mineral resources in Lassen County and analyzes the potential impacts on mineral resources that may result from the proposed Calneva BESS/PSES project. The discussion is based primarily on United States Geological Survey topographic and geologic maps, information contained in the Lassen County General Plan 2000 and Bureau of Land Management Mineral Resources Inventory on nearby lands such as the Skedaddle Mountains in Lassen County just north of the proposed lease area, and other available mineral resource literature.

6.12.1 Background

6.12.1.1 Regulatory Context

Federal Regulations

There are no federal regulations regarding mineral resources that are applicable to the project.

State Regulations

California Surface Mining and Reclamation Act

The California Surface Mining and Reclamation Act of 1975 requires classification of lands into Mineral Resource Zones (MRZ) based on the known or inferred mineral resource potential of that land. The classification process is to be completed by a State Geologist and is based solely on geology, without regard to land use or land ownership. The primary goal of mineral land classification is to help ensure that the mineral resource potential of lands is recognized and considered in the land use planning process. MRZ dedications are listed directly below:

MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence.

MRZ-2: Areas where adequate information indicates significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.

MRZ-3: Areas containing mineral deposits the significance of which cannot be evaluated from available data.

MRZ-4: Areas where available information is inadequate for assignment to any other MRZ.

Local Regulations

Lassen County General Plan 2000

The Lassen County General Plan, Natural Resources Element, Mineral Resources subsection sets forth the following goals, objectives, policies, and implementation measures:

GOAL N-13: To improve and diversify the County's industrial base by encouraging development of mineral resources in ways which avoid or minimize unacceptable levels of land use conflict and significant environmental damage.

NR48 POLICY: Surface ·and subsurface mining operations shall obtain a Use Permit as required by the Lassen County Code.

NR52 POLICY: The County will develop grading criteria which will apply to earth moving activities related to mineral resource exploration.

GOAL N-15: To encourage the development and management of mineral resources by coordinating efficient internal and interagency project review.

NR56 POLICY: In the event that California designates an area of statewide or regional mineral resource significance within the County, the County will, contingent upon available funds, establish mineral resource management policies to be incorporated into its general plan which will: recognize the pertinent mineral information; assist in the management of land uses which may affect the designated areas; and emphasize the development of identified mineral deposits. Related policies and land use designations, including consideration of alternative land uses, shall consider the importance of the market regions of the minerals as well as their importance to the state and nation as a whole.

The proposed Calneva BESS/PSES project lease area is not designated by the state Mining and Geology Board (MRZ-2 or MRZ-3) to have regional or statewide significance. The mineral resources present within the proposed lease area are not enough to trigger the development of specific Mineral Resource Management Policies by the County per Public Resources Code Section 2762.

6.12.2 Methodology

Information for this section was obtained from the Lassen County General Plan 2000, United States Geological Survey topographic and geologic maps, and Bureau of Land Management Mineral Resources Inventory on nearby lands such as the Skedaddle Mountains in Lassen County just north of the proposed lease area, and other available mineral resource literature.

6.12.3 Environmental Setting

6.12.3.1 Regional Overview

Geologic and geochemical evidence suggests that this portion Lassen County has potential for the occurrence of silver, gold, mercury, and antimony metallic deposits. The Skedaddle Mountains located approximately ten (10) miles north of the Calneva BESS/PSES project lease area within the central part of Spencer Basin, upper Thousand Springs Canyon, and the south fork of Wendel Canyon have high mineral resource potential for gold, silver, mercury, and antimony while the area surrounding these locations has moderate mineral resource potential for the same metals. An area in Wendel Canyon has moderate mineral resource potential for perlite, and an adjacent area to the south has low mineral resource potential for the same commodity.

6.12.3.2 Study Area Setting

The proposed project lease area is classified as an MRZ-4; areas where available information is inadequate for assignment to any other MRZ. The proposed Calneva BESS/PSES project does not contain any known mineral resources including any rock, sand, or gravel resources.

6.12.4 Standards of Significance

An impact to mineral resources would be considered significant if the proposed project would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

6.12.5 Impacts and Mitigation Measures

The proposed Calneva BESS/PSES project does not contain any known mineral resources including any rock, sand, or gravel resources and it is not expected that the relatively all alkali flats and open rangeland area would contain mineral resources, because the soil is expected to have similar characteristics. Furthermore, if any mineral resources were to be discovered on the proposed project lease area, it is not feasible to mine them given the Lassen County Zoning Ordinance, which does require a Use Permit for quarrying or mining. Thus, the proposed Calneva BESS/PSES project would not result in significant mineral resource impacts.

6.12.6 Mineral Resources Initial Study Responses

Table 6.12-1: Mineral Resources Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☑

6.12.7 Responses to Initial Study Questions

6.12.7.1 Loss of Mineral Resource: No Impact

No significant mineral deposits are present in the proposed project lease area or it is judged that little likelihood exists for their presence. The proposed Calneva BESS/PSES project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, as no significant mineral deposits are present in the proposed project parcel nor in the surrounding area, or it is judged that little likelihood exists for their presence. Therefore, there would be No Impact.

6.12.7.2 Loss of Mineral Resource Recovery Site: No Impact

The Lassen County General Plan 2000 states that there are no areas within Lassen County designated by the state Mining and Geology Board (MRZ-2 or MRZ-3) to have regional or statewide significance. The mineral resources present within Lassen County are not enough to trigger the development of specific Mineral Resource Management Policies by the County per Public Resources Code Section 2762. Adequate information indicates that no significant mineral deposits are present, or it is judged that little likelihood exists for their presence. The proposed project lease area does not include a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, there would be No Impact.

6.13 NOISE

The following section addresses noise as it relates to the construction and operation of the proposed Calneva BESS/PSES project. A review of the setting surrounding the proposed project lease area was carried out to identify any noise impacts that might occur. Noise sensitive receptors closest to the proposed project lease area are identified as well as the laws, ordinances, regulations, and standards that regulate noise levels at those receptors. The following discussion addresses noise terminology, existing noise levels in the project vicinity, anticipated noise levels from proposed BESS/PSES facility operations, and how impacts to noise-sensitive receptors would be avoided. Noise generated by the proposed BESS/PSES facility during operations and construction is assessed using California Environmental Quality Act (CEQA) and noise guidelines adopted by Lassen County and the Goals and Policies of the Lassen County General Plan. Lassen County does not have a noise ordinance as part of the County Code of Ordinances to regulate noise within the County.

6.13.1 Background

6.13.1.1 Fundamentals of Environmental Acoustics

The decibel scale used to describe sound levels is a logarithmic rating system to account for large range in audible sound intensities. A general rule for the decibel scale is that a 10-decibel (dB) increase in sound is perceived as a doubling of loudness by the human ear. For example, a 55-dB sound level would sound twice as loud as a 45-dB sound level. Generally, people cannot detect differences of 1-dB whereas a 5-dB change is clearly noticeable.

Several sound measurement descriptors are used to assess the effects of sound on the human environment. These include the equivalent sound level, L_{eq}, which is the level of a constant sound that has the same sound energy as the actual fluctuating sound. It is like the average sound level. The day-night sound level, L_{dn}, is like the 24-hour L_{eq} except that a 10-dB penalty is added to sound levels between 10 p.m. and 7 a.m. to account for the greater sensitivity of people to sound at night. The Community Noise Equivalent Level, or CNEL, also places a weighted factor on sound events occurring in the evening hours. L_{90} is the sound level that is exceeded 90 percent of the time and is often used to describe the background or residual sound level. Each of these sound level descriptors is found within the Lassen County General Plan. Lassen County currently does not have a County Ordinance describing noise regulation or policy.

Acoustics is defined as the science of sound, including the generation, transmission, and effects of sound waves, both audible and inaudible. Noise, on the other hand, is generally defined as loud, unpleasant, unexpected or undesired sound that disrupts or interferes with normal human activities. Although exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance. The objectionable nature of sound is caused by its *pitch* or loudness. *Pitch* is the height or depth of a tone or sound wave, depending on the relative rapidity (frequency) of the sound vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. *Intensity* is a measure of the amplitude or height of the sound wave. *Frequency* describes the sound's pitch and is measured in Hertz (Hz), while intensity describes the sound's loudness and is measured in dB.

Applicable Sound Measurements

The A–weighted decibel (dBA) is a method of sound measurement which assigns weighted values to selected frequency bands to reflect how the human ear responds to sound. The range of human hearing is from 0 dBA (the threshold of hearing) to about 140 dBA which is the threshold of pain. Examples of noise and their A–weighted decibel levels are shown in Table 6.13–2. In general, a three to five dBA change in community noise levels starts to become noticeable, while one to two decibel changes are generally not perceived. Quiet suburban areas typically have noise levels in the range of 40–50 dBA, while those along arterial streets are in the 50–65+ dBA range. Normal conversational levels are in the 60–65 dBA ranges.

In addition to the actual instantaneous measurements of sound levels, the duration of sound is important since sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. To analyze the overall noise levels in an area, noise events are

combined for an instantaneous value or averaged over a specific time period. The time–weighted measure is referred to as equivalent sound level and represented by energy equivalent sound level (L_{eq}). The percentage of time that a given sound level is exceeded also can be designated as L_{10}, L_{50}, and L_{90}. The subscript denotes the percentage of time that the noise level was exceeded during the measurement period. Namely, an L_{10} indicates the sound level is exceeded 10 percent of the time and is generally taken to be indicative of the highest noise levels experienced at the site. The L_{90} is that level exceeded 90 percent of the time and this level is often called the base level of noise at a location. The L_{50} sound (that level exceeded 50 percent of the time) is frequently used in noise standards and ordinances.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within ±1 dBA. The data is then imported into computer sound models. These computer models are used to predict environmental noise levels from sources such as roadways and airports over a given area using equal sound level contours. The accuracy of the predicted models depends upon the distance the receptor is from the noise source and natural attenuation caused by structures and other sound barriers. The closer to the noise source, the greater is the model's accuracy (±1–2 dBA).

Since the sensitivity to noise increases during the evening and at night – because excessive noise interferes with the ability to sleep – 24–hour descriptors have been developed that incorporate artificial noise penalties that are added to quiet–time noise events. The *Community Noise Equivalent Level (CNEL)* is a measure of the cumulative noise exposure in a community during a 24–hour period. The *Day/Night Average Sound Level, L_{dn},* is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three–hour period are grouped into the daytime period. The measurement of any sound level requires language used specifically for the measurement of acoustical conditions. Table 6.13-1 defines technical terms that are used in this section.

Appropriate Noise Levels

The Lassen County General Plan's Noise Element implementation measure three (3) establishes that "areas within Lassen County shall be defined as noise-impacted if exposed to existing or projected exterior noise levels exceeding either 60 dB L_{dn}/CNEL or the performance standards of [Table 6.13-3]." "Acceptable" guideline level is a day-night equivalent noise level (L_{dn}) (or Community Noise Equivalent Level [CNEL]) of 80 dBA for outdoor noise levels in industrial and agricultural districts. If existing levels are found to be above the guideline up to 90 dBA, then the level is "conditionally acceptable" and additional acoustical analyses are required to demonstrate that noise impacts would be mitigated to a less-than-significant level by appropriate project design.

As a rule, sound from localized or point sound sources spreads out as it travels away from the source, and the sound level drops at a rate of 6 dBA for each doubling of distance (determined as measured from initial distance from the sound). If the sound source is long in 1 dimension, such as traffic on a highway, the sound source is considered to be a line source. The sound level from a line source generally would drop off at a rate of 3 dBA for each doubling of distance. If the intervening ground between the line source and the receptor is acoustically "soft" (e.g., ground vegetation, scattered trees, clumps of bushes), an attenuation rate of 4.5 dBA for each doubling of distance is generally used.

Any solid structure such as a berm, wall, or building that blocks the line of sight between a source and a receiver serves as a sound barrier and would result in additional sound attenuation (e.g., perimeter screening fence and vegetative hedge surrounding project lease area) The amount of additional attenuation is a function of the difference between the length of the sound path over the barrier and the length of the direct-line-of-sight path. Thus, the sound attenuation of a barrier between a source and a receiver that are very far apart would be much less than the attenuation that would result if either the source or the receiver is very close to the barrier.

6.13.1.2 Regulatory Context

Federal Regulations

Although there is no singular body of federal environmental noise regulations, several Federal Agencies provide guidance documents which address environmental noise regulations for specific sources. These guidance documents include general residential guidelines and industry/agriculture specific guidelines (including regulations of construction noise sources).

EPA guidelines provide that a general level of an L_{dn} of 55 dBA (49 dBA energy equivalent sound level [L_{eq}]) would adequately protect residential neighborhoods from excessive ambient sounds (EPA, 1974).[1] The FAA and Federal Interagency Committee on Urban Noise have issued land use compatibility guidelines which indicate that a yearly L_{dn} of less than 65 dBA (59 dBA L_{eq}) is compatible with residential land uses; however, these guidelines provide that a community may determine that levels up to 75 dBA (69 dBA L_{eq}) are compatible with residential uses and transient lodgings (but not mobile homes), if such structures incorporate noise-reduction features (14 CFR 150, Appendix A). Lastly, under these formulae, a 3-dBA increase is generally considered the threshold of perceptible change, although a 5-dBA typically represents the minimum threshold increase that would generate a community response.

The Federal Transit Administration (FTA) of the U.S. Department of Transportation (USDOT) provides guideline criteria for assessing construction noise (FTA, 2006).[2] Per the FTA guidelines, construction noise that exceeds a 1-hour L_{eq} of 90 dBA or an 8-hour L_{eq} of 80 dBA during daytime hours would provoke adverse community reaction. [3] Furthermore, noise associated with construction is likely to be determined "significant" if: (1) the construction activity is permanent; (2) use of heavy equipment would occur *after* daytime hours; (3) noise exceeds applicable local standards or, in the absence of local standards, exceeds the FTA guidance; and (4) no feasible noise abatement measures can be implemented for noise-producing equipment[4]. Lastly, FTA and the Federal Railroad Administration (FRA) term increases in operational noise of 10 dBA as having an "impact," while increases of 15 dBA or more are "severe." (FRA 1998; FTA 2006). To ensure that the proposed Calneva BESS/PSES project does not have any negative impacts or severe noise effects, appropriate mitigation measures would be taken. These mitigation measures would be discussed in detail in Section 6.12.5.2.

State Regulations

The State of California does not provide a specific threshold or definition for "substantial increase in noise." In fact, the State's regulation of "noise" is quite ambiguous and primarily envisions the creation of a noise control office to implement and enforce noise regulation through police powers offered by the Legislature.[5] However, the CEQA Checklist identifies criteria that must be considered when analyzing a project's potential to result in either temporary or permanent impacts on sensitive receptors. These criteria are discussed in detail in Section 6.13.4.

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[1] Where Leq represents *Equivalent Sound Level*: a steady-state sound that has the same energy and A-weighted level as the community noise over a given time interval and Ldn represents *Day-Night Averaged Sound Level*: the 24-hour Leq obtained after addition of 10 dBA to the sound levels from 10 P.M. to 7 A.M.

[2] *Construction Noise Handbook*. Federal Highway Administration, August 2006. Available at:http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/. Site last visited: October 08,2013.

[3] Federal agencies have differing opinions on determining acceptable levels of noise when considering harm to nearby human receptors.

[4] *Id.* at

[5] NOISE CONTROL ACT. California Health and Safety Code §46000-46080 (2013). Available at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=HSC&sectionNum=46000

Local Regulations

The Noise Element of the Lassen County General Plan establishes goals, policies, and criteria for determining land use compatibility with major noise sources within the community. The Plan provides one main goal:

> To protect the citizens of Lassen County from the harmful and annoying effects of exposure to excessive noise, and to protect the economic base of Lassen County by preventing encroachment of incompatible land uses within areas affected by existing noise producing uses.

The Noise Element establishes that "areas within Lassen County shall be defined as noise-impacted if exposed to existing or projected exterior noise levels exceeding either 60 dB L_{dn}/CNEL or the performance standards of [Table 6.13-3]." "Acceptable" guideline level is a day-night equivalent noise level (L_{dn}) (or Community Noise Equivalent Level [CNEL]) of 80 dBA for outdoor noise levels in industrial and agricultural districts.

Table 6.13-1: Definitions of Acoustical Terms

Term	Definition
dB, Decibel	Unit of measurement of sound level
dBA, decibel A-Weighted	A unit of measurement of sound level corrected to the A–weighted scale, as defined in ANSI S1.4–1971 (R1976), using a reference level of 20 micro pascals (0.00002 Newtons per square meter).
A – Weighted Scale	A sound measurement scale, which corrects the pressures of individual frequencies according to human sensitivities. The scale is based upon the fact that the region of highest sensitivity for the average ear is between 2,000 and 4,000 Hz. Sound levels are measured on a logarithmic scale in decibels, dB. The universal measure for environmental sound is the A–weighted sound level, dBA.
Hz, Hertz	Unit of measurement of frequency, numerically equal to cycles per second.
Loudness	A listener's perception of sound pressure incident in his ear.
L_1, L_{10}, L_{50}, L_{90}	The A–weighted noise levels that are exceeded 1 percent, 10 percent, 50 percent, and 90 percent of the time during the measurement period.
L_{eq}, Equivalent Noise Level	Also called the equivalent continuous noise level. It is the continuous sound level that is equivalent, in terms of noise energy content, to the actual fluctuating noise existing at the location over a given period, usually one hour. L_{eq} is usually measured in hourly intervals over long periods in order to develop 24–hour noise levels.
CNEL, Community Noise Equivalent Level	The CNEL is a measure of the cumulative noise exposure in the community, with greater weights applied to evening and nighttime periods. This noise descriptor is the equivalent noise level over a 24–hour period mathematically weighted during the evening and night when residents are more sensitive to intrusive noise. The daytime period is from 7:00 a.m. to 7:00 p.m.; evening from 7:00 p.m. to 10:00 p.m.; and nighttime from 10:00 p.m. to 7:00 a.m. A weighting factor of 1 dB is added to the measured day levels defined as 7 a.m. to 7 p.m., evening levels (7 p.m. to 10 p.m.) have a weighting factor of three (3) and ten (10) dB to the nighttime levels (10 p.m. to 7 a.m.). The weighted levels over a 24–hour period is then averaged to produce the single number CNEL rating.

Term	Definition
L_{dn}, Day/Night Noise Level	The same as CNEL except that the evening time period is not considered separately, but instead it is included as part of the daytime period. Measurements of both CNEL and L_{dn} in the same residential environments reveal that CNEL is usually slightly higher (by less than 1 dB) than L_{dn} due to the evening factor weighting.
Lmin, Lmax	The minimum and maximum A–weighted noise level during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

6.13.1.3 Effects of Noise

Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

The OSHA has a worker noise exposure standard, which is set at the noise threshold where hearing loss may occur from long–term exposure. The maximum allowable level is 90 dBA averaged over eight hours. If the noise is above 90 dBA, the allowable exposure time is significantly shorter.

Sleep and Speech Interference

The thresholds for speech interference indoors are 45 dBA if the noise is steady and 55 dBA if the noise is fluctuating. Outdoor thresholds are 15 dBA higher. Steady noise of enough intensity (above 35 dBA), and fluctuating noise levels above 45 dBA have been shown to affect sleep. Interior residential standards for multi–family residences are set by the State of California at 45 dBA L_{dn}. Typically, the highest steady traffic noise level during the daytime is equal to the L_{dn}, and nighttime levels are 10 dBA lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses. Typical structural attenuation is 12–17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is 20 dBA for an older structure and 25 dBA for a newer structure. Sleep and speech interference are therefore possible when exterior noise levels are 57–62 dBA L_{dn} with open windows and 65–70 dBA L_{dn} if the windows are closed. Levels of 55–60 dBA are common along collector streets and secondary arterials, while 65–70 dBA is a typical value for a primary/major arterial. Levels of 75–80 dBA are normal noise levels at the first row of development outside a freeway right–of–way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed and those facing major roadways and freeways typically need special glass windows.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noise intruding into homes or affecting outdoor activity areas. Attitude surveys determined that the causes for annoyance include interference with speech, radio, and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. When measuring the percentage of the population highly annoyed, the threshold for ground vehicle noise is 55 dBA L_{dn}. At a L_{dn} of 60 dBA, approximately 2 percent of the population is highly annoyed. When the Ldn increases to 70 dBA, the percentage of the population increases to 12 percent highly annoyed. This corresponds to an increase of 1 percent per dBA between a L_{dn} of 60–70 dBA.

Between a L^{dn} of 70–80 dBA, each increase in decibels increases the population highly annoyed by 2 percent.

People appear to respond more adversely to aircraft noise as opposed to general community noise levels. When the L_{dn} is 60 dBA; approximately 10 percent of the population is highly annoyed. Each decibel increase to 70 dBA adds 2 percentage points to the number of people highly annoyed. Above 70 dBA, each decibel increases results in a 3 percent increase in the percentage of the population highly annoyed. Representative outdoor and indoor noise levels in units of dBA are shown in Table 6.13-2.

Table 6.13-2: Typical Sound Levels Measured in the Environment

At a Given Distance from Noise Source	A–Weighted Sound Level in dBA	Noise Environments	Subjective Impression
	140		
Civil Defense Siren (100')	130	Rock Music Concert	
Jet Takeoff (200')	120		Pain Threshold
	110		
Diesel Pile Driver (100')	100		Very Loud
	90	Boiler Room Printing Press Plant	
Freight Cars (50')			
Pneumatic Drill (50')	80		
Freeway (100')	70		Moderately Loud
Vacuum Cleaner (10')		In Kitchen with Garbage Disposal	
	60	Running	
		Data Processing Center	
Light Traffic (100')	50		
Large Transformer (200')		Department Store	
	40		Quiet
Soft Whisper (5')	30		
	20	Private Business Office	
		Quiet Bedroom	
	10	Recording Studio	Threshold of Hearing
	0		

Source: EPA, 1971; Barnes, et al., 1976.

6.13.2 Methodology

Noise standards governing development activities within the County are found only in the goals and policies outlined in the Lassen County General Plan as the County has yet to adopt a Noise Ordinance as part of its Code of Ordinances. The Noise Standards found in the General Plan will be applied to the proposed Calneva BESS/PSES project. The General Plan provides guidelines for controlling the noise emanating from industrial and agricultural facilities and for planning new development. The General Plan lists goals, policies, and implementation programs to carry out the County's goals for controlling impacts associated with noise within the County.

The County's General Plan provides guidelines for controlling the noise emanating from industrial/agricultural facilities and for planning new development. Table 6.13-3, *Maximum Allowable Ambient Noise Exposure by Land Use*, provides noise level criteria to be used for determining the level of acceptability for various types of land uses as set out in the Lassen County General Plan, Noise Element.

The proposed Calneva BESS/PSES project would cause a significant impact if it were to violate a local noise ordinance, regulation, or standard. For the project, there are two sets of criteria that must be met. The first is the Lassen County Noise Standards as established by the adopted Lassen County General Plan, which specify a maximum property line noise level of 70 dBA at most Noise-Sensitive Land Use Types for industrial/agricultural related noise standards. The second is the OSHA worker safety standards, which have a level of 90 dBA, as previously discussed. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers at the property line.

6.13.2.1 Impact Assessment Methods

Potential sources of noise associated with the proposed Calneva BESS/PSES project include:

- Construction noise
- Operational noise

Sound levels produced by these various sources are based on data from standard references, previous studies, and equipment manufacturers' data. Projected sound levels from these sources are then estimated using a point source attenuation model. With this model, noise from the source is assumed to attenuate at a rate of 6dB for each doubling of distance from geometry. Additional attenuation is assumed to result from molecular absorption and anomalous excess attenuation (Hoover and Keith 1996). For standard conditions of 59° F, at 70% relative humidity, molecular absorption is taken to be 0.7 dBA per 1,000 feet and anomalous excess attenuation is assumed to be 1.0 dBA per 1,000 feet. To determine potential noise impacts, the distance needed for noise to attenuate to Lassen County noise-level standards for industrial/agricultural land uses of maximum allowable noise exposure 66-dBA to 70 dBA are assessed for each sensitive receptor.

Table 6.13-3. Lassen County Maximum Allowable Ambient Noise Exposure by Land Use

Land Use Type	Noise Level (L_{dn})						
	0 - 55	56 - 60	61 - 65	66 - 70	71 - 75	75 - 80	> 81
Residential							
Hotels, Motels							
Schools, Libraries, Churches, Hospitals, Extended Care Facilities							
Auditoriums, Concert Halls, Amphitheaters							
Sports Arenas, Outdoor Spectator Sports							
Playgrounds, Neighborhood Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business Commercial and Professional							
Mining, Industrial, Manufacturing, Utilities, Agriculture							

Normally Acceptable. Specified land use is satisfactory, based on the assumption that any buildings involved are of normal, conventional construction, without any special noise insulation requirements.

Conditionally Acceptable. New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed insulation features have been included in the design.

Unacceptable. New construction or development should not be undertaken.

If existing noise standards are currently exceeded, a proposed project shall not incrementally increase noise levels by more than 3 dBA.

6.13.3 Environmental Setting

6.13.3.1 Project Area Setting

The proposed Calneva BESS/PSES project is located some four (4) miles north of the intersection of Calneva Road and Fort Sage Road on the east side of Calneva Road, on APNs 137-170-12, (180 acres) and 137-170-13, (98 acres) Lassen County, California. The entire vicinity is dedicated to rural uses with the main improvement in the area being the railroad track with bisects the property. The nearest residences are located in Herlong, more than six miles west of the proposed Calneva BESS/PSES project lease area. The current noise environment surrounding the proposed project lease area consists of noise contributed by the Union Pacific Railroad which runs through the middle of the property, separating the two parcels which comprise the project lease area.

6.13.4 Standards of Significance

Based on the following criteria from Appendix G of the State CEQA Guidelines, a project may have a significant adverse impact on the environment if it would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

6.13.5 Impacts and Mitigation Measures

6.13.5.1 Anticipated BESS Facility Construction Noise Levels

Noise calculations have suggested that the construction noise produced at the proposed project area would range around 100-110 dBA which would be temporary and would occur intermittently throughout the construction phase. Construction noise levels would be limited by the County Noise Standards outlined in the Lassen County General Plan, Noise Element. However, because of the distance to the nearest residential area, noise levels perceived at that area would be less than 60 dBA, clearly placing the effect of the construction noise from the proposed Calneva BESS/PSES project well under the maximum noise level for an agricultural or community utility site.

The proposed project lease area is located more than six miles from the nearest receptors, the site is also visually obstructed from said receptors by existing fencing, vegetation, buildings, and topographical features which would provide noise-reducing barrier or "shielding" effects. Additionally, as the project construction timeframes for these heavy equipment activities would be brief and would occur at small intervals over the project construction timeframe, primarily during the first few weeks of site preparation and earthwork. See Table 6.13-4: *Estimated Noise Levels*, below for likely construction noise levels to be generated by the proposed Calneva BESS/PSES project. Therefore, construction noise impacts would be temporary and less than significant so long as construction activities occur on weekdays and within the allowable 8:00 a.m. to 5:00 p.m. timeframe.

Generation of excessive ground borne vibration or ground borne noise levels

Excessive ground borne vibration or noise levels are not anticipated during either construction or operation of the proposed Calneva BESS/PSES project. Construction would entail use of equipment and techniques prevalent throughout the region and would be temporary in nature. No impact has been identified. Ground borne vibration or noise, which may result from the proposed Calneva BESS/PSES project are considered to be less than significant.

Table 6.13-4 Estimated Noise Levels

Construction Equipment Noise Source	Typical Noise Level (dBA)	
	50 feet	100 feet
Pneumatic tools	85	79
Truck (e.g., dump, water)	88	82
Concrete mixer (truck)	85	79
Backhoe	80	74
Generator	81	75
Portable air compressor	81	75
Combined equipment	109	103

Source: Federal Transit Agency, 1995.

6.13.5.2 Anticipated BESS Facility Operating Noise Levels

To estimate proposed project operational noise levels, noise modeling completed for a separate, larger BESS project in El Centro, California, was utilized (Appendix J: El Centro BESS Project Noise Study). The El Centro BESS Project consists of an array of rechargeable batteries, with a total capacity of 30 MW, housed inside of a building. The building is of a metal frame construction and insulated and air conditioned. Although the proposed Calneva BESS/PSES project would not utilize a building to house the battery cells, and instead separate battery storage enclosures, each enclosure would be of metal frame construction, insulated, and air conditioned will be utilized. Thus, the battery enclosure materials and

construction would be anticipated to be equivalent to the El Centro BESS Project in terms of noise attenuation.

Operation of the air conditioning equipment used to cool the batteries would be the dominant source of noise during operation of the proposed BESS/PSES facility. The El Centro BESS Project utilizes 12 air conditioning units to provide air conditioning to the building. The proposed project would utilize a separate air conditioning unit for each of the battery storage enclosure (estimated at 8). However, the proposed project would locate the air conditioning units within the interior of the storage enclosures. The air conditioning units at the El Centro BESS Project are located on the exterior of structures.

With the air conditioning units in operation, the El Centro BESS Project was determined to produce noise of 80.8 dBA Leq at a distance of approximately 10 feet from BESS building (approximately 5 feet from an air conditioning unit). At a distance of approximately 100 feet from the building, but within direct line-of-sight of air conditioning units, noise was determined to be 61.6 dBA Leq. Thus, attenuation of noise at the El Centro BESS Project site was approximately 6 dBA per distance doubled, as described above.

During summer, when ambient air temperatures are exceedingly high, there would be potential for the air conditioning unit in each of the battery storage enclosures to operate concurrently. Based on the noise produced by the air conditioning units at the El Centro BESS Project, 8 air conditioning units operating concurrently would be anticipated to produce a noise level of approximately 83 dBA Leq at a distance of approximately 10 feet when located in an exterior location with no barriers.

As described above, a barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. The proposed Calneva BESS/PSES project would locate air conditioning units within the fully enclosed battery enclosures, thereby creating a barrier which breaks the line of sight between the air conditioning units and receptors. Each battery enclosure would be insulated, which would further attenuate any noise emitted from within the enclosure. Insulation absorbs sound waves and adding insulation to metal construction can reduce noise by an additional 5 to 6 dB (North American Insulation Manufacturers Association 2015). Thus, when all air conditionings units operate concurrently within the insulated battery storage enclosures, noise levels would be approximately 73 dBA Leq at a distance of 10 feet from the enclosures. Using the doubling of distance attenuation rate of 6 dBA, project noises levels would attenuate to 43 dBA Leq at the northern parcel boundary which is approximately 50 feet from the proposed placement of air conditioning units (noise source) and 1 dBA Leq at the southern boundary where the residence is located at. With the closest structure to the proposed project lease area located some 6 miles to the west, no additional noise will be contributed to nearby sensitive receptors.

As discussed above, the proposed Calneva BESS/PSES project will not contribute new levels of noise that could impact sensitive land uses surrounding the proposed project lease area. In addition, the BESS/PSES facility will comply with all regulations and standards for Lassen County regarding noise. The proposed project lease area is located within a large area zoned for agricultural land uses and noise levels will remain compatible with agricultural land uses as specified in the Lassen County General Plan, Noise Element. The proposed Calneva BESS/PSES project is compatible with the existing agricultural land uses in the area and will not create significant impacts regarding noise.

6.13.6 Noise Initial Study Responses

Table 6.13-5: Noise Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑	☐
b) Generation of excessive ground borne vibration or ground borne noise levels?	☐	☐	☑	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑	☐

6.13.7 Response to Initial Study Questions

6.13.7.1 Noise Levels Standards: Less than Significant

The Calneva BESS/PSES project would create an increase in ambient noise associated with the construction and operation of the proposed BESS/PSES facility. Operational noise levels would be below Lassen County General Plan, specifications for land use compatibility as outlined in the Noise Element. The project would pose no potential to add to ambient noise levels currently found at residences nearest to the project (roughly six miles west of the proposed project area); any fugitive noises which might reach those sensitive receptors would be at low levels (10 dBA or less) which would not result in violation of the County's Noise policies found in the General Plan, Noise Element.

It is anticipated that the construction noise at the nearest off-site receptor would be considered normally acceptable for established uses. Furthermore, the General Plan states that construction noise occurring between 7 a.m. and 6 p.m. is acceptable. As such, by maintaining these hours of operation, would ensure that the noise levels fall within guidelines provided by the County's Noise Element.

The operational noise levels of the proposed Calneva BESS/PSES project are considered less than significant. The BESS/PSES facility has air conditioners enclosed in battery enclosures within the proposed project lease area, with a noise level of approximately 73 dBA Leq at a distance of 10 feet from the battery enclosures. Using the doubling of distance attenuation rate of 6 dBA, project noises levels would attenuate to 43 dBA Leq at the northern parcel boundary which is approximately 50 feet from the placement of the air conditioners and 1 dBA Leq at the southern boundary approximately 730 feet from the proposed air conditioning equipment. Given the design of the BESS/PSES facility, the total cumulative noise level of the site is approximately 55 dB, under Lassen County's conditionally acceptable agricultural zone threshold of 75 dBA.

The proposed Calneva BESS/PSES facility operations would produce noise levels below the standard of 75 dB L_{dn}/CNEL, as outlined by the Lassen County General Plan, Noise Element. Such noise levels would not cause an increase in noise levels for the residential properties nearest to the proposed facilities. These residences, over six miles from the proposed project lease area are located beyond various physical barriers which, in conjunction with the distance from the project lease area, ensure that any perception of noises originating at the Calneva BESS/PSES site will be minimal and not exceed established thresholds of significance. the proposed Calneva BESS/PSES project would, therefore, not add to the residences' pre-existing ambient noise level. As such, noise generated from the proposed project lease area would not significantly change the pre-existing noise environment found at the residences and would result in less than significant impacts to the existing ambient environment.

6.13.7.2 Ground-borne Noise or Vibrations: Less than Significant

The project would create an increase in ground-borne noise or vibrations associated with the construction of the BESS/PSES facilities, and truck traffic during construction. Even with the utilization of heavy equipment, ground borne vibrations and heightened noise levels will be temporary and limited. As such, ground borne vibration or noise, which may result from the proposed Calneva BESS/PSES project, are considered to be less than significant.

6.13.7.3 Airports or Airstrips: No Impact

The proposed Calneva BESS/PSES project is not located within an airport land use plan area, or within two miles of a public airport or airstrip. Therefore, there is No Impact to an airport/airstrip within two miles of the proposed project lease area, and no additional mitigation measures are required.

6.14 POPULATION AND HOUSING

This section describes population and housing in the Lassen County area and analyzes the potential impacts on population and housing resources that may result from the proposed Calneva BESS/PSES project. The discussion is based primarily on information contained in the State of California Department of Finance, and other available population and housing literature pertinent to the proposed Calneva BESS/PSES project, and Lassen County.

6.14.1 Background

Lassen County's population decreased considerably between 2008 and 2017. During the ten-year period, Lassen County lost over 4,000 of the 27,244 residents it had in 2008. However, in 2019 Lassen County experienced a large increase in population of 7,035 residents over a two-year period rising from 23,115 in 2017. Between 2017 and 2019, the majority of Lassen County's in-migration came from either nearby Washoe County in Nevada or Sacramento County further south. As with in-migration, the majority of Lassen County's out-migration was destined for Washoe County, Nevada.

Table 6.14-1: Total Population in Lassen County

Year	Lassen County	1-Year Change	CA 1-Year Change
2008	27,244	2.10%	0.85%
2009	26,930	-1.15%	0.73%
2010	26,613	-1.18%	0.79%
2011	27,225	2.30%	0.78%
2012	26,729	-1.82%	0.95%
2013	26,830	0.38%	0.99%
2014	26,022	-3.01%	0.86%
2015	25,670	-1.35%	0.89%
2016	22,911	-10.75%	0.90%
2017	23,115	0.89%	0.68%
2018	30,584	32.31%	0.57%
2019	30,150	-1.41%	0.35%

The California Department of Transportation (Caltrans) predicts Lassen County's population will continue to decrease in upcoming decades with project population of 29,103 by 2030, 27,224 by 2040, and 25,189 by 2050 which becomes the basis of transportation planning and programing for Caltrans. The Lassen County population is declining, and this decline is expected to persist for the foreseeable future. Net migration has been negative for the last decade, meaning that more people have moved out of the county than moved in. Net migration is expected to remain negative though 2024. The county has a relatively older population base, with a high share of residents in retirement age and a low share in the childbearing years. Sometime before the year 2030, the number of deaths is expected to exceed the number of births, contributing further to population decline. From 2013 to 2018, an average of 10 new units were built in Lassen County each year. Between 2019 and 2024, Caltrans predicts an average of 10 homes will also be built each year. Homebuilding has been minimal, and will remain low, because the population continues to decline.

In general, counties on a freeway within an hour of major job centers have grown faster than anywhere else in the state. This primarily includes the Inland Empire, the Sierra Foothills, and the Northern Central Valley. Lassen County is one of those areas which are so remote that it is not within commuting distance of any large metropolitan area (Sacramento, Reno) areas. As California grapples with its housing crisis, housing

policy will have to decide whether to continue the de facto policy of the past 50 years and build more homes where they're cheaper but farther from jobs, or increase density in the nearer, but dearer, urban cores. The California Department of Finance E-4 Population Estimates for Cities and Counties 1970-2018 is assuming the past 50 years development pressures and policies will continue.

The construction period of the proposed Calneva BESS/PSES project is expected to take approximately 10 months or less. Construction would provide job opportunities for approximately 165 construction workers to 250 construction workers at peak. Operations of the proposed Calneva BESS/PSES project would employ approximately three (3) employees who will be located remotely from the project lease area monitoring the BESS and PSES by SCADA.

6.14.2 Methodology

Information on population and housing was obtained from the U.S. Census Bureau 2010 Census data and the California Department of Finance population projections for cities and counties and Caltrans population and growth projections for Lassen County prepared for regional transportation planning and programming and Rural County Representatives of California, Economic Development Department.

6.14.3 Standards of Significance

An impact to population would be considered significant if the proposed project would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

6.14.4 Environmental Setting

6.14.4.1 Population

The December 2019 California Department of Finance estimated population for Lassen County was 30,150. According to the California Employment Development Department unemployment rate in the Lassen County was 5.8 percent in February 2020, up from a revised 4.2 percent in January 2019, and down from February 2018 when it was at 6.2 percent. This compares with an unadjusted unemployment rate of 4.3 percent for California and 3.5 percent for the nation during the same period.

6.14.4.2 Housing

In 2018, Lassen County was estimated to have 12,788 housing units at a density of 2.7 housing units per square mile. Lassen County has a vacancy rate of approximately 4.2% as compared to a California statewide average vacancy rate of 8%. Caltrans economic forecasters predict during 2020 Lassen County will issue 10 permits for new homes. Approximately 4,348 housing units are renter occupied or 34% of the housing within Lassen County are rentals.

6.14.5 Impacts and Mitigation Measures

Construction

Construction of the proposed Calneva BESS/PSES project would not affect the population of the City of Susanville, Herlong, Doyle nor Lassen County due to the construction workforce currently available within the City of Susanville, Lassen County and nearby areas (Reno). Since the proposed project lease area is also within commuting distance of the greater Reno Metropolitan area, no construction workers are

expected to relocate as a result of project construction. Construction of the proposed Calneva BESS/PSES project is not expected to increase the demand for housing. Therefore, the Calneva BESS/PSES project would not cause a significant increase in population in Lassen County nor the City of Susanville or other communities near the proposed project lease area.

Operations

The proposed Calneva BESS/PSES project would be an unmanned facility that would not induce substantial population growth in the area either directly or indirectly. Workers would be present onsite during short-term temporary construction activities. Once operational, the BESS facility would be unmanned with workers anticipated only for intermittent maintenance activities. Therefore, no impact would occur, and no mitigation measures specific to the project would be necessary.

6.14.6 Population and Housing Initial Study Responses

Table 6.14-2: Population and Housing Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☑	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

6.14.7 Responses to Initial Study Questions

6.14.7.1 Induce Population Growth: Less than Significant

The proposed Calneva BESS/PSES project is a replacement peaker power project for the fossil fuel burner peaker plants in California for the statewide electrical grid and would not induce development within the area. The proposed Calneva BESS/PSES project would have a less-than-significant impact on population growth as construction of the facility would be only 10 months or less with a peak employment of 250 temporary construction workers, and the operation of the BESS/PSES facility would require no permanent workers as the BESS/PSES facility will be unmanned and monitored remotely.

6.14.7.2 Displacement of Houses: No Impact

No housing exists on the proposed project lease area. Therefore, there would be No Impact.

6.14.7.3 Displacement of People: No Impact

The proposed Calneva BESS/PSES project would not displace people or necessitate the construction of replacement housing. Therefore, there would be No Impact.

6.15 PUBLIC SERVICES

This chapter describes existing public services and facilities and analyzes the project's potential effects on these resources that may occur with the implementation of the proposed Calneva BESS/PSES project. Growth and development can directly impact the delivery of critical County services to residents, workers, and visitors. In Lassen County, services are delivered in many cases by County Service Areas or Special Districts. These services include police and fire protection, law enforcement, public works, planning, water and wastewater treatment, library, solid waste/recycling, and others. The location of development is guided by the Lassen County General Plan 2000, which considers the spatial relationship of urban activities and the delivery of public services. The proposed project lease area was designated as General Agriculture (A-1) zone which includes commercial electrical generating facilities utilizing solar land uses.

6.15.1 Background

6.15.1.1 Regulatory Context

Federal Regulations

No federal regulations apply to the proposed Calneva BESS/PSES project 's public services and facilities issues.

State Regulations

Uniform Fire Code

The Uniform Fire Code (UFC) contains regulations pertaining to the construction and maintenance of buildings and uses of the BESS/PSES facility. Topics addressed in the UFC include fire hydrants, fire department access, fire alarm systems, fire and explosion hazard safety, industrial processes, and many other generalized and fire-specific safety requirements for new and existing buildings. "UFC Standards" is a companion publication to the Uniform Building Code (UBC) and contains standards of the American Society for Testing and Materials and of the National Fire Protection Association. The UBC is the primary guiding document that sets the standards for the built environment and is closely tied to the UFC to protect human life and safety. The UFC and UBC are widely accepted at the national level and adopted by individual states. California codes are nearly identical.

California Integrated Waste Management Act

In 1989, Assembly Bill 939 (AB 939), known as the Integrated Waste Management Act, was passed into law. The enactment of AB 939 established the California Integrated Waste Management Board (CIWMB) and set forth aggressive solid waste diversion requirements. Under AB 939, every city and county in California was required to reduce the volume of waste sent to landfills by 50 percent, through recycling, reuse, composting, and by other means. In July 2009, Senate Bill 63 was chaptered into law eliminating the CIWMB effective January 1, 2010. All CIWMB duties and responsibilities have been transferred to the new Department of Resources Recycling and Recovery (Cal Recycle), under the Natural Resources Agency California Solid Waste Reuse and Recycling Access Act.

The California Solid Waste Reuse and Recycling Access Act of 1991 required each jurisdiction to adopt an ordinance by September 1, 1994, requiring any "development project" for which an application for a building permit is submitted to provide an adequate storage area for collection and removal of recyclable materials.

California's Building Code CCR, Title 24, Part 6

Title 24, Part 6 of the CBC describes California's energy efficiency standards for residential and nonresidential buildings. These standards were established in 1978 in response to a legislative mandate to reduce California's energy consumption and have been updated periodically to include new energy efficiency technologies and methods. Title 24 requires constructing according to energy efficient standards for all new construction, including new residential and non-residential buildings, additions, alternations, and buildings repairs.

State Pre-construction Notification and Agency Coordination

California laws require pre-construction notification and agency coordination to protect infrastructure from damage caused by construction activities. Contractor State License Board Enforcement Business and Professions Code 7110, Assembly Bill (AB) 2719, AB 73 (Chapter 328), and Government Section Code Sections 4216-4216.9, requires that contractors must provide proper notification and coordination with appropriate groups before commencing construction activities. In addition, Calneva BESS/PSES owner would obtain permits which address potential impacts on groups or agencies that use, or own utilities affected by the proposed Calneva BESS/PSES project.

Underground Service Alert

California state law (Government Code Sections 4216, 4216.2, 4216.9) requires that an excavator contact a regional notification center at least two days prior to excavation of any subsurface installations. The regional notification center for northern California is Underground Service Alert. Underground Service Alert, in turn, would notify the utilities that may have buried lines within 1,000 feet of the excavation. Representatives of the utilities are required to mark the specific locations of their facilities within the work area prior to the start of excavation. The excavator is required to probe and expose the underground facilities by hand prior to using power equipment.

Local Regulations

The Lassen County General Plan 2000 includes goals and policies for law enforcement, fire protection, schools, libraries, parks and recreation, civic and cultural facilities.

Relevant goals and policies from the Lassen County General Plan 2000 related to public services include:

GOAL L-14: A rate and the location of community growth which does not result in a significant burden to existing levels of public services and facilities, including schools, fire protection, and community sewer and water facilities.

LU36 POLICY: Public facilities and services should be based upon a projection of reasonably expected population increase and economic growth, and should recognize the limits of the County's human, financial, and natural resources.

LU37 POLICY: The County shall periodically evaluate the impacts of general development trends on public services and, within its authority and in consultation with public service providers, encourage and facilitate mitigation of significant adverse cumulative impacts.

LU38 POLICY: The County supports the provision of community facilities and services to provide for the orderly development of existing communities.

LU-T The County shall continue to utilize the CEQA process, when applicable, to evaluate the potential impacts of proposed development projects on existing and desirable levels of public services and shall require appropriate mitigation measures when needed.

LU-W The County may enter into memorandums of understanding to assist school districts and fire protection districts in the implementation of their capital improvement plans and programs.

6.15.2 Methodology

Potential effects on public services were determined by identifying existing services and considering the potential for interference with or increased requirements for such services that would occur as a result of project construction and/or operation of the BESS/PSES facility. Construction of the proposed Calneva BESS/PSES project is not expected to generate a need for Sheriff law enforcement service or fire protection above existing levels of service. Project construction and operation is not expected to be growth inducing.

Necessary agencies were contacted to obtain information regarding their existing and projected service capacity, as well as the projected impacts that would result from implementation of the proposed Calneva BESS/PSES project. Wherever possible (i.e., for agencies that provided a demand factor or service ratio), quantifications were included to demonstrate specific demands.

6.15.3 Environmental Setting

The study area for the analysis of public services is the rural area of Lassen County, which provides law enforcement and fire service to the proposed project lease area. Lassen County provides additional services to the general public located near to the proposed project lease area. The following sections describe the environmental setting for public services within the study area.

6.15.3.1 Fire Protection

Fire protection and emergency response capability is available from local fire and emergency response services. The proposed Calneva BESS/PSES project is located nearest to the Doyle Fire Protection District approximately 14 miles northeast of the Doyle fire station. The nearest fire station to the proposed project lease area is Doyle Fire Station located approximately 14 miles to the southwest at 747-150 East Main Street, Doyle, near the intersection of East Main Street and 4th Street in Doyle. Response time to the proposed project lease area is approximately fifteen to twenty minutes.

The Doyle Fire Prevention District is a special district within Lassen County which provide fire protection to the community of Doyle and surrounding area. The Doyle Fire Prevention District through a Memorandum of Understanding with Lassen County and a fire service agreement with Calneva BESS/PSES owners will be responsible for providing fire protection and prevention, emergency medical care, hazardous materials mitigation and rescue operations for the proposed project in Lassen County. There are automatic and mutual aid agreements in place with all other agencies in Lassen County and the Bureau of Land Management (BLM) Fire in Carson City which contracts with the Susanville BLM office for fire protection on federal lands near the proposed Calneva BESS/PSES project lease area. Doyle Fire Station is operated by the volunteer fire fighters (12) associated with the Doyle Fire Prevention District and will respond to the proposed project lease area under a mutual aid agreement or memorandum of understanding with Lassen County. Doyle Fire Station personnel are dispatched by the Lassen County Sheriff's office or direct call to the fire chief of Doyle Fire Prevention District. The Doyle Fire Prevention District has 12 volunteer personnel which includes: chief officer, fire officers, firefighters and administrative support staff. The response time goal for the Doyle Fire Prevention District, Fire Station is to provide service within twenty minutes of notification, 90 percent of the time. Generally, service can be provided in this timeframe to areas within 15 miles of Doyle fire station.

6.15.3.2 Law Enforcement (Lassen County Sheriff)

Assigned officers are considered County Deputy Sheriff's and use vehicles identified by the Lassen County Sheriff logo. Law enforcement services include 24-hour law enforcement patrol for traffic enforcement, accident investigation, vehicle abatement, and parking control, as well as detective services for special investigations. Specialized functions through the Lassen County Sheriff's Department are provided as needed. These specialized services include K-9, mounted unit patrol, search and rescue, hostage negotiations, intelligence gathering, special enforcement (SWAT) team, dive team, mobile command unit, hazardous devices team, internal affairs investigation, organized crime/gang intelligence unit, polygraph services, reserve forces, and fugitive/warrant detail. There are also services available for special events and/or natural disaster response. The Lassen County Sheriff's Department is responsible for prevention, detection, and investigation of crimes in the unincorporated areas of the County, including the proposed

Calneva BESS/PSES project lease area. The Sheriff's Department operates a 24-hour Adult Detention Facility, manages a 911 dispatch center, boating safety services on navigable waters, and court security services. The Lassen County Sheriff's Department also serves all State mandated writs, warrants, and other notices issued by the Court, and serves as the Coroner of Lassen County. The County Sheriff's Department adopted officer-to-residential ratio is 1.1 sworn officer per 1,000 persons and 0.06 support personnel per 1,000 persons (ratio based on population including incorporated areas of Lassen County). When computing officer to citizen ratios only fully sworn deputies are accounted for in the computation.

6.15.3.3 Homeland Security/CPUC Security

Physical Security for Electric Power and Distribution System

Numerous security measures have been implemented in the electric utility industry in the wake of the terrorist attacks of September 11, 2001. Federal, state, and local agencies, as well as private industry, have implemented and coordinated many security operations and physical security enhancements. The result is a layered approach to utility security that includes the security program of the Lassen County Sheriff's Department.

The Federal Energy Regulatory Commission (FERC) tasked the North American Electric Reliability Corporation (NERC) with developing a standard for physical security at the most critical bulk-power level substations. While these new federal standards are limited to a select group of transmission level substations, the CPUC as established grid security at all levels of the electric supply system, including the distribution level, and is updating existing policies and oversight activities for electric system security as the threat evolves.

CPUC policies and regulations have long included provisions related to electric grid physical security. CPUC staff regularly inspects and investigates existing security measures at electrical facilities, such as the proposed Calneva BESS/PSES facility. During inspections of power plants, underground and overhead facilities and substations under General Orders 174, 165, 167, 128 and 95, CPUC staff verifies the condition and operation of existing physical security protections such as substation fences and lighting, pad mount locks, vault covers, battery enclosures and electric generating station security plans. The CPUC evaluates security measures as part of electric utility rate cases. CPUC policies now require the utilities to discuss both safety and risk assessment in every rate case. CPUC staff annually review electric utility emergency plans, and regularly monitor utility emergency exercises as required by General Order 166.

6.15.3.4 Libraries

The Herlong Library is the closet public library to the proposed Calneva BESS/PSES which is located approximately six (6) miles west of the project lease area at 74 "C" Street, Herlong, CA. The Herlong Public Library creates an environment for connecting people and ideas by providing residents of all ages with resources to pursue their educational, civic, business and personal interests. The Herlong Library offers access to multiple literacy programs for children and adults of all ages including storytime, an afterschool homework club, and computer and GED support and literacy services. In addition, Library outreach efforts target infants, children and adults with a variety of volunteer-based literacy and reading enhancement programs.

6.15.3.5 Schools

Lassen County serves approximately 4,500 students in transitional kindergarten through 12th grades. Ten (10) individual school districts, three (3) independent charter schools, Lassen Community College and the Lassen County Office of Education work collaboratively. The nearest school district to the Calneva BESS/PSES is the Fort Sage Unified School District which operates the Sierra View Primary School with student enrollment of fifty-seven (57), Fort Sage Middle School with student enrollment of thirteen (13), and Herlong High School with a student enrollment of fifty-one (51). All school campuses within the Fort Sage Unified School District are located within the community of Herlong approximately six (6) miles west of the proposed Calneva BESS/PSES project lease area.

6.15.3.6 Parks and Recreation

Lassen County contains several existing neighborhood and regional parks and other recreational facilities. These include Janesville Park, Memorial Park, Pat Murphy Little League Park, Riverside Park, the River Walk, Susanville Ranch Park, Susan River Park, and Skyline Park in the City of Susanville. It also includes the Lassen Volcanic National Park, the Lassen National Forest, the Eagle Lake Recreation Area, and a wide range of camping, fishing, hunting, trails, and related outdoor recreational facilities.

6.15.4 Standards of Significance

An impact to public services would be considered significant if the project would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impact, in order to maintain acceptable service ratios for any of the public services:
  - Fire protection
  - Police protection
  - Schools
  - Parks
  - Other public facilities

6.15.5 Impacts and Mitigation Measures

The proposed Calneva BESS/PSES project is an unmanned battery storage facility that does not include housing (with associated population growth) that could generate increased demand for public services. The proposed project lease area is currently used for cattle grazing as open rangeland and nearby PSREC 120Kv electric transmission lines. See Section 6.8 above for Hazards and Hazardous Materials for a discussion of fire response to potential emergencies within the proposed BESS/PSES facility. No new or physically altered government facilities are proposed as part of the project. Therefore, project impacts on public services would be less than significant.

6.15.6 Public Services and Facilities Initial Study Responses

Table 6.15-1: Public Services and Facilities Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
1) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
a) Fire Protection?	☐	☐	☑	☐
b) Police Protection?	☐	☐	☑	☐
c) Schools?	☐	☐	☑	☐
d) Parks?	☐	☐	☑	☐

e) Other Public Facilities?	☐	☐	☑	☐

6.15.7 Response to Questions

6.15.7.1 Provision of New or Physically Altered Government Facilities or Need for New Government Facilities: Less Than Significant Impact

The project would not result in a need for additional public services. Approximately 250 construction personnel would be employed during peak construction activities, with construction lasting less than 10 months. The proposed BESS/PSES facility is an unmanned battery storage and photovoltaic panel solar array facility that does not include housing (with associated population growth) that could generate increased demand for public services. The proposed project lease area is currently used for agricultural open rangeland cattle grazing uses. See Section 6.8, Hazards and Hazardous Materials for a discussion of fire response to potential emergencies within the proposed BESS/PSES facility. No new or physically altered government facilities would be needed to accommodate the proposed BESS/PSES facility and/or its support personnel (up to 250 temporary construction workers and an intermittent visitor for maintenance/inspection, as needed) as part of the BESS/PSES facility. In addition, construction phasing and traffic control plans (see discussion in Transportation Section of this document) would mitigate any impacts on emergency service, school, and park accessibility to the surrounding community. Therefore, project impacts on public services would be less than significant.

The Calneva BESS/PSES facility might be recognized as a site with heightened risk for terrorism, which is a special circumstance under which the Lassen County Sheriff's Department would respond. Therefore, protocols have been implemented which require a security plan and strict procedures for Calneva BESS/PSES owner in operating a BESS/PSES facility. The proposed Calneva BESS/PSES project would include development and approval of a security plan, which meet the requirements of the CPUC and Homeland Security. In order to maintain security, the specifics of the plans would not be released to the public. The security plan's design would include local and remote monitoring systems, equipment systems, Calneva BESS/PSES, personnel training programs, and emergency response procedures. The proposed project lease area would be within a perimeter security barrier/fence. These strict individual security parameters for the proposed Calneva BESS/PSES project will contribute considerably to managing potential crime and work in concert with local law enforcement authorities. With the implementation of the security measures described above, the proposed Calneva BESS/PSES project would result in a minimal increased likelihood that a special circumstance situation might occur (i.e., terrorism). This would result in a negligible increase in demand on the Lassen County Sheriff's Department because such situations would be rare or would not occur at all. Additionally, the proposed Calneva BESS/PSES project would not increase the demand for additional law enforcement officers and/or facilities, and impacts would be less than significant. No mitigation is required.

6.16 RECREATION

This section addresses the potential impacts that the proposed Calneva BESS/PSES project would have on the recreation needs of Lassen County. This section discusses potential impacts to recreation resources and open space in the vicinity of the proposed Calneva BESS/PSES project. As a basis for evaluation, the affected environment section summarizes existing conditions related to the proposed project lease area characteristics and recreation providers.

6.16.1 Background

Recreation planning is a process that relates people's leisure time and activities to particular spaces. The responsibility for providing leisure opportunities is normally shared between the private sector and the public sector. Community recreation programs in Lassen County and the nearby Herlong cover a wide range of interests and activities including after school programs, community centers, concerts in the park, day camps, instruction classes, sports programs, teen activities, and volunteer opportunities.

Lassen County contains several existing neighborhood and regional parks and other recreational facilities. These include Janesville Park which is the nearest to the Calneva BESS/PSES proposed project lease, approximately 10 miles northwest, Memorial Park, Pat Murphy Little League Park, Riverside Park, the River Walk, Susanville Ranch Park, Susan River Park, and Skyline Park in the City of Susanville. The Lassen County area also includes the Lassen Volcanic National Park, the Lassen National Forest, the Eagle Lake Recreation Area, and a wide range of camping, fishing, hunting, trails, and related outdoor recreational facilities. Park use is only one recreational choice among a wide range of other, similar opportunities.

6.16.2 Methodology

Information for this section was obtained from the Lassen County General Plan 2000, and from Google maps. Site inspection of the proposed project lease area confirmed the existing conditions of the proposed project vicinity and the surrounding land uses.

6.16.3 Environmental Setting

6.16.3.1 Regulatory Context

Federal Regulations

NPS. U.S. Department of the Interior, Lassen Volcanic National Park. Superintendent's Compendium of Designations, Closures, Permit Requirements and Other Restrictions Imposed Under Discretionary Authority. This document includes provisions applicable to all lands and waters administered by the NPS within the boundaries of the Lassen Volcanic National Park. These include but are not limited to visiting hours, public use limits, closures, activities that require a permit, and general regulations. (NPS 2018).

Lassen National Forest. USDA. 6 U.S. Code, Title 16, Chapter 87. Federal Lands Recreation Enhancement: Sections 6802 (Recreation fee authority); 6803 (Public participation); 6804 (Recreation passes) and related sections. These sections of the referenced act establish certain procedures related to recreational use and visitation.

State Regulations

Other than the CEQA Guidelines, no state regulations related to recreation are applicable to the proposed Calneva BESS/PSES project.

Local Regulations

The Lassen County General Plan 2000 includes goals and policies for parks and recreation facilities.

Relevant goals and policies from the Lassen County General Plan 2000 related to recreation include:

Goal N-18: An expanded range of outdoor recreation resources, facilities, and opportunities.

6.16.3.2 Regional Overview

Numerous park and recreation facilities are located within Lassen County and include State wildlife areas for hunting, fishing, hiking; river recreation areas for boating, picnicking, and fishing; parks for recreation and community events; National Parks; and sports facilities for baseball, soccer and golf. Lassen County contains several existing neighborhood and regional parks and other recreational facilities. These include Janesville Park which is the nearest to the Calneva BESS/PSES proposed project lease, approximately 10 miles northwest, Memorial Park, Pat Murphy Little League Park, Riverside Park, the River Walk, Susanville Ranch Park, Susan River Park, and Skyline Park in the City of Susanville. The Lassen County area also includes the Lassen Volcanic National Park, the Lassen National Forest, the Eagle Lake Recreation Area, and a wide range of camping, fishing, hunting, trails, and related outdoor recreational facilities. Park use is only one recreational choice among a wide range of other, similar opportunities.

6.16.3.3 Study Area Setting

There is only one active park in the vicinity of the proposed project lease area (ten miles away) known as Janesville Park located off US Route 395 in Janesville. The Pyramid Lake to the east of the proposed project lease area is used for recreational purposes.

6.16.4 Standards of Significance

An impact to recreation would be considered significant if the proposed project would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated, and/or

- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

6.16.5 Impacts and Mitigation Measures

The proposed Calneva BESS/PSES project will have no effect on recreation; there are no proposed recreation facilities as a part of the proposed Calneva BESS/PSES project, nor will there be any increase in the use of existing recreational facilities. There is No Impact.

6.16.6 Recreation Initial Study Responses

Table 6.16-1: Recreation Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☑

6.16.7 Responses to Initial Study Questions

6.16.7.1 Use of Parks and Recreational Facilities: No Impact

The proposed Calneva BESS/PSES project is an unmanned battery storage and solar array facility and does not include housing that could result in increased demand for park and recreational facilities. No recreational facilities are included in the project nor would it require the expansion of existing recreational facilities that could have an adverse impact on the environment.

Because of the short duration and size of the participating workforces involved in the proposed Calneva BESS/PSES project, and the expectation that a majority of that workforce would originate from the local labor pool, it is expected that the visitation and use rates for existing neighborhood and regional parks would not deviate from the current rates that would be expected by this same local labor pool. Because the frequency and intensity of these visitation and use rates are expected to remain stable and consistent with existing labor pool rates, the proposed Calneva BESS/PSES project is not expected to substantially increase the use of existing neighborhood and regional parks or other recreational facilities such that

substantial physical deterioration of those facilities would occur or be accelerated. Therefore, potential project impacts on parks and recreational facilities are less than significant. There would be No Impact.

6.16.7.2 Expansion of Recreational Facilities: No Impact

The proposed Calneva BESS/PSES project does not include recreational facilities nor does it require the construction or expansion of recreational facilities. Therefore, there would be No Impact.

6.17 TRANSPORTATION

This section describes transportation systems and the project's potential effects on transportation and existing traffic that may occur with implementation of the proposed Calneva BESS/PSES project. This section presents information on traffic and transportation as required by CEQA regulations. This section contains information on the existing transportation system together with a discussion of the potential effects of the proposed Calneva BESS/PSES project.

6.17.1 Background

6.17.1.1 Regulatory Context

All applicable laws, ordinances, regulations, and standards and their conformance measures are discussed below. Regulations, analysis methodologies, and transportation/circulation policies used to analyze the proposed Calneva BESS/PSES project impacts were taken from the following agencies and their applicable documents. Table 6.17-1 summarizes this information.

Federal Regulations

The Hazardous Materials Transportation Act of 1974, 49 Code of Federal Regulations (CFR) 397.9, is a federal law applicable to the proposed Calneva BESS/PSES project. It directs the U.S. Department of Transportation to establish criteria and regulations for the safe transportation of hazardous materials. There are no specific conformance measures necessary for this law.

- Transportation of Hazardous Materials requires transporters to adhere to established regulations adopted with the Hazardous Materials Transportation Act of 1974 and implemented by regulations adopted by the U.S. Department of Transportation.
- California Vehicle Code Section 35730 requires transport of oversized or excessive loads over state highways requires an oversize permit issued by Caltrans North Region Permitting Department and enforced by the California Highway Patrol.
- California Vehicle Code Section 31303 (b) requires that the transportation of hazardous materials be on State or interstate highways that offer the shortest overall transit time possible. Such code is enforced by the California Highway Patrol.
- California Vehicle Code Section 31303(c) requires that the transportation of hazardous materials avoid, whenever practicable, places where crowds are assembled, and residential districts.
- California Vehicle Code Section 32000.5 requires that transporters of hazardous materials contact the California Highway Patrol to apply for and receive a Hazardous Material Transportation License.
- California Streets and Highway Code, Division 2 Chapter 5.5 Sections 1460-1470 requires an encroachment permit from Lassen County Public Works Department to make an opening or excavation for any purpose in a roadway.

State Regulations

State laws that apply to the proposed Calneva BESS/PSES project include the following:

- California Vehicle Code Section 35730: Requires approval for a permit to transport oversized or excessive loads over State highways. The project would conform to Section 35730 by requiring that shippers obtain a Single Trip Transportation Permit for oversized loads, as required by the California Department of Transportation (Caltrans), for each vehicle.

- California Vehicle Code Section 31303(b): Requires that the transportation of hazardous materials occur on state or interstate highways offering the shortest overall transit time possible. The proposed Calneva BESS/PSES project would conform to Section 31303(b) by requiring that shippers of hazardous materials use the shortest route possible to and from the lease area.

- California Vehicle Code Section 31303(c): Requires that the transporters of hazardous materials avoid, whenever practicable, congested thoroughfares, places where crowds are assembled, and

residential districts. The proposed Calneva BESS/PSES project would conform to Section 31303(c) by requiring transporters to use routes that avoid these areas, if possible.

- California Vehicle Code Section 32000.5: Requires that shippers of hazardous materials must contact the California Highway Patrol to apply for and receive a Hazardous Material Transportation License. The proposed Calneva BESS/PSES project would conform to Section 32000.5 by requiring hazardous materials transporters to be licensed when transporting to and from the lease area.

- California State Planning Law, Government Code Section 65302: Requires each city and county to adopt a general plan consisting of seven mandatory elements to guide its physical development. Section 65302 (b) requires that a circulation (transportation) element be one of the mandatory elements. The scope of a circulation element consists of the "general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the land use element of the plan." Compliance with this section is described below.

Local Regulations

The circulation element of the Lassen County General Plan 2000 sets forth goals, policies, and implementation programs related to traffic issues in Lassen County. The proposed Calneva BESS/PSES project would be consistent with the County's General Plan Circulation Element goals and policies due to the minimal amounts of construction and operational traffic associated with the proposed Calneva BESS/PSES project. Furthermore, the proposed Calneva BESS/PSES project would implement appropriate mitigation measures during construction to ensure that safe, reliable transportation is maintained within the County for automobiles as well as bicycle and pedestrian traffic.

The Lassen County General Plan 2000 Circulation Element Policy, CE12 POLICY: "*No public highway or roadway should be allowed to fall to or exist for a substantial amount of time at or below a Level of Service rating of "E" (i.e., road at or near capacity; reduced speeds; extremely difficult to maneuver; some stoppages).*"

In addition to general plan requirements, the California Streets and Highways Code, Division 2, Chapter 5.5, Sections 1460-1470, requires an encroachment permit if there is an opening or excavation for any purpose in any County Roads. The project would conform to Section 1460-1470 by obtaining an encroachment permit from the Lassen County Public Works Department prior to any modifications of the existing driveways or improvements required on Calneva Road (ingress/egress) from Fort Sage Road to the proposed project lease area.

6.17.1.2 Required Permits and Approvals

Lassen County Public Works Department Encroachment Permit for all work within public rights-of-way.

6.17.2 Methodology

6.17.2.1 Ground Transportation

To assess the potential of the proposed Calneva BESS/PSES project-related traffic to impact local traffic congestion, the number of project-related trips through each key intersection and the intersection LOS were estimated for conditions before project construction, during construction, and during project operation. The trip-estimating methodology is based on the Planning Method in the *Highway Capacity Manual 2000*, which provides a general discussion of intersection operations that is used to define the overall LOS at a traffic-controlled intersection, given existing traffic volumes and projected project-related traffic. The Planning Method calculates a "*sum of critical volumes*" for the critical traffic-control phases of an intersection (phases for which there might be significant delay or obstruction), and a corresponding LOS. The critical volume is the volume of traffic that would cause a significant conflict with opposing traffic. This occurs where left-turning traffic obstructs through traffic at an intersection. The critical volume for an intersection as a whole

is calculated as the number of vehicles turning left plus the number of through vehicles at a given intersection, for each flow direction possible at that intersection.

According to the *Highway Capacity Manual* (2000) by the Transportation Research Board, LOS ratings are assigned as a function of control delay, as shown in Table 6.17-1. Table 6.17-1 shows critical average delay thresholds for each LOS, A through F (the average delay below which a given intersection remains at a given LOS). To define the LOS of an intersection with two-phase control, for example, given actual hourly traffic counts for the daily peak period of travel, one would add the left-turn volume to the opposing direction's through volume for all applicable travel directions at that intersection (for example, east-west, west-east, north-south, south-north). If the resulting sum of critical volumes produces an average delay of 10 seconds or less, the LOS would be A. If a project were to add a volume of traffic to an intersection that would increase this sum of critical volumes and thus the average delay to more than 10 seconds, it would cause a change in LOS from A to B.

Table 6.17-1: Intersection Level of Service (LOS) Definitions

Level of Service	Type of Flow	Delay	Maneuverability	Volume/Capacity Ratio	Average Stop Delay/Vehicle (seconds)
A	Stable flow	Very slight or no delay. If signalized, conditions are such that no approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.	Turning movements are easily made, and nearly all drivers find freedom of operation.	0.00–0.60	Less than 5.0
B	Stable flow	Slight delay. If signalized, an occasional approach phase is fully utilized.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	0.61–0.70	5.1 to 15.0
C	Stable flow	Acceptable delay. If signalized, a few drivers arriving at the end of a queue may occasionally have to wait through one signal cycle.	Backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	0.71–0.80	15.1 to 25.0
D	Approaching unstable flow	Tolerable delay. Delays may be substantial during short periods, but excessive backups do not occur.	Maneuverability is severely limited during short periods due to temporary backups.	0.81–0.90	25.1 to 40.0
E	Unstable flow	Intolerable delay. Delay may be considerable (up to several signal cycles).	There are typically long queues of vehicles waiting upstream of the intersection.	0.91–1.00	40.1 to 60.0
F	Forced	Excessive delay.	Jammed conditions. Backups from other locations restrict or prevent movement. Volumes may vary widely, depending on the downstream backup conditions.	Varies	Greater than 60.0

Source: Highway Capacity Manual, 2000

For this analysis, the traffic generated by the proposed Calneva BESS/PSES project in the study area during construction and operation was assigned to the surrounding street system for a hypothetical return commute. The resulting trip numbers were then added to the existing critical volumes (based on Traffic Census from Lassen County, and Caltrans) for each key intersection and compared with the LOS thresholds listed in Table 6.17-1.

The key analysis assumptions were as follows:

- No public transit to the proposed project lease area.
- The normal construction workday would begin at 7 a.m. and ends at 3:30 p.m.
- All construction traffic would arrive during off peak traffic periods.

Project trip generation was estimated for construction traffic and operations traffic based on Sierra Geotech's and Calneva BESS/PSES owner's experience in constructing and operating BESS/PSES facilities. The ability of any roadway network to accommodate anticipated traffic volumes is measured by comparing Peak Hour Traffic Volumes to roadway capacities. Thus, it is essential to determine the hourly traffic volumes to be generated by the proposed Calneva BESS/PSES project and add them to the existing traffic volumes. It is estimated that during the construction phase of the proposed Calneva BESS/PSES project, the Peak AM Hour trips generated would be 125 (*Assuming Ridesharing of 50% of the Peak 250 man workforce during construction*) new vehicles entering the proposed project lease area, while during the construction Peak PM Hour, there would be 125 new vehicles exiting the proposed project lease area.

During operations of the proposed Calneva BESS/PSES project, it is estimated that there would be zero new vehicles entering the proposed project lease area due to the BESS facility is unmanned and controlled remotely by SCADA.

Access to the proposed project lease area will be off Calneva Road and no restrictions will be made to left turns into the project lease area. Calneva Road will be improved to allow all weather access to the proposed project lease area and driveways will be developed to provide ingress/egress to the proposed project lease area. Arriving traffic was assumed to approach from Calneva Road and Fort Sage Road intersection, northbound on Calneva Road and right turn into the proposed project lease area. Departing traffic was assumed to make a left turn on Calneva Road and proceed south to the intersection of Fort Sage Road and right on Fort Sage Road to the community of Doyle to connect to US Route 395. The proposed project lease area is in close proximity to state freeways (US Route 395) and state highways that allow easy access to the proposed project lease area. It is, therefore, assumed that much of the construction workforce could arrive from outside the immediate area and would thus access US Route 395 to disperse through the freeway system in California and Nevada.

6.17.3 Environmental Setting

6.17.3.1 Land Traffic and Transportation Conditions

Roadway System

The following are the key roadways in the vicinity of the proposed Calneva BESS/PSES project:

Calneva Road – Calneva Road traverses in a north/south direction and is the frontage road to the entire length of the proposed Calneva BESS/PSES project lease area. Calneva Road begins at Desert Drive to the south five (5) miles from the proposed project lease area and extends to Moore Road to the north approximately six (6) miles from the proposed project lease area, near Stacy, and consists of one lane per direction. Calneva Road is an unimproved dirt road dedicated right of way of Lassen County. Access to the proposed project lease area is provided along Calneva Road. The Lassen County General Plan Circulation Element recognizes rural dirt roads within Lassen County help meet public needs regarding access to both private and public lands.

Calneva Road will require improvement to support the transport of equipment and construction crews to the proposed project lease area. In order for Calneva Road to support the anticipated trucking loads road base will need to be installed between Fort Sage Road and the Calneva BESS/PSES project area of approximately four (4) miles. Federal agencies work with Caltrans and counties through cooperative agreements and memoranda of understanding to address the design and maintenance standards of roads within their management systems and to help meet public needs regarding the use of those road systems.

Calneva Road is utilized by the public to access public lands. According to BLM, these roads are eligible to be part of the Federal Land Management Highway System under the 1990 Intermodal Surface Transportation Act (ISTEA) and Lassen County could receive maintenance funding to help maintain Calneva Road that provides primary access to both the Calneva BESS/PSES project lease area as well as public lands. Cooperation between the BLM and Lassen County could help improve road maintenance and improve roadway conditions on Calneva Road.

Fort Sage Road – Fort Sage Road traverses in an east/west direction and is a rural collector roadway with portions which are paved with asphalt concrete and other portions compacted, graveled, and graded to allow all weather access. The intersection of Calneva Road and Fort Sage Road will be approximately four (4) miles south of the ingress/egress driveway for the Calneva BESS/PSES facility. Fort Sage Road begins at Hackstaff Road near Doyle, CA which is west approximately nine (9) miles from Calneva Road and connects the BESS/PSES facility to US Route 395 via Hackstaff Road. Fort Sage Road ends in the east at Calveda Way on the California/Nevada State Border approximately one (1) mile east of Calneva Road. Fort Sage Road consists of one lane per direction.

Hackstaff Road – Hackstaff Road is a paved county road with one lane in each direction. Hackstaff Road and Fort Sage Road intersection is two (2) miles north of the Doyle Loop Road intersection in the community of Doyle.

Doyle Loop Road – Doyle Loop Road between US Route 395 and Hackstaff Road is a distance of half a mile (½) mile. Doyle Loop Road is a paved county roadway with one lane in each direction. Doyle Loop Road connects to US Route 395 approximately one (1) mile south of the community of Doyle and the intersection of Doyle Grade Road and US Route 395.

US Route 395 – US Route 395 is the adjacent two-lane paved asphalt concrete highway (through the Doyle Area) and freeway in locations south servicing the Reno Metropolitan area and traverses in a north/south direction through Lassen County. US Route 395 southern terminus is in the Mojave Desert at Interstate 15 near Hesperia, CA and its northern terminus is the Canada-USA border near Laurier, WA entering British Columbia, Canada. US Route 395 runs through the U.S. states of California, Nevada, Oregon, and Washington. US Route 395 runs along the Eastern Sierra in the Owens Valley and crosses through the Modoc Plateau along its routing. US Route 395 is located to the west of the Calneva BESS/PSES project lease area approximately sixteen (16) miles.

6.17.3.2 Other Land Transportation Issues and Plans

This section describes other traffic and transportation-related issues and plans important for the subsequent analysis of potential project impacts.

Public Safety

There are no road features or characteristics in the vicinity of the proposed project lease area that would affect public safety nor are there any sub-standard bridges along the potential access routes to the proposed project lease area. The route crosses one bridge located on Hackstaff Road which crosses the Long Valley Creek. In addition, there are no Lassen County roadways that are subject to normal weather-related closures such as localized flooding or fog.

Hazardous Materials

The Lassen County General Plan 2000 does not address hazardous materials transportation permits or routes.

Truck Traffic and Agricultural Vehicles

Truck traffic on rural roadways near the proposed project lease area represents less than 10 percent of all vehicle traffic. Truck traffic is a common daily contributor to localized traffic in the rural agricultural sector of Lassen County. The proposed project lease area is located in close proximity to US Route 395 that allow easy access to the proposed project lease area for truck traffic and large loads. All roadways leading to the

proposed project lease area off of US Route 395, are designated as truck routes for delivery and services purposes, with the exception of Calneva Road. Calneva Road without roadway base improvements will not be able to support truck loads except during dry periods and conditions.

6.17.3.3 Regional Transportation Setting

The proposed project lease area is in Lassen County approximately sixteen miles northeast of the community of Doyle and approximately six miles east of the community of Herlong, California. The proposed project lease area is also serviced by the Union Pacific Railroad with trackage running through the middle of the site with the historic Calneva train stop. The proposed project lease area is sixteen (16) miles northeast of the intersection of US Route 395 and Doyle Loop Road intersection and the proposed project lease area off of Calneva Road. The transportation corridors which services the proposed project lease area include: US Route 395, State Route 70, and State Route 32/36, which connects to Interstate 5, and Interstate 80. The proposed project lease area ingress/egress will be off Calneva Road which is classified as a Rural Road under the Roadway Functional Classification Plan depicted in the Lassen County General Plan 2000, Circulation Element. The Rural Road is planned to carry typical average daily traffic (ADT) minimum 4,500 vehicles and maximum of 16,400 vehicles and maintain a level of service D. Calneva Road will carry proposed project traffic South to Fort Sage Road another designated Rural Road roadway, where project traffic can then go west to Hackstaff Road another Rural Road which is paved. Off Hackstaff Road proposed project traffic will go South to Doyle Loop Road another paved Rural Road roadway which will provide proposed project traffic access to US Route 395 portions of which are classified as a Freeway/Expressway. US Route 395 connects to Interstate 80 which is four lane freeway facility which has "limited-access, high-speed travel way included in the State and federal highway systems whose purpose is to carry regional through traffic. In general, freeways are under the jurisdiction of either Caltrans or Nevada DOT, while local roadways, collectors, and arterials fall under the jurisdiction of Lassen County Public Works Department. The Lassen County Transportation Commission is the Regional Transportation Planning Agency and is responsible for regional transportation planning and coordination between all levels of government with jurisdiction over transportation development and maintenance in the greater Lassen County Region.

6.17.4 Standards of Significance

Criteria used in determining whether project-related traffic impacts are significant are consistent with standard industry practice and California Code of Regulations Title 14, §15065. An impact to transportation/traffic would be considered significant if the project would:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system;
- Exceed, either individually or cumulatively, a level of standard service established by Lassen County for designated roads or highways;
- Result in a change in traffic patterns, including an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature or incompatible uses;
- Result in inadequate emergency access;
- Result in inadequate parking capacity; or
- Conflict with adopted policies, plans, or programs supporting alternative transportation.

6.17.5 Impacts and Mitigation Measures

Construction Ground Transportation

Construction of the proposed Calneva BESS/PSES project would take place in ten or less months. It is anticipated that the on-site construction workforce would be drawn from the City of Susanville and Reno Metropolitan area regional labor pool and many workers would commute approximately 35 to 45 miles. The average daily construction workforce would be approximately 125 persons, based on previous BESS/PSES projects of similar nature and size, with a peak construction workforce of 250 persons. The construction

workforce of 250 persons is estimated to generate 125 vehicle trips to the proposed project lease area assuming (50% of the workers will carpool to the construction site). Carpooling would be encouraged to reduce traffic flow to the proposed project lease area.

A conservative approach was incorporated into the analysis, whereby it was assumed that all vehicle trips generated by construction workers would arrive and depart during peak traffic hours. However, in reality, construction personnel would arrive at the proposed project lease area at or near 6 a.m., before the morning peak hour (7 a.m. to 8 a.m.) and would depart the project lease area between 3 p.m. and 4 p.m., avoiding the evening peak hour (5 p.m. to 6 p.m.). In addition, the traffic analysis uses the estimated number of workers during peak construction, rather than the average number of workers. Trip-generation data used in this analysis are based on Sierra Geotech's, and Calneva BESS/PSES owner's extensive experience with the planning and construction phases of a variety of BESS/PSES projects. This approach illustrates the worst-case scenario for traffic at all potentially affected intersections during construction. Therefore, this impact analysis incorporates very conservative assumptions for planning and impact analysis purposes.

The primary roadways that would be used for travel to and from the proposed project lease area are Fort Sage Road, Hackstaff Road, Doyle Loop Road, and US Route 395 would experience the greatest volume of construction traffic. The estimated amount of additional traffic on each rural road due to project construction activities are shown on Table 6.17-3: Existing V/C ratio and Projected Construction-related V/C ratio at Selected Intersections.

Table 6.17-2. Existing V/C Ratio and Projected Construction-Related V/C Ratio at Selected Intersections.

Intersection	Existing[1]		Construction Phase	
	Total Peak-hour In/Out Vehicle Trips at Intersection	V/C Ratio	Total Peak-hour In/Out Vehicle Trips at Intersection	V/C Ratio
Doyle Loop Road at Hackstaff Road	76	0.006	201	0.018
Doyle Loop Road at US Route 395	780	0.071	905	0.082

[1] *Caltrans Traffic Data 2017*

Projected traffic impacts from construction traffic that would affect the v/c ratio during construction for selected roadway intersections are summarized in Table 6.17-2. No intersection would have a v/c ratio greater than 0.90 as required by the traffic performance standard in the Lassen County General Plan 2000, Circulation Element. The two key intersections, the project's effect on traffic conditions, indicated by the v/c ratio, would be minor and would not cause a decrease in level of service rating. Further away from the key intersections, the project's effect on traffic conditions, indicated by v/c ratio, would be barely perceptible.

Any noticeable impact in traffic composition due to truck traffic would be limited to a relatively small number of days, as most deliveries would be spread over the entire construction period. Therefore, impacts from construction-related truck traffic would be less than significant. There would be approximately 500 truck deliveries associated with construction of the proposed Calneva BESS/PSES project, spread out over the course of the ten months construction period (possibly several on some days and none on other days). Deliveries would include shipments of modules, photovoltaic panels, utility poles, enclosures, batteries, transformers, inverters, and related electrical wiring and balance of BESS/PSES facility components; concrete deliveries; water truck; and construction trailer delivery/pickup. Whenever possible, construction traffic trips to and from the proposed project lease area would be planned during non-commuter peak hours of 10:00 a.m. to 4:00 p.m. weekdays, Monday through Friday. Therefore, impacts from construction-related truck traffic would be less than significant, with the following mitigation measures incorporated.

TT-1: A traffic control plan will be developed in coordination with the Lassen County Public Works Department for any work requiring a County Encroachment Permit.

TT-2: Start times and end times of the construction day will be offset from identified peak traffic hours to mitigate traffic congestion on local streets and highways. Construction personnel will typically arrive at the proposed project lease area around 6:00 AM, before the morning peak hour (7:00 AM to 8:00 AM). Construction employees will typically leave between 3:00 PM and 4:00 PM, before the evening peak hour (4:00 PM and 5:00 PM).

Operations Ground Transportation

An estimated two (2) or three (3) workers would be required for operation, maintenance, and security of the BESS/PSES facility on a bi-monthly basis. Operation and security would be conducted from an offsite location by SCADA remote monitoring, and maintenance crews would be dispatched to the BESS/PSES facility as needed during operation. Additional incremental vehicle trips specifically for inspection of the battery storage system would typically occur only one time per year. However, for the purpose of this traffic impact assessment, a more conservative estimate of one inspection event per quarter (four vehicle trips per year) is used. Due to the fact that the trips would not occur on a daily basis, and the number of trips

would be minimal, impacts would be less than significant from maintenance and inspections activities at the BESS/PSES facility.

Thus, operation and maintenance of the proposed Calneva BESS/PSES project would not generate any substantial or potentially significant traffic volumes. Two (2) to three (3) workers travelling to the site for periodic maintenance and infrequent intervals would not generate enough traffic to change level of service standards or other travel demand measures for any roadways within Lassen County. All intersections would continue to operate at level of service levels above the threshold of significance (LOS D during peak hours) set by the Lassen County General Plan, Circulation Element, during operation of the proposed Calneva BESS/PSES project. The proposed Calneva BESS/PSES project would not impact any mass transit services or facilities or pedestrian or bicycle paths. Project-related impacts would be less than significant. No mitigation measures required for potential operations transportation impacts.

Access to Calneva BESS/PSES Facility

Access to the proposed project lease area would be provided by an un-signalized driveway located at the western edge of the proposed project lease area at the new driveways off Calneva Road. This location is ideal due to the distance from the intersection to the railroad, so as not to interfere with safe, unobstructed flow through the intersection. The ingress/egress for the proposed project lease area will allow both left turns and right turns off Calneva Road, entering and exiting. An additional driveway on the north end of the proposed project lease area is proposed for emergency responder vehicles only in case of an emergency event and the main entrance is blocked, requiring an alternative access to the BESS/PSES facility. No Impact will occur from development of new ingress/egress of the parcel or adding an additional emergency access off Calneva Road to the BESS/PSES facility.

Parking

Enough parking will be provided on-site to accommodate the construction workers during the construction phase. Operational phase parking will be limited to the access roads within the BESS/PSES facility, since the BESS/PSES facility is unmanned, and only occasional inspections or maintenance will occur. No Impact to parking.

6.17.6 Transportation/Traffic Initial Study Responses

Table 6.17-3: Transportation/Traffic Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☑	☐	☐
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	☐	☐	☑	☐

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☑
d) Result in inadequate emergency access?	☐	☐	☑	☐

6.17.7 Responses to Initial Study Questions

6.17.7.1 No Conflict with Plan, Ordinance, or Policy Establishing Measure of Effectiveness for the Performance of the Circulation System: Less than Significant with Mitigation Measures.

There would be a temporary increase in traffic in the vicinity of the proposed project lease area during construction activities, resulting from the construction workers and trucks required during the construction process. Since the Calneva BESS/PSES project is not expected to cause a change in the level of service for surrounding road segments likely to be used during construction or operation and a traffic control plan is required by Lassen County encroachment permit for all work within the public right-of-way associated with BESS/PSES facility construction, the proposed Calneva BESS/PSES project would not result in a significant impact on existing traffic in the vicinity of the proposed project lease area. The proposed temporary increase would not conflict with any such plan as required by the CEQA guidelines. As such, the increase in traffic would result in less than significant impacts. Furthermore, the increase in traffic volume will decline upon completion of the construction phase of the BESS/PSES facility (as BESS/PSES is an unmanned facility remotely monitored and managed). There would be adequate internal circulation and parking. Laydown of materials during the construction period would take place on an empty field just north of the proposed project lease area.

The proposed Calneva BESS/PSES project is an unmanned battery storage facility that would not generate frequent daily vehicle trips as part of long-term operations. Construction trips would occur over a 35 to 40-week period. Construction vehicles would access the site via the US Route 395/Doyle Loop Road Intersection, Hackstaff Road, Fort Sage Road and Calneva Road. Vehicles would enter the proposed lease area via new driveways off Calneva Road. Trip generation would entail:

- One-time mobilization and demobilization of heavy equipment (e.g., excavator, backhoe) at the start and end of earthwork or other construction stage, as needed
- One-time delivery of the major battery storage system equipment components and photovoltaic equipment components
- Up to 125 worker vehicles per day (peak) over 6 months during sequential phases of work (civil, erection, and electrical)
- Up to two worker vehicles per day, up to seven days per week, for five weeks for site commissioning. Commissioning vehicle trips would originate from Calneva BESS/PSES owner's Reno Offices (approximately 40 miles one-way trip).

No vehicle parking would occur on Calneva Road or other rural county roadways unless necessary to complete a specific construction task (e.g., electrical interconnection to the PSREC Fort Sage 120kV transmission line at the intersection of Calneva Road and Fort Sage Road). After commissioning and during the operational life of the BESS/PSES facility most routine inspections of the battery storage system and the solar array area would occur concurrently with maintenance. Additional incremental vehicle trips specifically for inspection of the battery storage system would typically occur only one time per year.

However, for the purpose of this traffic impact assessment, a more conservative estimate of one inspection event per quarter (four vehicle trips per year) is used. Due to the fact that the trips would not occur on a daily basis, and the number of trips would be minimal, impacts would be less than significant.

Delivery of Hazardous Materials

Lithium-ion batteries malfunctions can cause overheating, or thermal runaways. This may result in fires, explosions or gas leaks. Additionally, lithium batteries can go into thermal runaway when they come in contact with an external heat source, such as fire. Due to these safety concerns, lithium batteries are considered hazardous materials or dangerous goods and shippers must adhere to strict regulatory requirements. In general, other small quantities of hazardous materials would be used during construction activities, and all hazardous materials would be shipped by truck. This may consist of welding flux, and various solvents. All applicable requirements will be meet in shipping lithium batteries and other hazardous materials, including the use of transporters with a Hazardous Material Transportation License. Additionally, all deliveries would follow the County-designated truck route, which offers the shortest overall transit time possible and avoids congested thoroughfares, places where crowds are assembled, and residential districts, thereby ensuring that such deliveries do not conflict with a local plan, ordinance, or circulation element.

Calneva BESS/PSES owners, would obtain the appropriate permits required by the State of California. Transport of hazardous materials on Lassen County roadways would be limited in that the proposed project lease area is within sixteen (16) miles of the intersection of Doyle Loop Road and US Route 395.

Oversize or Overweight Shipments

Certain components of the BESS/PSES facility are of such dimension and weight that special delivery may be required during construction. Oversize/overweight shipments are anticipated to be transported by heavy-load truck delivery or by flat railcar on the Union Pacific Railroad at the proposed project lease area. According to Lassen County, there are no sub-standard bridges along the County roadways to the proposed project lease area. Any necessary ground shipment exceeding the size and/or weight/load limits described would require a Single Trip Transportation Permit (State of California Vehicle Code, Sections 35730-35796). Appropriate permits would be obtained for all deliveries.

There is a potential for minor, short-term increases in motor vehicle hazards due to the operation of construction equipment because there may be temporary closures of the various county roads and detours necessary to complete construction. Using standard linear construction practices (i.e., warning signs and lights, cones, and "reduce speed" notices), however, would reduce these impacts to less than significant. Traffic control, including signage and flag persons, would be required on all road segments during construction. Overall, construction of the proposed BESS/PSES facility and interconnection to the PSREC 120kV transmission line at Fort Sage Road and Calneva Road is not anticipated to create long-term effects on the transportation system in the project vicinity. As discussed throughout this section, the proposed Calneva BESS/PSES project will not cause a significant increase in local traffic flows, and therefore, the effect on the local circulation system will be less than significant as a result of the implementation of the proposed Calneva BESS/PSES project.

6.17.7.2 Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b): Less than Significant

In 2018, the California Natural Resources Agency certified and adopted the updated CEQA Guidelines which included implementation of Senate Bill 743 (Section 15064.3) (SB 743). SB 743 identified a new way to analyze transportation impacts under CEQA. The Office of Planning and Research amended the CEQA guidelines to provide and alternate to 'Level of Service' (LOS) to evaluate transportation impacts. Under SB 743, auto delays in traffic would not be considered a significant impact under CEQA. Rather, vehicle miles traveled (VMT) would be the primary metric for environmental impacts. VMT measures the sum of the number of miles traveled by each vehicle.

Per the CEQA Guidelines section 15064.3, subdivision (b)(1), projects that reduce vehicle miles

traveled, such as pedestrian, bicycle and transit projects, should have a less than significant impact. Per the CEQA Guidelines section 15064.3, subdivision (b)(2), transportation projects which reduce vehicle miles traveled should be presumed to cause a less than significant transportation impact.

The proposed BESS/PSES facility will be replacing the existing fossil fuel power peaker plants which requires personnel on the power generation site three (3) shifts per day, every day of the week creating vehicle miles traveled by fossil fuel power peaker plant employees servicing the power plant. The proposed BESS/PSES facility is an unmanned energy storage and photovoltaic energy production facility which will not generate trips, and will replace the trips and vehicle miles of travel once contributed to the fossil fuel peaker power plants resulting in a net decrease in vehicle miles traveled in Lassen County and the region. The proposed BESS/PSES facility is not identified to be a transportation project.

While the proposed BESS/PSES facility would introduce new site uses such the storage of batteries, solar array area, and electrical equipment, the proposed BESS/PSES facilities would not introduce new activities to the parcel that would result in significant trips to and from the area. The proposed project would not modify the existing public transit stops or access. Based on these conditions, impact would be less than significant.

Lassen County's roadway performance requirement is level of service E during peak hours. Level of service on existing County intersections that will be used by the proposed Calneva BESS/PSES project are now at or above the acceptable LOS E during peak hours as specified by the Lassen County General Plan 2000, Circulation Element. All roadway segments and intersections within the proposed project lease area currently operate at a LOS classification of between A and B. Given the low volume of existing traffic on roads in the project vicinity, additional project traffic during project construction and operations would not cause an exceedance of LOS E on Lassen County roadways. Implementation of the proposed Calneva BESS/PSES project would have a less than significant impact on level of service standards established by Lassen County and Lassen County Transportation Commission.

6.17.7.3 Substantially Increase Hazards caused by a Design Feature: Less than Significant

The proposed Calneva BESS/PSES project will create new driveways off Calneva Road for the main access and emergency access to the BESS/PSES facility. The proposed additional main and emergency ingress/egress locations would provide excellent sight distance, with no obstructions of views. No impact is anticipated with access to the proposed project lease area.

The proposed Calneva BESS/PSES project does not include the construction of any new roads, other than the access drive aisle that would be entirely onsite and used only by project workers and emergency responders in the event of an emergency and improvements to the existing Calneva Road which currently is a compacted dirt road with no engineered or designed road base. Turning radius on the BESS/PSES facility internal access roads would accommodate maneuverability on the site of large trucks and vehicles, including fire trucks. The BESS/PSES facility access road would have a single driveway entrance from Calneva Road. This entrance would be designed and constructed to Lassen County standards and include a driveway apron. During construction of the BESS/PSES facility, construction equipment and project materials would be delivered via trucks. Large flatbed trucks, dump trucks, and water trucks would travel on Calneva Road, Fort Sage Road, Hackstaff Road, Doyle Loop Road, and US Route 395 while delivering supplies and equipment. Certain maintenance activities during operation may also require large trucks. Lassen County roads used to access the BESS facilities are public roadways designed for use by large trucks (80,000 gross weight) during appropriate weather conditions. Project related impacts would be less than significant.

6.17.7.4 Result in Inadequate Emergency Access: No Impact

The proposed Calneva BESS/PSES project would not alter any existing emergency access routes or change existing patterns of emergency access. The proposed Calneva BESS/PSES project would not require closures of public roads, which could inhibit access by emergency vehicles. As described above,

increased project-related traffic would not cause a significant increase in congestion or affect the existing level of service on roads, which could indirectly affect emergency access. The proposed Calneva BESS/PSES project circulation design includes the use of existing local access roadways to all elements of the proposed project lease area and graveled graded access to all points within the proposed project lease area, which would facilitate emergency access in the event of an emergency at the BESS/PSES facilities. Furthermore, the proposed project lease area design includes two emergency access points, one at the southern end, and one at the northern end. Turning radius on the internal BESS/PSES facility road would accommodate maneuverability on the site of large emergency vehicles, including fire trucks and ambulances. The proposed Calneva BESS/PSES project would have No Impact.

6.18 TRIBAL CULTURAL RESOURCES

This section assesses the tribal cultural resources within the vicinity or within the proposed Calneva BESS/PSES project lease area which could be adversely affected. This section fulfills the requirements of AB 52 (Chapter 532, Statutes 2014) by documenting the inclusion of tribal cultural resources early in the CEQA process, to ensure that local Tribal governments, public agencies, identify and address potential impacts to tribal cultural resources. Tribal cultural resources are defined by the Public Resources Code Section 21074 as "*Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a tribe that are listed, or determined to be eligible for listing, in the national or state register of historical resources, or listed in a local register of historic resources*". Furthermore, a tribal cultural resource could be a resource that the lead agency (Lassen County) determines, in its discretion is a tribal cultural resource.

6.18.1 Background

6.18.1.1 Regulatory Context

Federal Regulations

Native American Graves Repatriation Act (43 CFR Section 10.14 (d))

Federal law provides examples of potential sources of tribal knowledge and cultural resources. The Native American Graves Repatriation Act recognizes the following type of evidence of cultural affiliation: geographical, kinship, biological, archaeological, anthropological, linguistic, folklore, oral tradition, historical or other relevant information or expert opinion.

State Regulations

California law, Public Resources Code 21080.3.1 requires a CEQA lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. The consultation must take place prior to the release of a Negative Declaration, Mitigated Negative Declaration or Environmental Impact Report for a project.

California Government Code Section 65352.4 applies when local governments (Lassen County) consults with tribes on certain planning documents. This section of the government code states: *"Consultation" means the meaningful and timely process of seeking, discussing, and considering carefully the views of others, in a manner that is cognizant of all parties' cultural values and, where feasible, seeking agreement. Consultation between government agencies and Native American tribes shall be conducted in a way that is mutually respectful of each party's sovereignty. Consultation shall also recognize the tribes' potential needs for confidentiality with respect to places that have traditional tribal cultural significance.* Governor's Office of Planning and Research's SB 18 *Tribal Consultation Guidelines* provide further explanation of what "consultation" means.

Under existing law, environmental documents must not include information about the location of an archeological site or sacred lands or any other information that is exempt from public disclosure pursuant to the Public Records Act. (*Cal. Code Regs. § 15120(d); Clover Valley Foundation v. City of Rocklin (201 I) I 97 Cal.App.4th 200, 220*).

6.18.2 Methodology

AB 52 consultation letters were sent out to 2 tribal councils based on a list provided by the Native American Heritage Commission (NAHC). Natural Investigations a sub-consultant to Sierra Geotech, sent project scoping letters to the two tribal contacts listed by the NAHC on December 18, 2019. Follow-up phone calls were made on January 6, 2020. To date, no responses have been received.

The following activity was conducted to determine the potential of cultural resources present:

- Search of cultural literature.
- Sacred Lands File records searches

- Intensive-level pedestrian survey of the proposed project lease area.

Tribal cultural resources analysis was completed in compliance with the CEQA, for which the County of Lassen Planning and Building Services is the State Lead Agency for the proposed Calneva BESS/PSES project.

The cultural literature search was completed by the Northeast Information Center at California State University on January 9, 2020; a Sacred Lands File search by the Native American Heritage Commission on December 16, 2019; and a search by Natural Investigations of the University of California Museum of Paleontology (UCMP) database on December 16, 2019. The Native American Heritage Commission indicated their search did not find sacred sites in the vicinity of the proposed Calneva BESS/PSES project. Investigations conducted an intensive-level pedestrian survey of the proposed project lease area and linear facilities down the four-mile corridor of Calneva Road between January 6th and January 9th of 2020. Ground visibility in most of the proposed project lease area and surrounding parcel ranged from fair to good depending on the density of the vegetation cover.

6.18.3 Environmental Setting

The Calneva BESS/PSES project lease area is located in the unincorporated community of Calneva in Lassen County where the eastern edge of the Diamond Mountains of the Sierra Nevada geomorphic province meets Honey Lake Valley or Basin. The Honey Lake Basin is part of the northern fringe of the Basin and Range geomorphic province which extends westward from Nevada into northeastern California (CGS 2002). The proposed project lease area is open rangeland historically used for cattle grazing with a portion of the site supporting the historical train depot known as Calneva. The Union Pacific Railroad runs through the site in an east/west direction and is bounded by Calneva Lake to the north and the Dry Valley Rim and the Amedee Mountains beyond, the Fort Sage Mountains to the south, Pyramid Lake to the east, and Honey Lake to the west. The surrounding area has been used primarily for irrigated alfalfa hay, wildlife habitat, and military purposes. Grazing potential is limited due to the presence of wind-blown salt dust from exposed playas.

6.18.4 Standards of Significance

The State CEQA Guidelines state that a project's impacts will normally be considered potentially significant if they substantially adversely change a significant tribal cultural resource:

- Resources listed or eligible for listing in the California Register of Historical Resources or a local register of historical resources
- A resource determined by Lassen County in its discretion to be significant
- A significant tribal cultural resource such as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe.

6.18.5 Impacts and Mitigation Measures

Tribal cultural resources are defined in Public Resources Code 21074 as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either:

- Included or determined to be eligible for inclusion in the California Register of Historical Resources
- Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1

No requests, in writing pursuant to AB 52, from geographically affiliated tribes for consultation under the requirements of AB 52 regarding the potential of the project to impact tribal cultural resources have been received prior to the date of this document. Therefore, no tribal cultural resources have been identified

within the proposed project lease area and the project would have no impact. No mitigation measures for tribal cultural resources are required. The project involves limited ground disturbing activity within an existing open rangeland on alkali flats. No structures listed or eligible for listing are present on the proposed project lease area. Some portions of the proposed project lease area have been previously disturbed and graded. There are no known archaeological resources on the proposed project lease area. No known burial sites have been identified within in the proposed project lease area. Minimal grading will be required prior to installation of the BESS/PSES facility. Although the likelihood of encountering isolated archaeological resources is very low, mitigation measure CR-1 is required in the unlikely event the proposed construction activities encounter remains. Impacts to tribal cultural resources would be less than significant with mitigation measure CR-1.

CR-1 In the event that unanticipated archaeological resources should be accidentally discovered during project construction, a qualified archaeologist or paleontologist will be retained for evaluation of the find. If the find is determined to be a historical or unique archaeological resource, appropriate mitigation or avoidance measures will be taken in accordance with CEQA Guidelines 15064.5(f). During mitigation of unanticipated archaeological resources, it would not be necessary for work to halt in construction areas not affected by such finds. Any historically significant cultural materials discovered during project construction will be the subject of professional scientific analysis and a report to be prepared by a qualified archaeologist. In the event that such a discovery should contain human remains, the following steps shall be taken as outlined in CEQA Guidelines 15064.5 (e)(1):

(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

(A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and
(B) If the coroner determines the remains to be Native American:

1. The coroner shall contact the Native American Heritage Commission within 24 hours.
2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in Public Resources Code Section 5097.98 or

(2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

(A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.
(B) The Descendant identified fails to make a recommendation; or
(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

6.18.6 Tribal Cultural Resources Responses

Table 6.18-1: Tribal Cultural Resources Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	☐	☑	☐	☐
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section5020.1(k), or	☐	☑	☐	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☑	☐	☐

6.18.6.1 Cause adverse change to Listed or Eligible for Listing in California Register of Historical Resources or Local Register: Less than Significant, with Mitigation Incorporated

No requests, in writing pursuant to AB 52, from geographically affiliated tribes for consultation under the requirements of AB 52 regarding the potential of the project to impact tribal cultural resources have been received prior to the date of this document. Therefore, no tribal cultural resources have been identified within the proposed project lease area and the BESS/PSES facility would have no impact. The proposed BESS/PSES project involves limited ground disturbing activity, limited to scraping off vegetation, pushing pilings, and pouring small foundations. No structures listed or eligible for listing are present on the proposed project lease area. The proposed project lease area has been previously disturbed, and some portions have been graded. There are no known archaeological resources on the proposed project lease area. No

known burial sites have been identified within in the proposed project lease area. Minor grading could be required prior to installation of the BESS/PSES facility. Although the likelihood of encountering isolated archaeological resources is very low, mitigation measure CR-1 is required in the unlikely event the proposed construction activities encounter remains. Impacts to tribal resources would be less than significant with mitigation measure CR-1 incorporated.

6.18.6.2 Cause adverse change to resource determined by Lassen County in its discretion to be a significant resource: Less than Significant, with Mitigation Incorporated

No requests, in writing pursuant to AB 52, from geographically affiliated tribes for consultation under the requirements of AB 52 regarding the potential of the project to impact tribal cultural resources have been received prior to the date of this document. Therefore, no tribal cultural resources have been identified within the proposed project lease area and the BESS/PSES facility would have no impact. The project involves limited ground disturbing activity. No structures listed or eligible for listing are present on the proposed project lease area. The proposed project lease area has been previously disturbed with some limited grading. There are no known archaeological resources on the proposed project lease area. No known burial sites have been identified within in the proposed project lease area. Minor grading could be required prior to installation of the BESS/PSES facility. Although the likelihood of encountering isolated archaeological resources is low, mitigation measure CR-1 is required in the unlikely event the proposed construction activities encounter remains. Impacts to tribal resources would be less than significant with mitigation measure CR-1.

6.19 UTILITIES AND SERVICE SYSTEMS

This section assesses the existing public utilities and service systems that support the proposed Calneva BESS/PSES project and identifies the potential impacts posed by the proposed Calneva BESS/PSES project and presents recommended mitigation where necessary. The public utilities and services analyzed in this section includes electricity, gas, water, wastewater, stormwater, and solid waste. Each subsection describes the utility, the provider of the utility, and the infrastructure of the utility as it relates to the proposed Calneva BESS/PSES project.

6.19.1 Background

6.19.1.1 Regulatory Context

Federal Regulations

Federal water, wastewater, and waste regulations have been provided and discussed in previous sections of this document (see Section 6.8: *Hazards and Hazardous Materials* for discussion on hazardous waste and Section 6.9: *Hydrology and Water Quality* for discussion on water and wastewater regulations). As previously discussed, the primary wastewater regulation that will be applicable to the proposed Calneva BESS/PSES project is the NPDES permitting regulation provided in the Clean Water Act. Additionally, the controlling federal law surrounding hazardous waste and waste disposal include CERCLA and RCRA (as discussed in section 6.8).

State Regulations

California law requires pre-construction notification and agency coordination to protect infrastructure from damage caused by construction activities. Contractor State License Board Enforcement Business and Professions Code 7110, Assembly Bill (AB) 2719, AB 73 (Chapter 328), and Government Section Code Sections 4216-4216.9 require that contractors must provide proper notification and coordination with appropriate groups before commencing construction (i.e., digging) activities. In addition to coordinating activities and providing proper notification, the Calneva BESS/PSES owners must obtain permits which address potential impacts on groups or agencies that use, or own utilities affected by the proposed Calneva BESS/PSES project.

California state law (Government Code Sections 4216, 4216.2, 4216.9) requires that an excavator contact a regional notification center at least two days prior to excavation of any subsurface installations. The center for northern California is Underground Service Alert. Any utility provider seeking to begin an excavation project can call Underground Service Alert's toll-free hotline. Underground Service Alert, in turn, will notify the utilities that may have buried lines within 1,000 feet of the excavation. Representatives of the utilities are required to mark the specific locations of their facilities within the work area prior to the start of excavation. The excavator is required to probe and expose the underground facilities by hand prior to using power equipment.

Assembly Bill (AB) 939

In 1989, the California legislature enacted the California Integrated Waste Management Act (AB 939) requiring all cities and counties in California to divert 50 percent of their solid waste from landfills by the end of 2000. This Act further required every city and county in California to prepare a Source Reduction and Recycling Element (SRRE), a report describing: (1) the chief characteristics of each jurisdiction's waste, (2) existing waste-diversion programs and rates of waste diversion, and (3) the new or expanded programs the jurisdiction intended to implement to achieve the mandated rates of diversion.

6.19.1.2 Local Regulations

The proposed Calneva BESS/PSES project is subject to Lassen County General Plan 2000 goals, policies, and implementation measures applicable to utilities.

6.19.2 Methodology

Assessment of the proposed Calneva BESS/PSES project on utilities (water, wastewater, storm drainage, solid waste) and energy providers (electricity) varies depending on the utility, but generally includes a comparison of the project generated demand against existing and anticipated resource supplies and/or conveyance capacity. Quantifications of demands and generations were included based on factors provided by the applicable agencies. Overall, the proposed Calneva BESS/PSES project will have very little demand on all utilities since the facility will be an unmanned operation not requiring potable water, wastewater, or solid waste services.

Water Supply

Water supply or conveyance impacts are typically evaluated by estimating water consumption factors associated with proposed project land use(s). The only water demand of the proposed Calneva BESS/PSES project is for periodic cleaning of the photovoltaic panels which will be fulfilled by water trucks which will bring water from offsite locations.

The proposed Calneva BESS/PSES facility will have no fire protection water flow demands since the only combustible items placed within the lease area (lithium-ion batteries) cannot be extinguished by water, but rather requires the use of a Class D fire extinguishing agent specifically designed for extinguishing Lithium battery fires. Lithium-ion batteries contains plenty of lithium that reacts with water and makes the fire worse (See Section 6.8).

Sewers and Wastewater Capacity

Assessment of impacts on sewers or wastewater treatment systems generally includes the comparison of the project-related, land use-based wastewater flow generation to the existing and projected wastewater treatment capacity of the local treatment plant. The wastewater generation factor, for the proposed Calneva BESS/PSES project during operations as an unmanned facility with no sinks, toilets or other water fixtures is zero.

Wastewater generated during the BESS/PSES facility construction would consist primarily of sanitary waste, which would be managed using portable toilets. Portable toilets would be removed from the proposed project lease area once construction is completed. Wastewater collected in portable toilets would be transported to a local Water Recycling Facility for treatment.

Stormwater Systems

Assessment of impacts to the storm drainage within the parcel is based primarily on the determination of the contribution of the proposed Calneva BESS/PSES project to stormwater runoff. These contributions are compared to existing conditions or the diversion and disruption of surface water flows if flooding would occur. The Calneva BESS/PSES project location is presently characterized by sandy soils which allow for drainage inside the BESS/PSES facility project lease area infiltrates onsite.

Solid Wastes

Impacts related to solid waste generally involve the estimation of the project-related, land use-based, solid waste generation, as compared to the capacity of the landfill(s) serving the proposed Calneva BESS/PSES project area. Solid waste generated from project construction activities, such as paper, wood, and plastic packing material would be segregated, where practical, for recycling. Non-recyclable wastes would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at either the Bass Hill Landfill or Westwood Landfill. Vegetation wastes generated by site clearing and grubbing would be chipped/mulched and spread on site or hauled off site for composting at either the Bass Hill or Westwood Landfills.

The waste generation rates provided by Cal Recycle were used to calculate the approximate waste generated by the project operations. Operation of the BESS/PSES facility and electrical components of the project would generally not produce solid waste. Solid wastes generated from project operations would

generally be from activities associated with yearly maintenance of the BESS/PSES facility. For impact analysis purposes, a waste generation rate for office uses of 3 pounds per 1,000 square feet per day was used as opposed to a generation rate for industrial uses. Assuming no recycling of refuse, the project would generate an estimated 0.0015 tons of solid waste per day during the operational phase of the project. This is approximately 0.000250 percent of the daily capacity (300 tons) permitted at the Bass Hill Landfill. This is a conservative estimate, as recycling would occur where possible, and because personnel would rarely be present at the site (once or twice per year for maintenance or security check).

Electricity and Natural Gas

The proposed Calneva BESS/PSES project is being developed to meet the identified megawatts local capacity shortfall within the Fort Sage and Herlong electric service sub-area of the CAISO grid. The proposed Calneva BESS/PSES project will not require natural gas service. Electrical demand to recharge BESS facilities to meet peak load power generation has been determined by Calneva BESS/PSES owners and will come from the proposed solar array area to be feasible and this IS/MND does not analyze Calneva BESS/PSES owner stated findings or ability to meet the requirements of CPUC as stipulated in Resolution E-4909.

6.19.3 Environmental Setting

6.19.3.1 Stormwater Drainage and Flood Controls

Stormwater and flood control issues were discussed at length in section 6.9 (Hydrology and Water Quality). The Calneva BESS/PSES owners will specify several Best Management Practices (BMP) requirements to ensure compliance with all applicable local, state, and federal stormwater management requirements. The proposed project's stormwater collection system will collect and convey runoff within the proposed project lease area and parcel for infiltration.

6.19.3.2 Water Supply

There are no water purveyors for the proposed project lease area. If the proposed project required any water, it would need to be trucked into the site from offsite sources. The proposed BESS/PSES has no water demands.

6.19.3.3 Wastewater Infrastructure

The Calneva BESS/PSES project is an unmanned facility which will not produce any wastewater requiring a wastewater infrastructure. No wastewater system is available on the parcel or for the proposed project lease area.

6.19.3.4 Waste Removal

The Lassen Regional Solid Waste Management Authority (Authority) is responsible for all aspects of municipal solid waste management within Lassen County. The Authority operates two municipal solid waste landfills (Bass Hill Landfill and Westwood Landfill) and nine transfer stations within Lassen County (Lassen County Solid Waste 2018). The Bass Hill Landfill is classified as a Class III municipal solid waste landfill facility. The landfill is permitted to accept agricultural, ash, construction and demolition debris, mixed municipal waste, sludge other designated debris and dead animals. According to CalRecycle, the Bass Hill Landfill has a maximum permitted throughput of 300 tons per day and has a remaining capacity of approximately 603,404 cubic yards (CalRecycle 2018). The Westwood Landfill classified as a Class III municipal solid waste landfill facility. The landfill is permitted to accept construction/demolition, mixed municipal, tires, and dead animals. According to CalRecycle, the Bass Hill Landfill has a maximum permitted throughput of 10 tons per day and has a remaining capacity of approximately 89,369 (CalRecycle 2018).

6.19.3.5 Gas and Electrical Services

Electric and natural gas services are provided within the vicinity of the proposed project lease area by PSREC and Tuscarora Gas. The Lassen County General Plan 2000 Goals require coordination efforts by

the County with service providers in planning the expansion of gas and electrical facilities to meet the future needs of County residents (and businesses).

PSREC has a planned 120kV transmission line located on an alignment along the Fort Sage Road corridor approximately four (4) miles of the proposed Calneva BESS/PSES project lease area which can service the proposed project lease area PSREC and other utilities in California are seeking to procure energy storage and to address local deficiencies and ensure local reliability. The proposed BESS/PSES facility would utilize the planned PSREC 120kV transmission line as first preference; however, if PSREC determines that the load is better served directly off the Alturas Intertie transmission line, then the proposed BESS/PSES facility would utilize that line as an alternative. The PG&E Greenbook manual (current revision June 2013) as well as the requirements of PSREC will be used for connection requirements.

Based on the BESS/PSES facility design and layout plan, the total estimated connected load for the system is 50 MW (Megawatt). The electrical system will consist of ten 3.75/4.2 MVA (55°C/65°C) transformers (12.47kV to 480V) allowing for future capacity. The transformer will feed a 5000A 480V Switchboard which will also contain the Utility meter and CTs. The solar array area of the proposed project will be able to provide the necessary electrical load for the proposed BESS facility to recharge the lithium ion-batteries during non-peak loads.

6.19.4 Standards of Significance

The State CEQA Guidelines state that a project's impacts will normally be considered potentially significant if they violate any of the following criteria:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Have insufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Fail to comply with federal, state, and local statutes and regulations related to solid waste.

6.19.5 Impacts and Mitigation Measures

6.19.5.1 Water Supply

The proposed BESS/PSES facility is an unmanned facility that would not require new or expanded water on the parcel. The Project would not require or result in the construction of any new water or wastewater treatment facilities or the expansion of existing facilities. Additionally, construction activities would result in a total water demand of approximately 275-acre foot for the proposed BESS/PSES facility construction

phase. Water will be trucked into the construction site with water tender trucks. Due to the limited duration of construction activities and the relatively small water requirements of the construction phase of the BESS/PSES facility, no significant adverse impacts to water supply are expected to result. Potential water supply impacts due to construction will be limited to surface water runoff during excavation and construction of these elements of the infrastructure. Such construction impacts are small and can be controlled through best management practices and proper housekeeping at the construction site. No mitigation measures are required. No Impact.

6.19.5.2 Sewers and Wastewater Capacity

The proposed Calneva BESS/PSES project will have no wastewater effluent generation since the BESS/PSES facility is designed as an unmanned facility, which will not have domestic (water from sinks, showers, toilets, etc.). Thus, the proposed Calneva BESS/PSES project would not be a new demand or service for water supply, sanitary sewer system (Septic/Leach field System on Parcel). Wastewater generated during project construction would consist primarily of sanitary waste, which would be managed using portable toilets. Portable toilets would be removed from the proposed project lease area once construction is completed. Wastewater collected in portable toilets would be transported to the nearest local recycling facility for treatment. Impacts on sewer/wastewater capacity have No Impact.

6.19.5.3 Stormwater Systems

Stormwater and flood control issues were discussed at length in section 6.9 (Hydrology and Water Quality). The Calneva BESS/PSES owners will specify several Best Management Practices (BMP) requirements to ensure compliance with all applicable local, state, and federal stormwater management requirements. The proposed Calneva BESS/PSES project would create minor additional impervious surfaces, such as the battery storage enclosures and the PCS and the medium voltage control system pads. Water from the impervious areas of the proposed BESS/PSES facility will move to pervious areas. Within pervious areas of the BESS/PSES facility stormwater would be expected to largely infiltrate or evaporate. Lithium- ion batteries would be fully contained in battery storage enclosures, and in the event of a rupture or otherwise defective battery, no battery fluids would discharge from within the enclosures. Given that much of the BESS/PSES facility would be pervious and nearly flat, and implementation of BMPs operation of the BESS/PSES facility would not substantially degrade water quality or exceed the capacity of the parcel to accept stormwater as infiltration and evaporation on site. Impacts would be less than significant.

6.19.5.4 Solid Waste

The term "solid waste" is defined at 40 CFR 261.2(a)(1): "A solid waste is any discarded material that is not excluded by § 261.4(a) or that is not excluded by variance granted under §§ 260.30 and 260.31." A solid waste can include solid materials, liquids, and contained gases. The definition of discarded material includes:

- Abandoned material (including burned, disposed, or discarded materials)
- Recycled material (including accumulated, stored, or treated materials)
- Inherently waste-like material (materials managed as wastes), and
- Military munitions, as defined

Calneva BESS/PSES facility will develop a Solid Waste Diversion and Recycling Plan, pursuant to AB 341, and recycle 50 percent of the industrial waste from the proposed project lease area during construction and operation. Compliance with AB 341 will ensure no impact will result from the proposed Calneva BESS/PSES project on solid waste.

Solid waste generated from project construction activities, such as paper, wood, and plastic packing material would be segregated, where practical, for recycling. Non-recyclable wastes would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at the Bass Hill or Westwood Landfills within Lassen County. Vegetation wastes generated by site clearing and grubbing would be chipped/mulched and spread on site or hauled off site for composting at the Bass

Hill or Westwood Landfills. Solid waste generated by the BESS/PSES facility would have a less than significant impact on the permitted remaining daily capacity (300 tons) of the Bass Hill Landfill.

6.19.5.5 Electrical and Natural Gas Systems

PSREC has a planned 120kV electrical transmission line which can service the proposed project lease area located four (4) miles to the south of the proposed project lease area along the Fort Sage Road corridor. The PG&E Greenbook manual (current revision June 2013) as well as connection requirements of PSREC will be used for connection requirements.

The proposed Calneva BESS/PSES project will employ the following Mitigation Measures to reduce the impacts on utilities and services to a less than significant level:

UTL-1 Employ an approved Solid Waste Diversion and Recycling Plan. Calneva BESS/PSES owners, will develop a solid waste diversion and recycling plan in accordance with AB 341 (Solid Waste Diversion), which requires industrial and commercial construction efforts to recycle fifty percent of their industrial wastes. Such a plan would be implemented in conjunction with Cal Recycle (formerly CWIMB) and RWMA. In addition, to the requirement of diverting commercial and construction debris, Calneva BESS/PSES owners, will submit a Diversion Report within 30 days of completing the project to the RWMA.

6.19.6 Utilities and Service System Responses

Table 6.19-1: Utilities and Services Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☑
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☑
c) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☑

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☑	☐	☐

6.19.7 Responses to Initial Study Questions

6.19.7.1 Require Relocation or Construction of new expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities: No Impact

The proposed BESS/PSES project consists of existing facilities requiring construction and operation of the proposed elements of the BESS/PSES facilities. The BESS/PSES facilities will require no new water service, wastewater treatment service, storm water drainage, electric power, natural gas or telecommunications facilities as discussed earlier in this IS. Any additional utility needs would tie into existing utilities being provided to the Calneva area. There would be no proposed activities that would require significant water needs. Operations of the proposed BESS/PSES project would not introduce residential, commercial, or industrial facilities that would require new or expanded water, wastewater, and other utility systems. The installation of new BESS/PSES facility lighting would not require additional electrical facilities or result in a significant increase in electrical usage. The proposed BESS/PSES facilities would not result in a significant increase in utility demands. No Impacts.

Stormwater and flood control issues were discussed at length in section 6.9 (*Hydrology and Water Quality*). The Calneva BESS/PSES owners will specify several Best Management Practices (BMP) requirements to ensure compliance with all applicable local, state, and federal stormwater management requirements. The proposed BESS/PSES facility would create minor additional impervious surfaces, such as the battery storage enclosures, photovoltaic panels, and the PCS and the medium voltage control system pads. An earthen drainage swale lined with gravel would be constructed along the southeastern edge of the battery storage enclosures to capture runoff from the impervious enclosures. This swale would discharge to a nearly flat area in the middle portion of the parcel. This area is pervious, and stormwater would be expected to largely infiltrate or evaporate. Lithium- ion batteries would be fully contained in battery storage enclosures, and in the event of a rupture or otherwise defective battery, no battery fluids would discharge from within the enclosures. Given that much of the proposed project lease area would be pervious and nearly flat, and implementation of BMPs operation of the BESS/PSES facility would not substantially degrade water quality or exceed the capacity of the parcel to accept stormwater as infiltration and evaporation on site. No Impacts.

6.19.7.2 Have Sufficient Water Supplies: No Impact

The proposed Calneva BESS/PSES project would not include any uses that would require a permanent water supply. Water would be imported in water tankers and would be applied for dust suppression purposes during construction, and for cleaning photovoltaic panels occasionally but no water facilities would be constructed or required for BESS/PSES operations. The proposed BESS/PSES facility is an unmanned facility that would not require new or expanded water on the parcel. No Impacts to either public or private water supply systems is anticipated as a result of developing the proposed Calneva BESS/PSES facility. No Impacts.

6.19.7.3 Result in a Determination that the Wastewater Treatment Provider Has Adequate Capacity to Service the Project: No Impact

The proposed Calneva BESS/PSES project will have no wastewater effluent generation since the BESS/PSES facility is designed as an unmanned facility, and will not have domestic (water from sinks, showers, toilets, etc.). Thus, the proposed Calneva BESS/PSES project would not be a new demand or service for water supply, sanitary sewer system. Wastewater generated during project construction would consist primarily of sanitary waste, which would be managed using portable toilets. Portable toilets would be removed from the proposed project lease area once construction is completed. Wastewater collected in portable toilets would be transported to the nearest local recycling facility for treatment. As such, there are No Impacts relating to exceedances of wastewater treatment requirements.

6.19.7.4 Be Served by a Landfill that Lacks Capacity for the Project's Solid Waste Needs: Less Than Significant Impact With Mitigation Incorporated

It is anticipated that the proposed Calneva BESS/PSES project will utilize solid waste collection services currently provided to Lassen County. Additionally, the local landfill, the Bass Hill and Westwood Landfills are not currently experiencing any shortage in available capacity. Based on the type of use proposed by the BESS/PSES facility, it is not expected that the site will create substantial amounts of solid waste during operation. However, solid waste would be generated during BESS/PSES facility construction which can be separated into the following categories:

- Non-hazardous metal waste, consisting of metal scrap
- Non-hazardous non-metal waste, including boxes and crates used in shipment of materials and daily refuse from construction workers
- Trenching spoils, consisting of such materials as rubble, soils, and broken asphalt
- Hazardous wastes, including contaminated soils and wastes from construction of electrical facilities.

Non-hazardous metal and non-metal waste can be hauled to local disposal centers for recycling. Hazardous wastes would be sent to a permitted treatment or disposal facility. Trenching and excavation spoils would be screened and separated for use as backfill materials at the site of origin to the maximum extent possible. Spoils unsuitable for backfill use would be disposed of in available county landfills. To further minimize the proposed Calneva BESS/PSES project's contribution to landfill capacity, implementation of Mitigation Measure UTL-1 would reduce potential impacts to a less than significant level.

6.19.7.5 Comply with Federal, State, and Local Solid Waste Regulations: Less Than Significant Impact With Mitigation Incorporated

The proposed Calneva BESS/PSES project will be designed, constructed, and operated within the parameters of applicable Federal, State, and Local solid waste regulations. Any necessary permit will be obtained from local, state, and federal agencies having jurisdiction over the proposed Calneva BESS/PSES project. As such, less than significant impact with mitigation measure UTL-1 will occur with the construction and operation of the proposed Calneva BESS/PSES project.

6.20 WILDFIRES

This section assesses the risk of wildfires impacting the operations of the proposed Calneva BESS/PSES facilities, and identifies the potential impacts posed by the proposed BESS/PSES project and presents recommended mitigation where necessary. This section complies with California Government Code Sections 65040.20 and 66474.02 and the California Public Resources Code Section 21083.01, relating to fire hazards impacts of new projects. This section applies when the proposed project lease area is located on lands classified as state responsibility areas (SRA), as defined in California Public Resources Code, Section 4102, and on lands classified as very high fire hazard severity zones, as defined in subdivision (i) of Section 51177 of the Government Code.

6.20.1 Background

6.20.1.1 Regulatory Context

Federal Regulations

No federal regulations apply to the proposed BESS/PSES project as it relates to wildfire risks.

State Regulations

California laws under the California Public Resources Code Section 21083.01 requires new projects be reviewed for wildfire risks and impacts. Fire hazard impacts for projects located on lands classified as state responsibility areas, as defined in the California Public Resources Code Section 4102, and on lands classified as very high fire hazard severity zones, as defined in subdivision (i) of Section 51177 of the Government Code must be reviewed for impacts and risks associated with wildfires.

2016 California Fire Code, California Code of Regulations Title 24, Part 9, based on the 2015 International Fire Code. The 2016 California Fire Code (CFC)/International Fire Code® (IFC®) is a model code that regulates minimum fire safety requirements for new and existing buildings, facilities, storage and processes. The CFC/IFC addresses fire prevention, fire protection, life safety and safe storage and use of hazardous materials in new and existing buildings, facilities and processes. The CFC/IFC provides a total approach of controlling hazards in all buildings and sites, regardless of the hazard being indoors or outdoors.

California Public Resources Code 4291, California Fire Safe Regulations contains the basic wildland fire protection standards of the CAL FIRE which pertain to SRAs and defensible space codes.

California Code of Regulations Title 14 provides Fire Safe Regulations dealing with emergency access, address signage, and water standards.

California Building Code Chapter 7A provides building-materials and construction methods for exterior wildfire exposure.

California Fire Code Chapter 47 provides standards to increase a buildings ability to resist flames and burning embers.

Local Regulations

Lassen County Code of Ordinance Title 9 Public Peace, Safety, and Morals, Chapter 9.16 Fire Hazards.

The following goal, policies, and implementation measures of the Lassen County General Plan 2000 are applicable to the proposed BESS/PSES project:

LU-V The County will encourage and facilitate the preparation and use of capital improvement plans by school districts and service districts to anticipate future facility needs. The County will continue to encourage districts and non-profit organizations to apply for state and Federal grants to help expand and

improve community infrastructure, including water and sewer systems, and to improve structural fire protection and other public services.

LU-W The County may enter into memorandums of understanding to assist school districts and fire protection districts in the implementation of their capital improvement plans and programs.

GOAL N-10: Manage wildfire for the protection of life, property and natural resources.

OS-20 POLICY: The County shall continue to make protection from fire hazards a consideration in planning, land use and zoning decisions, environmental review, and project review with special concern for areas of "high" and "extreme" fire hazard.

OS-K The County will continue to work with the California Department of Forestry and Fire Protection or other agencies of jurisdiction in identifying and mapping areas of special fire hazard, and in adopting development criteria to assist in the protection of the public from such fire hazards.

6.20.2 Methodology

Information for this section was obtained from the Lassen County General Plan 2000, and the Climate Change and Health Profile Report, Lassen County prepared by California Department of Public Health. In addition, Fire Hazards Severity Zones were determined by reviewing the CAL FIRE, Fire and Resources Assessment Program, Local Responsibility Area Maps for Lassen County found on the CAL FIRE website: *https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/.*

6.20.3 Environmental Setting

6.20.3.1 Local and State Responsibility Area and Fire Hazard Severity Zones

While all of California is subject to some degree of fire hazard, there are specific features that make some areas more hazardous. CAL FIRE has documented current fire hazard severity zones in Lassen County. Fire Hazard Severity Zones (FHSZ) were developed using a computer model by CAL FIRE. They predict the physical damage a fire is likely to cause based on the factors that influence fire likelihood and behavior. Many factors are considered such as fire history, existing and potential fuel (natural vegetation), flame length, blowing embers, terrain, and typical weather for the area. Fire Hazard Severity Zones are categorized into three (3) categories for areas designated State Responsibility Area (SRA):

- **Moderate**
  Wildland areas supporting areas of typically low fire frequency and relatively modest fire behavior, or developed/urbanized areas with a very high density of non-burnable surfaces (including roadways, irrigated lawn/parks, and low total vegetation cover (<30%) that is highly fragmented and low in flammability).
- **High**
  Wildland areas supporting medium-to high-hazard fire behavior and roughly average burn probabilities or developed/urbanized areas with moderate vegetation cover and more limited non-burnable cover. Vegetation cover typically ranges from 30-50% and is only partially fragmented.
- **Very High**
  Wildland areas supporting high to extreme fire behavior resulting from climax fuels typified by well-developed surface-fuel profiles (e.g., mature chaparral) or forested systems where crown fire is likely, or developed/urban areas typically with high vegetation density (>70% cover) and associated high fuel continuity. This allows for flames to spread over much of the area impeded only by isolated non-burnable areas.

The FHSZ also has a designation called Local Responsibility Area (LRA) Unincorporated which is deemed an Unzoned Area in regard to fire hazards.

6.20.4 Standards of Significance

An impact from Wildfire would be considered significant if the proposed project is within or near a Very High Fire Hazards Severity Zone would:

- Will the effects of the new project create or exacerbate wildfire risks?
- Will the project impair an adopted emergency response plan or evacuation plan?

6.20.5 Impacts and Mitigation Measures

The north half of the Calneva BESS/PSES project lease area is designated by CAL FIRE as an Unzoned Area regards to fire hazards in the LRA. The southern half of the Calneva BESS/PSES is located in a Moderate FHSZ in the SRA. No High or Very High FHSZs are located within close proximity of the proposed Calneva BESS/PSES project lease area. The nearest Very High FHSZ is located approximately seventeen (17) miles to the west and the nearest High FHSZ is located twenty-six (26) miles to the south. No Very High or High FHSZ is within the vicinity of the proposed Calneva BESS/PSES project, and as such, the proposed BESS/PSES facility does not pose a threat to destruction of any such lands. The site is surrounded by open range lands, and no wildlands or forests. Therefore, there would be No Impact to wildfires or wildlands. No mitigation measures are required. No Impact.

6.20.6 Wildfires Responses

Table 6.20-1: Wildfires Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☑
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☑
d) Expose people or structures to significant risks, including down slope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☑

6.20.7 Responses to Initial Study Questions

6.20.7.1 Impair an Adopted Emergency Response Plan or Evacuation Plan: No Impact

The proposed Calneva BESS/PSES project is not located within a very high fire hazard severity zone (CAL FIRE 2020 *https://osfm.fire.ca.gov/media/6829/fhszl06_1_map51.pdf*). The proposed construction and operational activities would not result in the impairment of an adopted emergency response plan or evacuation plan within a very high fire hazard severity zone. No Impact.

6.20.7.2 Due to Slope, Prevailing Winds, and Other Factors Exacerbate Wildfire Risks: No Impact

The proposed Calneva BESS/PSES project is not located within a very high fire hazard severity zone (CAL FIRE 2020 *https://osfm.fire.ca.gov/media/6829/fhszl06_1_map51.pdf*). The proposed construction and operational activities would not exacerbate wildlife risks or expose the residents and businesses to pollutant from wildfires. The proposed project lease area is located on the valley floor on relatively flat land with no slope. No Impact.

6.20.7.3 Will installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) exacerbate fire risks: No Impact

The proposed Calneva BESS/PSES project is not located within a very high fire hazard severity zone (CAL FIRE 2020 *https://osfm.fire.ca.gov/media/6829/fhszl06_1_map51.pdf*). The proposed construction and operational activities would not require installation of maintenance or associated structures that would exacerbate wildfire risk. No Impacts.

6.20.7.4 Will the Project Expose People or Structures to Significant Risks, Including Downslope or Downstream Flooding or Landslides, Post Fire: No Impact

The proposed Calneva BESS/PSES project is not located within a very high fire hazard severity zone (CAL FIRE 2020 *https://osfm.fire.ca.gov/media/6829/fhszl06_1_map51.pdf*). The proposed construction and operational activities would not expose people or structures to risks involving post-fire slope instability or drainage changes. No Impact.

6.21 MANDATORY FINDINGS OF SIGNIFICANCE

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☑	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☑	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☑

6.21.1 Responses to Initial Study Questions

6.21.1.1 Does the project have the potential to degrade the quality of the environment: Less Than Significant with Mitigation Incorporated.

Under Section 15065(a)(1) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project

has the potential to (1) substantially reduce the habitat of a fish or wildlife species; (2) cause a fish or wildlife population to drop below self-sustaining levels; or (3) substantially reduce the number or restrict the range of an endangered, rare, or threatened species. Section 6.4 (*Biological Resources*) of the Initial Study fully addresses impacts related to the reduction of the fish or wildlife habitat, the reduction of fish or wildlife populations, and the reduction or restriction of the range of special-status species. Section 6.4 indicates that proposed Calneva BESS/PSES project has the potential to adversely affect the nesting birds as the Calneva BESS/PSES project could affect potential habitat for nesting birds. However, implementation of Mitigation Measures BIO-1 would reduce this impact to a less than significant level. Thus, the level of impact from the proposed Calneva BESS/PSES project is "less than significant with mitigation incorporated."

6.21.1.2 Does the project have impacts that are individually limited, but cumulatively considerable: Less Than Significant.

Under Section 15065 of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has potential environmental effects that are individually limited but cumulatively considerable. As defined in Section 15065(a)(3) of the CEQA Guidelines, cumulatively considerable means "*that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.*" The proposed Calneva BESS/PSES project would not result in significant unavoidable impacts. A cumulative impact analysis is only provided for those thresholds that result in a less-than significant or significant and unavoidable impact. A cumulative impact analysis is not provided for Effects Found Not to Be Significant, which result in no project-related impacts.

Aesthetics

The Calneva BESS/PSES project will not result in cumulative significant impacts to Aesthetics within the vicinity. The following features are incorporated into the BESS/PSES facility that would minimize potential cumulative impacts to aesthetic resources:

- All structures and building associated with the proposed Calneva BESS/PSES project would be enclosed inside an existing perimeter screening fence.
- Any new security lighting would be inside the perimeter screening fence, shielded, and focused inward toward the battery storage system equipment and photovoltaic panels. Lighting specifications and fixture locations would be indicated on the site plans.
- No trees or other significant vegetation would be removed.
- The proposed BESS/PSES facility would be an in-fill project adjacent to existing railroad infrastructure and west of Sierra Army Depot military facilities. The project would have a low visual profile behind a perimeter screening fence, it would not emit a visual plume or odor, it would not require tree removal, and it would be generally out of view from public and private vantage points. Operations and maintenance activities would be generally consistent with the current pattern of vehicles entering and leaving the parcel.

Therefore, the project's contribution to cumulative aesthetic impacts would not be cumulatively considerable.

Agriculture and Forest Resources

Since the proposed Calneva BESS/PSES project would not conflict with any existing zoning for agricultural use, Williamson Act Contracts or other changes to the environment resulting in conversion of farmland to non-agricultural use or forestland or timberland to non-forest use, no cumulative impacts would result.

Air Quality
The Calneva BESS/PSES project will not result in cumulative significant impacts to air quality in the Honey Lake Valley. Per the LCAPCD's *Environmental Thresholds and Guidelines*, a project's contribution to cumulative air quality impacts is considered significant if the project's total emissions of either NO_X or ROG exceed the long-term threshold of 25 lbs./day. The BESS/PSES facility's construction-related contributions to cumulative NO_X and ROG emissions were below this threshold. The project's contribution to cumulative air quality impacts were not cumulatively considerable, as these emissions have been incorporated into the Clean Air Plan in terms of the overall emissions inventory for construction activities.

Biological Resources
The proposed Calneva BESS/PSES project will not significantly impact protected species or habitats with incorporation of Calneva BESS/PSES owners, proposed mitigation measure. It is specifically designed to avoid and minimize impacts to biological resources (see Section 6.4). The cumulative effects of the BESS/PSES facility in conjunction with current and potential future projects in the vicinity is not deemed cumulatively considerable because the limited biological impacts of the Calneva BESS/PSES project in conjunction with other projects that will be responsible for minimizing their impacts and mitigating impacts to a less than significant level. Based on the above analysis and the BESS/PSES facility's consistency with local, regional and state conservation plans, the BESS/PSES facility's contribution cumulative policy impacts on biological resources would not be cumulatively considerable.

Cultural Resources
The proposed Calneva BESS/PSES project would not contribute to any cumulative permanent adverse impacts on cultural resources. No undeveloped land would be developed by the proposed Calneva BESS/PSES project.

Energy
The proposed Calneva BESS/PSES project objectives are to construct and operate a battery energy storage and solar array field of photovoltaic panels that would help California achieve its ambitious Renewables Portfolio Standard goals and enhance grid reliability through the provision of key operational flexibility and dispatchability attributes. For this reason, operation of the proposed BESS/PSES project would not be considered a wasteful, inefficient, or unnecessary consumption of energy resources.

Geology and Soils
The project Calneva BESS/PSES project poses no potentially significant project specific geohazard or erosion impacts; therefore, potential cumulative impacts would not be cumulatively considerable.

Greenhouse Gas Emissions
The total emissions from both construction and operations of the BESS/PSES facility does not exceed the Lassen County CAP threshold. Therefore, because the BESS/PSES facility's estimated GHG emissions are below the applicable Lassen County CAP threshold the BESS/PSES facility would result in less than significant project-specific and cumulative impacts from GHG emissions.

Hazards and Hazardous Materials
Based on a review of the proposed project lease area, past and present site conditions, the proposed battery storage design safety features, and emergency response capability, with implementation of the mitigation measures included, no significant direct or cumulatively considerable impacts would result from project implementation.

Hydrology and Water Quality
Residual impacts (either project-specific or cumulative) on Hydrology and Water Quality would remain less than significant as a result of project implementation.

Land Use and Planning
The Calneva BESS/PSES project conforms with the Lassen County General Plan 2000 land use designations and the Lassen County Zoning Code classifications. The proposed Calneva BESS/PSES project is consistent with the zone which promotes solar electrical production. Therefore, the project's contribution to potential cumulative impacts would not be considerable.

Mineral Resources
The proposed Calneva BESS/PSES project would not affect mineral resources and, therefore, the project's contribution to cumulative mineral resource impacts would not be considerable.

Noise
Based on the project lease area inside an enclosed perimeter screening fence and the very low potential noise-generating equipment (40 air conditioners), and the miles separation to the nearest sensitive noise receptor, the BESS/PSES facility's contribution to cumulative noise impacts would not be considerable.

Population and Housing
The proposed Calneva BESS/PSES project would not displace any existing housing, nor would it develop new housing or result in an increased demand for existing housing. Therefore, the BESS/PSES facility's contribution to cumulative impacts on population and housing would not be considerable.

Public Service
The BESS/PSES facility would be unmanned and does not include housing (with associated population growth) that could generate increased demand for public services. The Calneva BESS/PSES project is used for energy uses associated with the existing PSREC, NV Energy, LMUD, and PG&E grid. Additional public services would not likely be required to accommodate construction crews, and if required such as an ambulance, it would be a minimal increase that would occur for 32 to 40 weeks. Therefore, the project's contribution to cumulative impacts related to public services would not be considerable.

Recreation
The proposed Calneva BESS/PSES project would not impact existing recreational facilities, add recreational facilities or generate substantial increased demand for park and recreational facilities. Therefore, the project's contribution to cumulative impacts on park and recreational facilities would not be considerable.

Transportation
The approximately 16 miles west of the proposed Calneva BESS/PSES project is US Route 395 which has experienced and continues to experience decreasing population and traffic within the Lassen County region compared to past years. Loss in population has decreased the number of present and planned residents in the nearby parcels and associated traffic.

The proposed BESS/PSES facility would require short-term construction-related traffic over a 32 to 40-week period, and then a very low volume of utility truck and passenger vehicle trips for routine inspections and maintenance. Construction-related heavy equipment deliveries and oversized vehicles would avoid entering and exiting Calneva Road during a.m. and p.m. peak hours. Therefore, given the current and projected traffic volumes, and the low volume of new trips associated with the proposed Calneva BESS/PSES project, the proposed project's contribution to potential cumulative impact to transportation and traffic conditions would not be considerable.

Tribal Cultural Resources
The proposed Calneva BESS/PSES project would not contribute to any cumulative permanent adverse impacts on tribal cultural resources. No sacred lands or lands with known cultural or tribal resources would be developed by the BESS/PSES facility.

Utilities and Service Systems
The proposed Calneva BESS/PSES project would not result in an increase in demands on water supply, sewage treatment capacity or the storm drain system. Therefore, the project would not contribute to cumulative impacts on utilities and service systems. Small quantities of solid waste generated during initial construction and routine maintenance and repairs would be well below the County's established threshold tons/year and would therefore not result in an adverse contribution to cumulative impacts on the Bass Hill or Westwood Landfills or other waste handling facilities. Construction and maintenance debris and waste materials would be recycled to the extent practical.

Wildfires
The project Calneva BESS/PSES project poses no potentially significant project specific wildfire risk or hazard. The proposed project lease area is not located within a very high fire hazard severity zone (CAL FIRE 2020 *https://osfm.fire.ca.gov/media/6829/fhszl06_1_map51.pdf*); therefore, potential cumulative impacts would not be cumulatively considerable.

6.21.1.3 Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly: No Impact

As discussed, throughout this CEQA document, the proposed Calneva BESS/PSES project would not include uses which could result in substantial adverse effects on human beings. In fact, the proposed Calneva BESS/PSES project will result in positive results to human beings (such as meeting California's AB 32 and ensure a reliable electric grid system). Therefore, the project entails no impact to human beings. No additional mitigation beyond the proposed noise mitigation measures would be required to limit effects on human beings.

7.0 FISH AND WILDLIFE DETERMINATION

FISH AND WILDLIFE DETERMINATION

Based on the information presented in this IS, the project has a potential to adversely affect wildlife or the habitat upon which wildlife depend. Therefore, a filing fee will be paid. Without proof of fee payment, the Calneva BESS/PSES project will not be operative, vested, or final, and any local permits issued for the project will be invalid, pursuant to California Fish and Game Code 711.4 (c)(3).

___ Certificate of Fee Exemption

__X__ Pay Fee

County of Lassen, Office of the Assessor, Recorder, & County Clerk
CEQA Document Declaration
Environmental Filing Fee Information

1. **Lead Agency:** Lassen County Planning and Building Services
2. **Project Title:** Calneva Battery Energy Storage System (BESS) and Photovoltaic Solar Energy System (PSES) Project
3. **Applicant Name:** Dr. Charles Hooper, DO, CDR (RET) MC USN – Applicant Phone: (530) 514-0135 (Dr. Hooper)
4. **Applicant Address:** 11242 Clinton Bar Road, Pine Grove, CA 95665
5. **Project Applicant:** Private Entity
6. **Notice to be Posted:** 30 days
7. **Classification of Environmental Document:** Mitigated Negative Declaration (Public Resources Code Section 21080 (c)
8. **Fish and Game Fee:** $2,406.75
9. **County Administrative Fee:** $50.00
10. **Lassen County Clerk-Recorder Office, Recording Fee:** $7.00

8.0 REFERENCES

8.1 PRINTED REFERENCES AND WEBSITES

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8.2 INTERVIEWS AND PHONE CONTACTS

Cathy Catron, Fire Chief, Doyle Fire Protection District, Telephone communication with Brent Moore.

Kelly Mumper, Associate Planner, Lassen County Planning and Building Services, Conference Call to discuss issues to address in CEQA documentation and Use Permit Application.

Sara Chandler, Environmental Health Specialist, Lassen County Environmental Health Department, Telephone communication with Brent Moore on Hazards with Lithium Ion Batteries.

Dan Newton, Air Pollution Control Officer, Lassen County Air Pollution Control District, Telephone

9.0 AGENCIES AND PERSONS CONTACTED

Kelly Mumper, Associate Planner, Lassen County Planning and Building Services

Dr. Charles Hooper, DO, CDR (RET) MC USN, Property Owner of Project Lease Area and County Applicant

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Robert Balzar, PE, Electrical Transmission and Solar Array Consultant

Chris Migliozzi, EDR-Environmental Data Research

Alan Jones REHS, Director. Lassen County Environmental Health Department

Sara Chandler, Environmental Health Specialist, Lassen County Environmental Health Department

Larry Millar, Lassen County Public Works Department

Dan Newton, Air Pollution Control Officer, Lassen County Air Pollution Control District

Erik Edholm, Air Quality Specialist, Lassen County Air Pollution Control District

Lassen Regional Solid Waste Management Authority

Ian Howat, California Department of Transportation District 2

Bob Marshall, General Manager, Plumas-Sierra Rural Electric Cooperative

Northern California Information Center, Department of Anthropology, California State University, Chico

Native American Heritage Commission

Chicago Title Insurance Company

Cathy Catron, Fire Chief, Doyle Fire Protection District

Julie Bustamante, Lassen County Clerk-Recorder

10.0 REPORT PREPARERS

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Appendix A: Mitigated Negative Declaration

APPENDIX A

Lead Agency:	Lassen County Department of Planning and Building Services
Project Proponent:	Dr. Charles Hooper, DO, CMDR (RET) MC USN
Project Location:	Lassen County Assessor's Parcel Numbers (APNs) 137-170-12 and 137-170-13, located immediately east of Calneva Road and four (4) miles north of the intersection at Calneva Road and Fort Sage Road in Lassen County, California, within the area of Lassen County known as Calneva.
Project Description:	The Calneva BESS/PSES Project would be a nominal 50-megawatt (MW) solar photovoltaic (PV) power facility and related substation, with an integrated battery energy storage system (BESS). The BESS would store 25 megawatts (MW) or 100 MW hours of electricity, to provide renewable energy and critically needed flexibility attributes needed to advance California's and Nevada's Renewable Portfolio Standard (RPS) goals, climate policies, and to enhance electrical grid reliability. The Calneva BESS/PSES would utilize the Lassen County Calneva Road right-of-way, permitted as an encroachment permit to install the 69-kilovolt (kV) Gen-Tie line, run on standard distribution utility poles, 300 foot span lengths (70 utility poles) to connect to the existing Plumas-Sierra Rural Electric Cooperative (PSREC) 120 kV transmission line located on Fort Sage Road..

Mitigation Measures:

AQ-1: Suspend excavation and grading activity when sustained winds exceed 20 miles per hour or when gusts exceed 25 miles per hour.

AQ-2: Use alternative fuel or catalyst-equipped diesel construction equipment.

AQ-3: Minimize idling time (e.g., 10-minute maximum)

AQ-4: Replace fossil-fueled equipment with electrically driven equivalents when possible.

AQ-5: Limit or curtail construction activity during periods of high ambient pollution.

BIO-1: Prior to ground-disturbing activities, a qualified biologist shall be retained to act as an environmental monitor for all measures requiring environmental mitigation. Their responsibilities will include: (1) ensuring that procedures for verifying compliance with environmental mitigations are implemented; (2) conducting biological surveys prior to site disturbance; (3) coordinating with contractors to avoid potential sensitive habitat areas; (4) conducting compliance monitoring; (5) conducting crew training for environmentally sensitive areas; and (6) maintaining authority to stop work if a sensitive resource could be impacted by the work.

BIO-2: Prior to ground-disturbing activities, the qualified biologist shall conduct an environmental awareness training for all construction personnel. This training shall include discussions of special-status plant species, American badger, and nesting birds. Topics of discussion shall include: description of the species' habitats; general provisions and protections afforded by FESA, CESA and CEQA; measures implemented to protect special-status species; review of the project boundaries and conditions; the qualified biologist's role in Project activities; lines of communication; and procedures to be implemented in the event a special-status species is observed in the work area.

BIO-3: Prior to any vegetation removal for the Project that occurs during the nesting season (February 15 to September 15), the qualified biologist shall conduct a nesting bird survey no more than two weeks prior to

construction to determine presence/absence of nesting birds within the disturbance area. If active nests are observed, work activities will be avoided within 100 feet of active passerine nests and 300 feet of active raptor nests until young birds have fledged and left the nest. The nests shall be monitored weekly by a qualified biologist with expertise on nesting birds. The buffer may be reduced if deemed appropriate by the qualified biologist. Readily visible exclusion zones will be established in areas where nests must be avoided. Bird nests, eggs, or young covered by the MBTA and CFGC will not be moved or disturbed until the end of the nesting season or until young fledge, nor will adult birds be killed, injured, or harassed at any time. Pursuant to CFGC Section 3503.5, nests of raptors (e.g., owls, hawks, falcons, eagles) shall not be removed prior to coordination with and approval from the CDFW. If a nest of any special-status avian species is identified, all Project-related activities will cease within 500 feet of the active nest/burrow until the qualified biologist has coordinated with the USFWS and CDFW to determine an appropriate monitoring plan for working in the vicinity of the nest/burrow.

BIO-4: Prior to ground-disturbing activities, the qualified biologist shall conduct a preconstruction survey for American badger dens. The badger survey should be conducted no more than 2 weeks prior to construction. If the survey results are negative (no badger dens observed), no additional work would be necessary. If the results are positive (badger dens observed), the qualified biologist shall install a game camera at the den(s) for three days and three nights to determine if the den is in use. If the game camera does not capture an individual entering/exiting the den, the den can be excavated by hand. If the camera captures badger use of the den, the qualified biologist shall install a one-way door in the den opening and continue use of the game camera. Once the camera captures the individual exiting the one-way door, the den can be excavated by hand.

BIO-5: Grading plans shall clearly show the location of special-status plants and delineation fencing that excludes the special-status plant species from disturbance. The fencing shall consist of highly visible construction fence supported by steel T-stakes that are driven into the soil. The qualified biologist shall field-fit the placement of the delineation fencing to ensure that special-status plant species are excluded from the disturbance areas. The delineation fencing shall remain in-place and functional throughout the duration of the Project and no work activities shall occur outside the delineated work area. The grading plans shall clearly show all staging areas, which shall be located within the construction area and situated to avoid disturbances to special-status plant species. In some cases, avoidance of the plants may not be feasible and mitigation for the plants removed shall be implemented. The qualified biologist shall document the exact number of plants that are removed and establish the final impact quantities. If the special-status plant species cannot be avoided, the following measures shall be implemented:

a) If the plant species to be impacted is not listed under the CESA but is listed under FESA and/or has been assigned California Rare Plant Ranks 1A, 1B, 2A, 2B, or 3, Project activities shall be delayed long enough for the qualified biologist to prepare and implement a rare plant mitigation program.

b) If the Project will impact annual special-status plant species, the rare plant mitigation program shall include collecting seed of the annual special-status plant species, storing the seed off-site, and redistributing the seed in suitable habitat on the property in the fall following Project completion.

c) If the Project will impact perennial special-status plant species, the rare plant mitigation program shall include salvaging all perennial special-status plant occurrences that would be impacted, maintaining the salvaged specimens in containers off-site, and replanting the salvaged specimens in suitable habitat on the property in the fall following project completion. Supplemental irrigation shall be applied to the salvaged plantings as needed for two years following installation of the plantings.

CR-1: In the event that unanticipated archaeological resources should be accidentally discovered during project construction, a qualified archaeologist or paleontologist will be retained for evaluation of the find. If the find is determined to be a historical or unique archaeological resource, appropriate mitigation or avoidance measures will be taken in accordance with CEQA Guidelines 15064.5(f). During mitigation of unanticipated archaeological resources, it would not be necessary for work to halt in construction areas not affected by such finds. Any historically significant cultural materials discovered during project construction will be the subject of professional scientific analysis and a report to be prepared by a qualified archaeologist. In the event that such a discovery should contain human remains, the following steps shall be taken as outlined in CEQA Guidelines 15064.5 (e)(1):

(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

(A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and

(B) If the coroner determines the remains to be Native American:

1. The coroner shall contact the Native American Heritage Commission within 24 hours.

2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.

3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in Public Resources Code Section 5097.98 or

(2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

(A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

(B) The Descendant identified fails to make a recommendation; or

(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

HM-1: **Contingency Plans.** Calneva BESS/PSES facility contingency plans shall be prepared to address potential contingency situations associated with the battery storage systems. These existing contingency plans include: Fire Protection Plan, Emergency Response Plan, and Hazardous Materials Business Plan. In addition, the plans will include where fire suppression material is stored on the site, how the Doyle Fire Prevention District will access the material, what the material is, and where copies of the plan are stored. All updates will occur in coordination with applicable agencies, including but not limited to the Doyle Fire Prevention District, and the Lassen County Environmental Health Department-CUPA. Contingency plans shall be stored onsite.

Plan Requirements and Timing: Contingency plans shall be completed prior to the initiation of construction activities for the proposed battery storage system, in order to ensure that appropriate contingency plans are in place through all project phases. The Lassen County Planning and Building Services Department, or their designee, shall ensure completion of contingency plans and approval by Doyle Fire Prevention District and Lassen County Environmental Health Department-CUPA.

Monitoring: The Doyle Fire Prevention District, or their designee, shall inspect the contingency plans on an annual basis, and following any emergency or unanticipated situation during which contingency plan procedures are required to be implemented, in order to ensure that contingency plans remain relevant and applicable to the Calneva BESS/PSES facilities and surroundings. Calneva BESS/PSES shall pay Doyle Fire Prevention District inspections fees as may be adopted by the District from time to time.

WQ-1: Calneva BESS/PSES owner and/or contractor will develop and implement an SWPPP and adopt BMPs prior to beginning construction activities.

WQ-2: Spill prevention kits shall always be in close proximity when using hazardous materials (e.g. crew trucks and other appropriate locations).

WQ-3: For equipment that must be fueled on-site, containment shall be provided in such a manner that any accidental spill of fuel shall not be able to enter the water or contaminate sediments that may come in contact with water.

WQ-4: Calneva BESS/PSES owner, or construction contractor will prepare a pollutant control plan that specifies logistics and schedule for construction activities that will minimize the potential for erosion and standard practices that include monitoring and maintenance of control measures.

TT-1: A traffic control plan will be developed in coordination with the Lassen County Public Works Department for any work requiring a County Encroachment Permit.

TT-2: Start times and end times of the construction day will be offset from identified peak traffic hours to mitigate traffic congestion on local streets and highways. Construction personnel will typically arrive at the project lease area around 6:00 AM, before the morning peak hour (7:00 AM to 8:00 AM). Construction employees will typically leave between 3:00 PM and 4:00 PM, before the evening peak hour (4:00 PM and 5:00 PM).

CR-1: In the event that unanticipated archaeological resources should be accidentally discovered during project construction, a qualified archaeologist or paleontologist will be retained for evaluation of the find. If the find is determined to be a historical or unique archaeological resource, appropriate mitigation or avoidance measures will be taken in accordance with CEQA Guidelines 15064.5(f). During mitigation of unanticipated archaeological resources, it would not be necessary for

work to halt in construction areas not affected by such finds. Any historically significant cultural materials discovered during project construction will be the subject of professional scientific analysis and a report to be prepared by a qualified archaeologist. In the event that such a discovery should contain human remains, the following steps shall be taken as outlined in CEQA Guidelines 15064.5 (e)(1):

(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

(A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and

(B) If the coroner determines the remains to be Native American:

1. The coroner shall contact the Native American Heritage Commission within 24 hours.

2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.

3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in Public Resources Code Section 5097.98 or

(2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

(A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

(B) The Descendant identified fails to make a recommendation; or

(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

UTL-1: Employ an approved Solid Waste Diversion and Recycling Plan. Calneva BESS/PSES owners, will develop a solid waste diversion and recycling plan in accordance with AB 341 (Solid Waste Diversion), which requires industrial and commercial construction efforts to recycle fifty percent of their industrial wastes. In addition to the requirement of diverting commercial and construction debris, Calneva BESS/PSES owners, will submit a Diversion Report within 30 days of completing the project to Lassen County.

Determination:

In accordance with CEQA, an Initial Study has been prepared by the Lassen County Department of Planning and Building Services that evaluates the environmental effects of the proposed project. On the basis of the project's Initial Study, Lassen County found that although it would be possible for the proposed project to have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made that will avoid or reduce all potential significant effects to a less than significant level. A Mitigated Negative Declaration will be prepared.

Public Review: In accordance with Section 15073 of the CEQA Guidelines, the Draft Initial Study for the project was circulated for public and agency review from **June 22, 2020** to **July 23, 2020**.

ATTEST: 22 June 2020
Date

Maurice L. Anderson, Environmental Review Officer
Lassen County Department of Planning and Building Service

Appendix B: Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program

CALNEVA BATTERY ENERGY STORAGE SYSTEM/ PHOTOVOLTAIC SOLAR ENERGY SYSTEM PROJECT

Lassen County
Department of Planning and Building Services
707 Nevada Street, Suite 5
Susanville, CA 96130
Phone: (530) 251-8269

June 2020



Appendix B

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1.0 Mitigation Monitoring and Reporting Program

1.1 INTRODUCTION

The purpose of the Mitigation, Monitoring, and Reporting Plan (MMRP) is to briefly identify mitigation measures that were provided in the Calneva Battery Energy Storage System/Photovoltaic Solar Energy System Project (Calneva BESS/PSES) Initial Study and Mitigated Negative Declaration and to describe the roles and responsibilities of government agencies in implementing and enforcing the adopted mitigation measures provided therein. The MMRP provides the recommended framework for monitoring and reporting on the implementation of mitigation measures as it would be handled by the California Environmental Quality Act Lead Agency: the Lassen County Department of Planning and Building Services. While all adopted mitigation measures will be implemented by the Calneva BESS/PSES project, several of the proposed measures will require oversight by varying public agencies (Lassen County, Lassen County Air Pollution Control District [LCAPCD]).

Public Resources Code, section 21081.6, and Section 15097 of the CEQA guidelines require a public agency to adopt an MMRP when it approves an environmental review document under CEQA that identifies mitigation measures to reduce environmental effects that would otherwise be significant. It is the standard practice of Lassen County, pursuant to its statutory responsibility to protect the environment, to require that mitigation measures stipulated as conditions of approval be implemented properly, monitored, and compliance reported.

The Lassen County Department of Planning and Building Services views the MMRP as a working guide to facilitate both the implementation of the mitigation measures by Lassen County personnel and the monitoring, compliance and reporting activities of Lassen County and any monitors it may designate. If Lassen County adopts the recommended Mitigated Negative Declaration for the Proposed Project, it will also adopt this MMRP.

1.2 OVERVIEW OF THE MMRP

The Calneva BESS/PSES project and its contractors will be required to comply with this MMRP in all respects in the effort to mitigated identified significant environmental impacts and rendering such impacts *less than significant*. In any instance where non-compliance occurs, the Lassen County designated environmental monitors will issue a warning to the construction supervisor and the Calneva BESS/PSES Project Manager. Any decisions to halt work due to non-compliance will be made by Lassen County. Lassen County's designated environmental monitors will keep records of any incidents on non-compliance with mitigation measures. Copies of these documents will be supplied to Lassen County personnel. Compliance reports will be filed with the Lassen County on a minimum of once every three months.

1.3 PROJECT MONITORING AND REPORTING PLAN

The MMRP table, which constitutes the monitoring and reporting program, includes the following:

- Identification of the mitigation measure.
- Identification of individuals or organizations responsible for monitoring and/or reporting.
- Identification of individuals or organizations responsible for verifying compliance.
- Identification of the phase of the permit process when each mitigation measure shall be initially implemented.
- Identification of the frequency and duration of required monitoring, if a measure requires continuous, frequent, monthly or annual monitoring.
- Identification of the performance criteria for determining the success of the mitigation measure, if appropriate.
- Identification of the effectiveness of the mitigation measure.

1.4 PROJECT MONITORING AND REPORTING RESPONSIBILITY

Lassen County will be responsible for ensuring compliance with mitigation applicable to the Proposed Project. Staff will prepare, or require preparation of, reports identifying compliance with mitigation measures. Once construction has begun and is underway, Lassen County will carry out monitoring of the mitigation measures associated with construction.

1.5 MITIGATION AND MONITORING PROGRAM

The table below provides a compilation of the mitigation measures identified in the Initial Study and Mitigated Negative Declaration for the Proposed Project. The purpose of the table is to provide Lassen County, its environmental monitors, and other regulatory agencies with a single, comprehensive list of mitigation measures and their associated effectiveness criteria, timing, and enforcing agencies or departments.

MITIGATION MONITORING AND REPORTING PROGRAM

CALNEVA BATTERY ENERGY STORAGE SYSTEM/
PHOTOVOLTAIC SOLAR ENERGY SYSTEM PROJECT

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Impacts	Mitigation Measures	Monitoring/ Reporting Action	Criteria Effect	Monitoring Agency	Monitor/ Reporting Schedule
Aesthetics					
		CALNEVA BESS/PSES Proposed Project Mitigation Monitoring			
No Impacts Defined	None Required	None Required	None Required	None Required	None Required
Agricultural and Forestry Resources					
		CALNEVA BESS/PSES PROPOSED PROJECT MITIGATION MONITORING			
No Impacts Defined	None Required	None Required	None Required	None Required	None Required
Air Quality					
		CALNEVA BESS/PSES PROPOSED PROJECT MITIGATION MONITORING			
Construction Emissions	**AQ-1** Suspend excavation and grading activity when sustained winds exceed 20 mph or when gusts exceed 25 mph.	Documentation required in quarterly compliance reports; Incorporate restrictions into contractor's bid package to limit impacts.	Reduction in Fugitive Dust.	Lassen County Department of Planning and Building Services LCAPCD	Pre-Construction and Construction phase.
Construction Emissions.	**AQ-2** Use alternative fuel or catalyst equipped diesel construction	Documentation required in quarterly compliance reports; Incorporate restrictions into contractor's bid package to limit impacts.	Reduction in Fugitive Dust.	Lassen County Department of Planning and Building Services LCAPCD	Pre-Construction and Construction phase.
Construction Emissions.	**AQ-3** Minimize idling time.	Documentation required in quarterly compliance reports; Incorporate restrictions into contractor's bid package to limit impacts.	Reduction in NO_x, CO, and CO_2 emissions throughout the construction	Lassen County Department of Planning and Building Services LCAPCD	Pre-Construction and Construction phase.

MITIGATION MONITORING AND REPORTING PROGRAM

CALNEVA BATTERY ENERGY STORAGE SYSTEM/
PHOTOVOLTAIC SOLAR ENERGY SYSTEM PROJECT

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Impacts	Mitigation Measures	Monitoring/ Reporting Action	Criteria Effect	Monitoring Agency	Monitor/ Reporting Schedule
Construction Emissions.	**AQ-4** Replace fossil-fueled equipment with electrically driven equivalents when possible.	Documentation required in quarterly compliance reports; Incorporate restrictions into contractor's bid package to limit impacts.	Reduction in NO_x, CO, and CO_2 emissions throughout the construction	Lassen County Department of Planning and Building Services LCAPCD	Pre-Construction and Construction phase.
Construction Emissions.	**AQ-5** Limit or curtail construction activity during periods of high ambient pollution.	Documentation required in quarterly compliance reports; Incorporate restrictions into contractor's bid package to limit impacts.	Reduction in NO_x, CO, and CO_2 emissions throughout the construction	Lassen County Department of Planning and Building Services LCAPCD	Pre-Construction and Construction phase.
Biological Resources					
	CALNEVA BESS/PSES PROPOSED PROJECT MITIGATION MONITORING				
Substantial Adverse Effect on Candidate, Special-Status or Sensitive Species.	**BIO-1** Prior to ground-disturbing activities, a qualified biologist shall be retained to act as an environmental monitor for all measures requiring environmental mitigation. Their responsibilities will include: (1) ensuring that procedures for verifying compliance with environmental mitigations are implemented; (2) conducting biological surveys prior to site disturbance; (3) coordinating with contractors to avoid potential sensitive habitat areas; (4) conducting compliance monitoring; (5) conducting crew training for environmentally sensitive areas; and (6) maintaining authority to stop work if a sensitive resource could be impacted by the work.	Contact Lassen County Department of Planning and Building Services prior to construction; monitor throughout construction phase. If species noted, log and contact Lassen County.	Measure will leave the impacts as Less Than Significant.	Lassen County Department of Planning and Building Services	Prior to Construction
	BIO-2 Prior to ground-disturbing activities, the qualified biologist shall conduct an environmental awareness training for all construction personnel. This training shall include discussions of special-status plant species, American badger, and nesting birds. Topics of discussion shall include: description of the species' habitats; general provisions and protections afforded by FESA, CESA and CEQA; measures implemented to protect special-status species; review of the project boundaries and conditions; the qualified biologist's role in Project activities; lines of communication; and procedures to be implemented in the event a special-status species is observed in the work area.	Contact Lassen County Department of Planning and Building Services prior to construction.	Measure will leave the impacts as Less Than Significant.	Lassen County Department of Planning and Building Services	Prior to Construction

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Impacts	Mitigation Measures	Monitoring/ Reporting Action	Criteria Effect	Monitoring Agency	Monitor/ Reporting Schedule
	BIO-3 Prior to any vegetation removal for the Project that occurs during the nesting season (February 15 to September 15), the qualified biologist shall conduct a nesting bird survey no more than two weeks prior to construction to determine presence/absence of nesting birds within the disturbance area. If active nests are observed, work activities will be avoided within 100 feet of active passerine nests and 300 feet of active raptor nests until young birds have fledged and left the nest. The nests shall be monitored weekly by a qualified biologist with expertise on nesting birds. The buffer may be reduced if deemed appropriate by the qualified biologist. Readily visible exclusion zones will be established in areas where nests must be avoided. Bird nests, eggs, or young covered by the MBTA and CFGC will not be moved or disturbed until the end of the nesting season or until young fledge, nor will adult birds be killed, injured, or harassed at any time. Pursuant to CFGC Section 3503.5, nests of raptors (e.g., owls, hawks, falcons, eagles) shall not be removed prior to coordination with and approval from the CDFW. If a nest of any special-status avian species is identified, all Project-related activities will cease within 500 feet of the active nest/burrow until the qualified biologist has coordinated with the USFWS and CDFW to determine an appropriate monitoring plan for working in the vicinity of the nest/burrow.	Contact Lassen County Department of Planning and Building Services prior to construction; monitor throughout construction phase. If species noted, log and contact Lassen County.	Measure will leave the impacts as Less Than Significant.	Lassen County Department of Planning and Building Services	Prior to Construction

MITIGATION MONITORING AND REPORTING PROGRAM

CALNEVA BATTERY ENERGY STORAGE SYSTEM/
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Impacts	Mitigation Measures	Monitoring/ Reporting Action	Criteria Effect	Monitoring Agency	Monitor/ Reporting Schedule
	BIO-4 Prior to ground-disturbing activities, the qualified biologist shall conduct a preconstruction survey for American badger dens. The badger survey should be conducted no more than 2 weeks prior to construction. If the survey results are negative (no badger dens observed), no additional work would be necessary. If the results are positive (badger dens observed), the qualified biologist shall install a game camera at the den(s) for three days and three nights to determine if the den is in use. If the game camera does not capture an individual entering/exiting the den, the den can be excavated by hand. If the camera captures badger use of the den, the qualified biologist shall install a one-way door in the den opening and continue use of the game camera. Once the camera captures the individual exiting the one-way door, the den can be excavated by hand.	Contact Lassen County Department of Planning and Building Services prior to construction; monitor throughout construction phase. If dens are noted, log and contact Lassen County.	Measure will leave the impacts as Less Than Significant.	Lassen County Department of Planning and Building Services	Prior to Construction

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Impacts	Mitigation Measures	Monitoring/ Reporting Action	Criteria Effect	Monitoring Agency	Monitor/ Reporting Schedule
	BIO-5 Grading plans shall clearly show the location of special-status plants and delineation fencing that excludes the special-status plant species from disturbance. The fencing shall consist of highly visible construction fence supported by steel T-stakes that are driven into the soil. The qualified biologist shall field-fit the placement of the delineation fencing to ensure that special-status plant species are excluded from the disturbance areas. The delineation fencing shall remain in-place and functional throughout the duration of the Project and no work activities shall occur outside the delineated work area. The grading plans shall clearly show all staging areas, which shall be located within the construction area and situated to avoid disturbances to special-status plant species. In some cases, avoidance of the plants may not be feasible and mitigation for the plants removed shall be implemented. The qualified biologist shall document the exact number of plants that are removed and establish the final impact quantities. If the special-status plant species cannot be avoided, the following measures shall be implemented: a) If the plant species to be impacted is not listed under the CESA but is listed under FESA and/or has been assigned California Rare Plant Ranks 1A, 1B, 2A, 2B, or 3, Project activities shall be delayed long enough for the qualified biologist to prepare and implement a rare plant mitigation program. b) If the Project will impact annual special-status plant species, the rare plant mitigation program shall include collecting seed of the annual special-status plant species, storing the seed off-site, and redistributing the seed in suitable habitat on the property in the fall following Project completion. c) If the Project will impact perennial special-status plant species, the rare plant mitigation program shall include salvaging all perennial special-status plant occurrences that would be impacted, maintaining the salvaged specimens in containers off-site, and replanting the salvaged specimens in suitable habitat on the property in the fall following project completion. Supplemental irrigation shall be applied to the salvaged plantings as needed for two years following installation of the plantings.	Contact Lassen County Department of Planning and Building Services prior to construction; monitor throughout construction phase. If species noted, log and contact Lassen County.	Measure will leave the impacts as Less Than Significant.	Lassen County Department of Planning and Building Services	Prior to Construction

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Impacts	Mitigation Measures	Monitoring/ Reporting Action	Criteria Effect	Monitoring Agency	Monitor/ Reporting Schedule
Cultural Resources					
CALNEVA BESS/PSES PROPOSED PROJECT MITIGATION MONITORING					

Disturbance of Cultural or Historical Resources, Skeletal Remains	**CR-1** In the event that unanticipated archaeological resources should be accidentally discovered during project construction, a qualified archaeologist or paleontologist will be retained for evaluation of the find. If the find is determined to be a historical or unique archaeological resource, appropriate mitigation or avoidance measures will be taken in accordance with CEQA Guidelines 15064.5(f). During mitigation of unanticipated archaeological resources, it would not be necessary for work to halt in construction areas not affected by such finds. Any historically significant cultural materials discovered during project construction will be the subject of professional scientific analysis and a report to be prepared by a qualified archaeologist. In the event that such a discovery should contain human remains, the following steps shall be taken as outlined in CEQA Guidelines 15064.5 (e)(1): (1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: (A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and (B) If the coroner determines the remains to be Native American: 1. The coroner shall contact the Native American Heritage Commission within 24 hours. 2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American. 3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in Public Resources Code Section 5097.98 or (2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. (A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.	Complete a Cultural Resources Records search for the project site prior to construction; monitor during construction. If resources are discovered, log and contact Lassen County.	Measure will leave the impacts as Less Than Significant.	Lassen County Department of Planning and Building Services	Prior to Construction

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Impacts	Mitigation Measures	Monitoring/ Reporting Action	Criteria Effect	Monitoring Agency	Monitor/ Reporting Schedule
	(B) The Descendant identified fails to make a recommendation; or (C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.				
Energy					
CALNEVA BESS/PSES Proposed Project Mitigation Monitoring					
No Impacts Defined	None Required	None Required	None Required	None Required	None Required
Geology, Soils, and Seismicity					
CALNEVA BESS/PSES Proposed Project Mitigation Monitoring					
No Impacts Defined	None Required	None Required	None Required	None Required	None Required
Greenhouse Gas Emissions					
CALNEVA BESS/PSES Proposed Project Mitigation Monitoring					
No Impacts Defined	No Impacts Defined	No Impacts Defined	No Impacts Defined	None Required	None Required
Hazards and Hazardous Materials					
CALNEVA BESS/PSES Proposed Project Mitigation Monitoring					

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Impacts	Mitigation Measures	Monitoring/ Reporting Action	Criteria Effect	Monitoring Agency	Monitor/ Reporting Schedule
Significant Hazard to the Public or Environment through Reasonably Foreseeable Accident	**HM-1 Contingency Plans.** Calneva BESS/PSES facility contingency plans shall be prepared to address potential contingency situations associated with the battery storage systems. These existing contingency plans include: Fire Protection Plan, Emergency Response Plan, and Hazardous Materials Business Plan. In addition, the plans will include where fire suppression material is stored on the site, how the Doyle Fire Prevention District will access the material, what the material is, and where copies of the plan are stored. All updates will occur in coordination with applicable agencies, including but not limited to the Doyle Fire Prevention District, and the Lassen County Environmental Health Department-CUPA. Contingency plans shall be stored onsite. **Plan Requirements and Timing:** Contingency plans shall be completed prior to the initiation of construction activities for the proposed battery storage system, in order to ensure that appropriate contingency plans are in place through all project phases. The Lassen County Planning and Building Services Department, or their designee, shall ensure completion of contingency plans and approval by Doyle Fire Prevention District and Lassen County Environmental Health Department-CUPA. **Monitoring:** The Doyle Fire Prevention District, or their designee, shall inspect the contingency plans on an annual basis, and following any emergency or unanticipated situation during which contingency plan procedures are required to be implemented, in order to ensure that contingency plans remain relevant and applicable to the Calneva BESS/PSES facilities and surroundings. Calneva BESS/PSES shall pay Doyle Fire Prevention District inspections fees as may be adopted by the District from time to time.	Submit Contingency Plans for approval to appropriate agencies: Fire Protection Plan Emergency Response Plan Hazardous Materials Business Plan	Measure will leave the impacts as Less Than Significant.	Lassen County Environmental Health Department-CUPA. Doyle Fire Prevention District	Prior to Commissioning/ and Operations of Facility.

MITIGATION MONITORING AND REPORTING PROGRAM

CALNEVA BATTERY ENERGY STORAGE SYSTEM/
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Impacts	Mitigation Measures	Monitoring/ Reporting Action	Criteria Effect	Monitoring Agency	Monitor/ Reporting Schedule
Hydrology and Water Quality					
CALNEVA BESS/PSES PROPOSED PROJECT MITIGATION MONITORING					
Potential of project to pollute surface water.	**WQ-1:** Calneva BESS/PSES owner and/or contractor will develop and implement an SWPPP and adopt BMPs prior to beginning construction activities.	Submit SWPPP and BMPs to Lassen County.	Measure will leave the impacts as Less than Significant.	Lassen County Department of Planning and Building Services	Design and Construction Phase
Potential of project to pollute surface water.	**WQ-2:** Spill prevention kits shall always be in close proximity when using hazardous materials (e.g. crew trucks and other appropriate locations).	Provide spill prevention kits on site and document with Lassen County.	Measure will leave the impacts as Less than Significant.	Lassen County Department of Planning and Building Services	Construction and Operational Phase.
Potential of project to pollute surface water.	**WQ-3:** For equipment that must be fueled on-site, containment shall be provided in such a manner that any accidental spill of fuel shall not be able to enter the water or contaminate sediments that may come in contact with water.	Project Manager shall insure compliance and instruct all contractors on site regarding WQ-3.	Measure will leave the impacts as Less than Significant.	Lassen County Department of Planning and Building Services	Construction and Operational Phase.
Potential of project to pollute surface water.	**WQ-4:** Calneva BESS/PSES owner, or construction contractor will prepare a pollutant control plan that specifies logistics and schedule for construction activities that will minimize the potential for erosion and standard practices that include monitoring and maintenance of control measures.	Develop a pollutant control plan that specifies the use of BMPs throughout the construction phase. Provide a weekly inspection of the BMPs to ensure they are adequately implemented throughout the duration of construction.	Measure will leave the impacts as Less than Significant.	Lassen County Department of Planning and Building Services	Construction Phase.
Land Use and Planning					
CALNEVA BESS/PSES PROPOSED PROJECT MITIGATION MONITORING					
No Impacts Defined	None Required	None Required	None Required	None Required	None Required
Mineral Resources					
CALNEVA BESS/PSES PROPOSED PROJECT MITIGATION MONITORING					
No Impacts Defined	None Required	None Required	None Required	None Required	None Required
Noise					
CALNEVA BESS/PSES PROPOSED PROJECT MITIGATION MONITORING					
No Impacts Defined	None Required	None Required	None Required	None Required	None Required

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Impacts	Mitigation Measures	Monitoring/ Reporting Action	Criteria Effect	Monitoring Agency	Monitor/ Reporting Schedule
Population and Housing					
CALNEVA BESS/PSES PROPOSED PROJECT MITIGATION MONITORING					
No Impacts Defined	None Required	None Required	None Required	None Required	None Required
Public Services					
CALNEVA BESS/PSES PROPOSED PROJECT MITIGATION MONITORING					
No Impacts Defined	None Required	None Required	None Required	None Required	None Required
Recreation					
CALNEVA BESS/PSES PROPOSED PROJECT MITIGATION MONITORING					
No Impacts Defined	None Required	None Required	None Required	None Required	None Required
Transportation/Traffic					
CALNEVA BESS/PSES PROPOSED PROJECT MITIGATION MONITORING					
Substantially increase hazards due to design or access features or constraints.	**TT-1** A traffic control plan will be developed in coordination with the Lassen County Public Works Department for any work requiring a County Encroachment Permit.	Submit Traffic Control Plan to the approval of the Lassen County Public Works/Roads Department	Measure will leave the impacts as Less Than Significant.	Lassen County Public Works/Roads Department	Construction Phase
Contribute to congestion at intersections and degrade the Level of Service.	**TT-2** Start times and end times of the construction day will be offset from identified peak traffic hours to mitigate traffic congestion on local streets and highways. Construction personnel will typically arrive at the project lease area around 6:00 AM, before the morning peak hour (7:00 AM to 8:00 AM). Construction employees will typically leave between 3:00 PM and 4:00 PM, before the evening peak hour (4:00 PM and 5:00 PM).	Provide documentation that on monthly basis construction employee's work hours begin and end prior to peak hour traffic.	Measure will leave the impacts as Less Than Significant.	Lassen County Department of Planning and Building Services	Construction Phase
Tribal Cultural Resources					
CALNEVA BESS/PSES PROPOSED PROJECT MITIGATION MONITORING					

Disturbance of Cultural or Historical Resources, Skeletal Remains	**CR-1:** In the event that unanticipated archaeological resources should be accidentally discovered during project construction, a qualified archaeologist or paleontologist will be retained for evaluation of the find. If the find is determined to be a historical or unique archaeological resource, appropriate mitigation or avoidance measures will be taken in accordance with CEQA Guidelines 15064.5(f). During mitigation of unanticipated archaeological resources, it would not be necessary for work to halt in construction areas not affected by such finds. Any historically significant cultural materials discovered during project construction will be the subject of professional scientific analysis and a report to be prepared by a qualified archaeologist. In the event that such a discovery should contain human remains, the following steps shall be taken as outlined in CEQA Guidelines 15064.5 (e)(1): (1)There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: (A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and (B) If the coroner determines the remains to be Native American: 1. The coroner shall contact the Native American Heritage Commission within 24 hours. 2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American. 3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in Public Resources Code Section 5097.98 or (2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. (A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.	Complete a Cultural Resources Records search for the project site prior to construction; monitor during construction. If resources are discovered, log and contact Lassen County.	Measure will leave the impacts as Less Than Significant.	Lassen County Department of Planning and Building Services	Prior to Construction

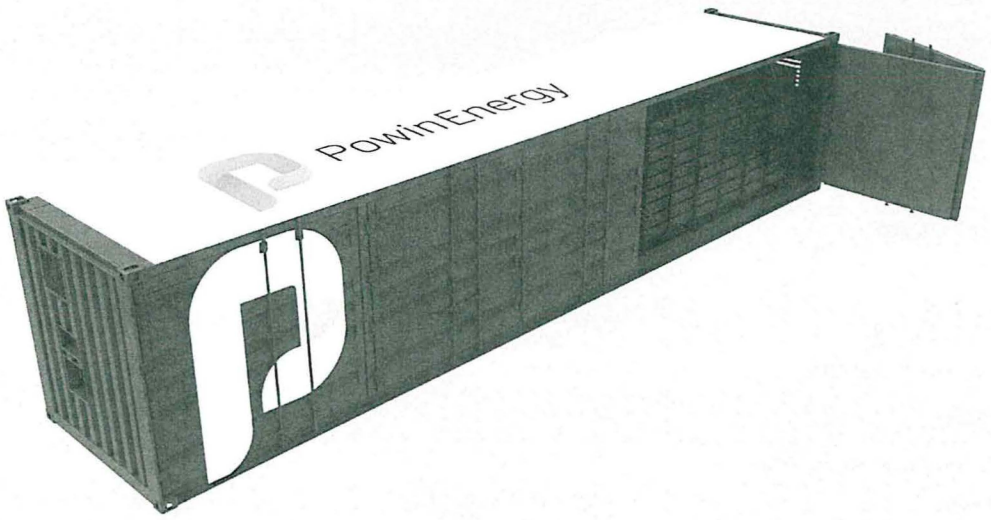
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Impacts	Mitigation Measures	Monitoring/ Reporting Action	Criteria Effect	Monitoring Agency	Monitor/ Reporting Schedule
	(B) The Descendant identified fails to make a recommendation; or (C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.				
Utilities and Service Systems					
CALNEVA BESS/PSES PROPOSED PROJECT MITIGATION MONITORING					
Impact to regional solid waste recovery processing infrastructure	Impact to regional solid waste recovery processing infrastructure	Impact to regional solid waste recovery processing infrastructure	Impact to regional solid waste recovery processing infrastructure	Impact to regional solid waste recovery processing infrastructure	Impact to regional solid waste recovery processing infrastructure
Wildfire					
CALNEVA BESS/PSES PROPOSED PROJECT MITIGATION MONITORING					
No Impacts Defined	None Required	None Required	None Required	None Required	None Required

Appendix C: BESS/PSES Equipment Specifications

BATTERY ENERGY STORAGE SYSTEM

Powin Energy



POWIN 40FT BATTERY ENCLOSURE

40FT BATTERY ENCLOSURE

Powin Energy's cost effective 40ft enclosure is a scalable, purpose-built battery solution that includes all of the balance of system (BOS) equipment that can be modified to meet the AHJ's requirements. The thermal management of this enclosure has been meticulously designed through air ducting and HVAC, providing an optimal temperature controlled environment for the battery enabling deployment in many different geographical climate types.

FULLY INTEGRATED

- Up to 16 Stack140s or 14 Stack225s per enclosure in parallel
- Powin's patented bp-OS Battery Management System
- Energy Management System (EMS)
- HVAC and forced air with ducting that directly targets the stacks
- AC breaker panel for coms and aux loads
- Fire suppression system that also provides detection and monitoring
- DC Collection, cable and tray
- IP 54 rated
- Insulation options for hot and cold climates
- Isolation, and over current and fault protection
- Minimal on site installation requirements

COMMUNICATION CABINET

- Full state of awareness monitoring for fire suppression/ HVAC/inverter and transformer status/E stop/UPS aux
- Switch
- Router
- UPS – Control
- Linux computer
- HMI
- Controls interface can connect to any SCADA system

CONTACT US powinenergy.com sales@powinenergy.com

POWIN ENERGY 40FT TECHNICAL SPECIFICATIONS

PowinEnergy

ELECTRICAL CHARACTERISTICS		
MODEL	**Block2.2**	**Block3.1**
Intended Use	Power Applications	Energy Applications
Battery Chemistry	Lithium Iron Phosphate [LFP]	Lithium Iron Phosphate [LFP]
BMS	Powin bp-OS	Powin bp-OS
Usable Energy Capacity (kWh)	2,240	3,150
Rated Power (kW)	2,240	2,800
DC Voltage Range (VDC)	762-993	739-963
Max Current [Charge / Discharge]* (A)	3,840 / 3,840	3,024 / 3,794
Depth of Discharge (%)	100	100
DC Round Trip Efficiency [2 hr rating] (%)	95	95
Performance Guarantee	80% SOH after 3,650 cycles Or after 10 yrs	80% SOH after 3,650 cycles Or 70% SOH after 15 yrs
* Lower currents available		

PHYSICAL CHARACTERISTICS		
MODEL	**Block2.2**	**Block3.1**
Weight (lbs. / kg)	72,000 / 32,659	90,000 / 40,823
Dimensions (ft.)	40' L x 8' W x 6'6" H	40' L x 8' W x 6'6" H
Enclosure Type / Rating	HIGH CUBE / IP 54	HIGH CUBE / IP 54
Ambient Temperature Range	-30 TO +50 °C	-30 TO +50 °C
Number of Stacks (fully populated)	16	14
Energy per Area (kWh / ft^2) **	7.00	9.84
Fire Suppression	StatX (aerosol)	StatX (aerosol)
Cooling	FORCED AIR & HVAC	FORCED AIR & HVAC
Codes & Standards Compliance	UL 1642, UL 1973, IEC 62619	UL 1642, UL 1973, IEC 62619
** Does not include setbacks, PCS or BOP		

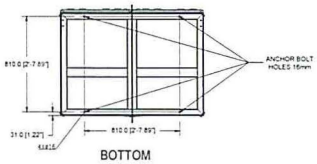
ABOUT POWIN ENERGY

Powin Energy is creating the next wave of safe and scalable battery energy storage that is purpose-built for the demands of utility-scale, commercial and industrial, and microgrid applications. With an unrivaled team of experts from across the energy industry, almost three decades of supply chain management expertise, extensive battery management software proficiency, a modular architecture, and a streamlined installation processes, Powin is making energy storage highly cost-effective and relatively pain free.

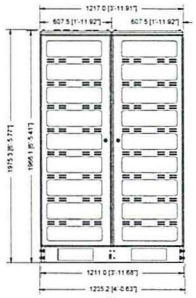
CONTACT US powinenergy.com sales@powinenergy.com

GENERAL NOTES

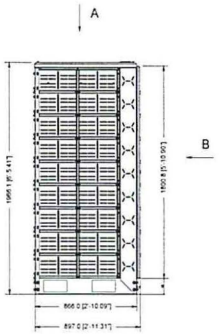
ALL UNITS - mm / [inch]



BOTTOM
VIEW C

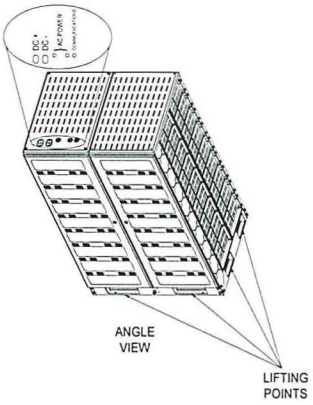


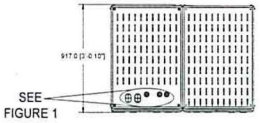
FRONT
VIEW B



SIDE
VIEW D

FIGURE 1 - CABLE ENTRY





TOP
VIEW A

GENERAL NOTES

- STACK WEIGHT IS 1700 Kg.
- MOVING OF STACK NEEDS TO BE DONE USING A FORKLIFT OR HEAVY-DUTY PALLET JACK.
- SEE POWIN ENERGY 'STACK 140 INSTALLATION MANUAL' FOR HANDLING INSTRUCTIONS.

Powin Energy		NO	DATE	REVISION	DR	BY	APVD	DESIGNED BY	DATE: 03/15/19	NOT FOR CONSTRUCTION	SHEET NO.
								REVIEWED BY	DRAWING NO.:	POWIN BESS ENCLOSURE ELECTRICAL	E.21
								APPROVED BY	PROJECT NO.:	POWIN STACK140 LAYOUT	
									REVISION NO.: A		

BIOLOGICAL RESOURCES

This section identifies existing biological resources, including any special-status species and sensitive natural communities, present or potentially present at the proposed project lease area. For biological resources, the study area includes a review of the project lease area and surrounding areas. There are no undisturbed, natural habitats in the proposed project area as defined in Sections 1702 (q) and (v) of Title 20 of the California Code of Regulations. The federal, state, and local regulations pertaining to biological resources within the region are described. This section describes impacts of the proposed Calneva BESS/PSES project on biological resources and measures to mitigate those impacts determined to be potentially significant.

Background

Regulatory Context

Federal Regulations

Federal Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (FESA) in 1973. FESA protects plants and wildlife that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Section 9 of FESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 CFR §17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land, and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of State law (16 USC §1538). Under Section 7 of FESA, federal agencies are required to consult with the USFWS and/or NMFS if their actions, including permit approvals or funding, could adversely affect an endangered plant or wildlife species or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS and/or NMFS may issue an incidental take statement allowing take of a species that is incidental to another authorized activity, provided the action would not jeopardize the continued existence of any federally listed species or result in the destruction or adverse modification of habitat of such species. Section 10 of FESA provides for issuance of incidental take permits to private parties without a federal nexus provided a habitat conservation plan is developed.

Migratory Bird Treaty Act

The federal MBTA, first enacted in 1916, prohibits any person, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatsoever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird included in the terms of this Convention . . . for the protection of migratory birds . . . or any part, nest, or egg of any such bird." (16 USC 703). As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal.

The list of migratory birds includes nearly all bird species native to the United States. The MBTA Reform Act of 2004 further defined species protected under the Act and excluded all non-native species. The statute was extended in 1974 to include parts of birds, as well as eggs and nests. Thus, it is illegal under the MBTA to directly kill, or destroy a nest of, nearly any bird species, not just endangered species. Activities that result in removal or destruction of an active nest (a nest with eggs or young being attended by one or more adults) would violate the MBTA.

State Regulations

California Environmental Quality Act

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into the regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant under CEQA such a case occurs when impacts result in an adverse alteration of existing conditions, but do not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA directs agencies to consult with the California Department of Fish and Wildlife (CDFW) on projects or actions that could affect listed species, directs the CDFW to determine whether jeopardy would occur, and allows the CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA generally parallels the main provisions of FESA, but unlike its federal counterpart, CESA applies the "take" prohibitions to species proposed for listing (called candidates by the State). "Take" is defined in Section 86 of the California Fish and Game (CFG) Code as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Section 2080 of the CFG Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. CESA allows the CDFW to authorize exceptions to the state's prohibition against take of a listed species (except for designated fully protected species) if the take of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (CFG Code § 2081).

Fully Protected Species

The State of California first began to designate species as fully protected prior to the creation of CESA and FESA. Lists of fully protected species were initially developed to provide protection to those species that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under CESA and/or FESA. The regulations that implement the Fully Protected Species Statute (CFG Code Section 4700) provide that fully protected species may not be taken or possessed at any time. Senate Bill 618, amended in 2011, allows CDFW to issue permits authorizing the incidental take of fully protected species under CESA, as long as any take authorization is issued in conjunction with the approval of a Natural Community Conservation Plan that covers the fully protected species.

California Species of Concern

In addition to formal listing under FESA and CESA, some species receive additional consideration by the CDFW and lead agencies during the CEQA process. Species that may be considered for review are included on a list of species of special concern, developed by the CDFW. The list tracks species in California whose numbers, reproductive success, or habitat may be in decline.

California Fish and Game Code

Section 3503.5 of the CFG Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto". Disturbance

activities that result in abandonment of an active bird-of-prey nest in areas adjacent to the disturbance may also be considered a violation of the CFG Code.

California Native Plant Protection Act and California Native Plant Society

The California Native Plant Protection Act of 1977 (CFG Code Sections 1900-1913) affords the California Fish and Game Commission the authority to designate native plants as endangered or rare and protects such endangered or rare plants from take. In addition, plants that are not State listed, but meet the standards for listing are also protected under CEQA (CEQA Guidelines, Section 15380). The California Native Plant Society (CNPS) maintains a list of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The definitions for each of the CNPS listings are below:

Plant Ranks
List 1A: Plants presumed extinct in California
List 1B: Plants rare, threatened, or endangered in California and elsewhere
List 2A: Plants presumed extinct in California, but more numerous elsewhere
List 2B: Plants rare, threatened, or endangered in California, but more numerous elsewhere
List 3: Plants about which we need more information — A review list

Threat Ranks
0.1: Plants are seriously endangered in California
0.2: Plants are fairly endangered in California
0.3: Plants are not very endangered in California

State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State

In accordance with the Porter-Cologne Water Quality Control Act 6 (Water Code, § 13000 et seq.), the Water Boards are authorized to regulate discharges of waste, which includes discharges of dredged or fill material, that may affect the quality of waters of the state. Waters of the state include some, but not all, features that are defined as wetlands, as well as other features, including the ocean, lakes, and rivers. These Procedures for the Discharges of Dredged or Fill Material to Waters of the State (Procedures) conform to Executive Order W-59-93, commonly referred to as California's "no net loss" policy for wetlands. In accordance with Executive Order W-59-93, the Procedures ensure that the California Water Boards' regulation of dredge or fill activities will be conducted in a manner "to ensure no overall net loss and long-term net gain in the quantity, quality, and permanence of wetlands acreage and values…"

Local Regulations

Lassen County General Plan

The Lassen County General Plan wildlife segment establishes goals and policies that aim to protect and enhance the overall health of wildlife habitats and special resource areas to maintain healthy, abundant, and diverse wildlife populations with an ecosystem approach to habitat management which also supports multiple land uses and enhances opportunities for consumptive and non-consumptive uses of wildlife resources recognizing the economic, educational, recreational, and aesthetic benefits that said uses bring to the County.

Required Permits and Approvals

No biological resources permits are required for the proposed Calneva BESS/PSES project.

Methodology

Literature Review

Prior to performing the biological field survey, documentation relevant to the proposed project lease area and surrounding area was reviewed. Special-status species lists from the USFWS (USFWS, 2020 and 2020), National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) (NMFS, 2020), and California Natural Diversity Data Base (CNDDB) (CDFW, 2020), and California Native

Plant Society (CNPS 2020) Inventory of Rare and Endangered Plants of California were referenced to compile a master list of special-status and sensitive species that could potentially occur in the project action area. Aerial photography and geographic information system (GIS) maps were then used to assess the potential for sensitive habitats in the project area. In order to encompass the full extent of the project action area, species lists were compiled for the Calneva Lake USGS 7.5-minute quadrangle. (See Appendix J: Biological Assessment for More Details)

Special-status species that were considered include all federally listed threatened and endangered species, candidates for listing, species proposed for listing, species delisted within the last five years, and species of concern (NMFS). No federally listed, federal candidate, or state-listed plant species occurs in the project lease area or action area. A special-status species was considered a potential inhabitant of the project lease area or action area if its known geographical distribution encompassed any of the Calneva Lake quad and its general habitat requirements (e.g., roosting, nesting, or foraging habitat; specific soil type; permanent water source) were present. A list of special-status species with the potential to occur was compiled, and the habitat requirements of each species were considered during reconnaissance field surveys and habitat assessments. The list of special-status plant species will be utilized to organize and implement blooming focused surveys in the 2021 blooming season. Figure 6.4-1 California Natural Diversity Data Map, show the locations of CNDDB records near the project lease area or action area. See Table 3 Appendix J: Biological Assessment, for the complete lists the special-status species identified in the literature review, their listing status, habitat association, and potential to occur in the project lease area or action area.

Consultation

Donna Cobb of CDFW responded to a Lassen County request for early consultation for a California Environmental Quality Act (CEQA) Initial Study #2020-004 and Use Permit #2020-004 (Hooper) Assessor's Parcel Numbers 137-170-12 and 137-170-13, State Clearinghouse Number 2020100366 concerning biological resources and potential impacts for the Calneva BESS/PSES project action area. The letter included a list of species of primary concern to the CDFW, and other projects in the area that may potentially affect species or habitat under their jurisdiction (see Appendix J: Biological Assessment, Attachment B: November 13, 2020 CDFW Response Letter for a copy of the letter). Sierra staff discussed with Amy Henderson, of the CDFW on Monday February 1, 2021 regarding the project and concerns of the CDFW in detail and the second comment letter dated December 22, 2020 (See Appendix J: Biological Assessment, Attachment B: December 22, 2020 CDFW Comment Letter). At that meeting on February 1, 2021 clarifications were made regarding focused blooming surveys and requests from CDFW regarding edits and review of the Administrative Draft IS/MND Biological Section for IS#2020-004 and UP#20200004 – HOOPER CDFW Letter dated December 22, 2020. Sierra staff had another follow up call with Amy Henderson on February 9, 2021 regarding special-status species potential to exist in the project action area, critical habitat designations, and sensitive natural communities.

Field Survey

Preliminary site visits to the project area were conducted to identify sensitive resources in proximity to the project and consisted primarily of visually canvasing the vicinity from the vantage of all accessible roads adjacent to the project lease area or action area. After initial site visits, biological reconnaissance surveys were conducted on the project lease area in September 2019, December 2019, and February 2021 by Sierra staff who walked the project lease area on 50 foot transects.

Three reconnaissance biological field surveys of the Project site, including a general site survey, a species inventory, and a directed survey for sensitive plants and animals, was completed by Sierra staff (Greg Matuzak, Matthew Chansler, Brent Moore, CEP) on September 26, 2019, December 20, 2019, and February 26, 2021. All surveys were conducted between the hours of approximately 9:00 am till 3:00 pm. Weather conditions during the surveys were conducive to biological field work, with clear skies, high temperatures for the day in the lower 60's and no significant wind. The December field survey had a few short rain events during the visit.

The entirety of the project lease area was meticulously canvased, and all plants, animals, and habitats were noted and identified in the field. Because of the season of the surveys and the methods used (visual and

auditory identifications only), some of the plants and many of the cryptic or migratory animals, which might have been observed at other times or by using other techniques, were not detected. Animal activity was moderate, although some of the animal detections were based on characteristic signs of inhabitance, rather than a visual sighting of the specimens themselves.

To accurately determine whether special-status plants identified by USFWS and CDFW above actually occur on the Proposed Project Area, presence/absence surveys were conducted during the appropriate blooming periods for each special-status plant species. The methodology used for performing focused surveys followed the California Department of Fish and Wildlife's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*, dated March 20, 2018, and the CNPS revised June 2, 200,1 *Policy on Botanical Survey Guidelines of the California Native Plant Society (*Guidelines*)*. These Guidelines were utilized to implement the proper methods for performing plant surveys, considering the environmental impacts that may occur as a result of new Calneva BESS/PSES development, and developing the type of mitigation necessary to reduce project-related impacts to special-status plants. Final Report is attached as Attachment C: Special Status Plant Survey Report, to the Biological Assessment which was conducted in February 2021 and updated after the Special Status Plant Surveys in May 2021.

Two qualified botanists performed the presence/absence surveys on April 22, April 30, May 4, and May 15, 2021. The surveys were conducted during April and May and consisted of eight (8) person days of surveys, or approximately eighty (80) person-hours. Surveys were conducted during the peak blooming periods for special status species determined to have potential to occur in the Proposed Project Area. Surveys were floristic in nature. All plants observed were identified using The Jepson Manual (Hickman 1993) to the taxonomic level necessary to determine whether they were rare. The rare plant surveys were preceded by habitat mapping field studies in September 2019, December 2019, and February 2021, which covered the entire Proposed Project Area (see Biological Resources Assessment Report, Sierra Geotech, February 2021). This prior work allowed Sierra Geotech to identify habitats with potential to support the rare plant species which is where the focused surveys occurred in detail.

The botanists walked the extent of each plant community and habitat that was determined to be suitable for supporting the special-status plant species identified by USFW and CDFW, "*Special-Status Plant Species with potential to occur on the Calneva BESS/PSES Proposed Project Area on CNDDB and CNPS Database Search Results*" above**.** The entire Proposed Project Area was walked with transects no more than 20 feet apart. Sierra Geotech botanists collected plant specimens of all species documented in the Proposed Project Area for identification.

Environmental Setting

Flora and Fauna

The flora and fauna identified during the surveys is typical of the Basin and Range and Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California: 36120 Desert Sink Scrub and 11300 Disturbed Habitat; or the CDFW California Wildlife Habitat Relationship System for Alkali Desert Scrub. All the plants and animals associated with the project lease area are locally common, although one watch list status bird (Prairie falcon) was observed flying south of the project lease area during February 26, 2021 survey. Seven species of plants and six species of animals were detected during the field surveys of the project lease area. The plants observed are expected to represent at least 90-95 percent of the naturalized species occurring on the project lease area. The animals observed likely represent only about 25-50 percent of the total site fauna, as most of the animals (particularly invertebrates and nocturnal or burrowing species) are cryptic and difficult to detect.

Approximately 53% or 148 +/- acres of the project lease area is comprised of Alkali basins/flats/playas which are barren and lack any vegetation. Approximately 18% or 50 +/- acres of the project lease area is characterized as disturbed habitat. The disturbed habitat consists mostly of bare dirt and is associated with access roads, natural gas pipelines, and the railroad. The remaining areas of the project lease area which represents approximately 29% or 80 +/- acres is associated with the plant community known as Desert Sink Scrub which can support limited plant life. (See Appendix J: Biological Assessment, Figure 3: Habitat Characterization Map)

Flora
The following plant species were observed on the focused special status plant surveys between the Alkali basins/flats/playas on slightly raised ground associated with the Desert Sink Scrub plant community. Percent estimates represent land area covered by each taxon, not quantity of individuals. Finally, estimates were made given current dry climate conditions; precipitation would increase the percent cover of fast-growing annual species such as downy brome, clasping pepperweed, and prickly Russian thistle.

- **Big sagebrush (*Artemisia tridentata*).** was most abundant in the southern portion of the Project Lease Site and comprised approximately 20% of the plant community.
- **Bud sagebrush (*Artemisia spinescens*).** was abundant and comprised approximately 15% of the plant community.
- **Shadscale saltbush (*Atriplex confertifolia*).** was very abundant and comprised approximately 20% of the plant community.
- **Downy brome (*Bromus tectorum*)** was observed at low density as dry culms throughout the Project Lease Site.
- **Great basin wild rye (Elymus cinereus)** was locally observed along a road within the Project Lease Site and comprised approximately 2% of the plant community.
- **Spiny hopsage (*Grayia spinosa*)** was uncommon and comprised approximately 5% of the plant community.
- **Prickly Russian thistle (*Kali tragus*)** was observed in the most disturbed places and comprised approximately 3% of the plant community.
- **Clasping pepperweed (Lepidium perfoliatum)** was observed at low density as dry stems throughout the Project Lease Site.
- **Black greasewood (Sarcobatus vermiculatus)** was very abundant and comprised approximately 25% of the plant community.
- **Littleleaf horsebrush (*Tetradymia glabrata*)** Littleleaf horsebrush was locally abundant and comprised approximately 10% of the plant community.

Almost no understory of vegetation was found within the Desert sink scrub plant community within the project lease area.

Fauna
The following species were observed on or just nearby the project lease area.

Loggerhead Shrike (Lanius ludovicianus)
The loggerhead shrike is a medium-sized songbird found throughout North America. They are most often seen perched on overhead wires, barbed-wire fences, and isolated shrubs along pastures, grasslands, and agricultural fields. Loggerhead shrikes occur in open landscapes characterized by widely spaced shrubs and low trees within a variety of plant associations, including arid shrublands, grasslands, savannahs, pasturelands, and farmlands. Trees and shrubs used for nesting generally share common characteristics of having dense foliage and can be bushy and thorny. Shrikes are unique among songbirds in that they prey upon large insects, small birds, amphibians, reptiles, and small rodents. Shrikes hunt from perches often returning to these perches to impale their prey on barbed wire and thorns. Shrikes use open habitats for foraging during both breeding and non-breeding seasons (Pruitt 2000; Humple 2008).

During the field surveys, loggerhead shrikes were more common on the northern portion of the project lease area north of the Union Pacific railroad tracks. During the most recent field survey February 26, 2021, a total of 8 loggerhead shrikes were observed. One nest was observed on the northwest corner of the project lease area; however, it was believed to be inactive.

Pronghorn Antelope (Antilocapra americana)
The most noticeable characteristic of pronghorn is also the source of their common name. Both males and females have a pair of short horns on the top of the head. The female's horns are small, usually only a bump. In contrast, the males' horns are around 10 to 12 inches long. They also have a unique shape,

because unlike other ungulates, a pronghorn's horns point backward. The horns extend straight up and then curve toward the rump. At the front of the horn is a small notch or prong that points forward, hence the animal's name. Pronghorns have large eyes and fantastic vision. Pronghorns are about 4.5 feet long, three feet tall, and weigh between 90 and 150 pounds. Females tend to weigh less than the males.

During the February 26, 2021 field survey, a herd of approximately 18 pronghorns migrated through the area, immediately south (approximately ½ mile) of the project lease area.

Prairie falcon (Falco mexicanus)
The prairie falcon (Falco mexicanus) is a medium-large sized falcon of western North America. It is about the size of a peregrine falcon or a crow, with an average length of 40 cm (16 in), wingspan of approximately 1 meter (40 in), and average weight of 720 g (1.6 lb). the prairie falcon eats mostly small mammals, some small birds, and reptiles. The prairie falcon catches prey in air and on ground in open areas. Usually nests in a scrape on a sheltered ledge of a cliff overlooking a large, open area. Sometimes nests on old raven or eagle stick nest on cliff, bluff, or rock outcrop. Aerial courtship display occurs near nest site. Southeast-facing nest site apparently preferred, but height and orientation secondary to nature and character of the ledge.

During the field survey on February 26, 2021 a prairie falcon was observed south of the project lease area approximately four (4) miles south in a flight mode of approximately 100 feet above the ground hunting. The project lease area does not provide adequate habitat for breeding. Project lease area could provide foraging habitat. Project area is yearlong range for the prairie falcon.

Black-tailed Jack Rabbit (Genus Lepus)
The black-tailed jack rabbit is 18 to 25 inches long and is colored buff peppered with black above, and white below. The tail has a black stripe above. The ears are long and brown with black tips. The antelope jack is approximately the same size, but colored gray above with the lower sides mostly white. The face, throat and ears are brownish, but there is no black tip on the ears. The black-tailed jack is by far the most common and is found all over California except in the mountainous areas at elevations above 12,000 feet.

During all three field surveys black-tailed jack rabbits were seen on each visit. Sierra staff observed between 1 and 3 jacks on each survey.

Wild Horse (Equus ferus)
Most wild horses living today are descendants of animals that were released or escaped from Spanish explorers, ranchers, miners, the U.S. Cavalry and Native Americans. These feral horses are untamed members of the domestic horse subspecies (*Equus ferus caballus*), not to be confused with the truly "wild" horse subspecies extant into modern times. Wild horses are diverse in their coloring, ranging from solid brown and black to colorful pintos and palominos. Most wild horses stand 13 to 15 hands high (52-60 inches) and weigh from 700 to 1,000 pounds.

The Bureau of Land Management manages and protects wild horses and burros on 26.9 million acres of public lands across 10 Western states as part of its mission to administer public lands for a variety of uses. The Wild Horse and Burro Program's goal is to manage healthy wild horses and burros on healthy public rangelands. Broadly, the law declares wild horses and burros to be "living symbols of the historic and pioneer spirit of the West" and stipulates that the BLM and the U.S. Forest Service have the responsibility to manage and protect herds in their respective jurisdictions within areas where wild horses and burros were found roaming in 1971.

During the February 26, 2021 field survey, a herd of approximately 30 wild horses were observed migrating from east to west approximately 1 mile southeast of the project lease area along the California/Nevada border.

Abandoned Burrows

The project lease area is suitable habitat for American badger which could occur within the project lease area; however, no burrows or dens of suitable size for American badger were observed during field surveys conducted by Sierra staff with the September 2019, January 2020, or February 2021 surveys.

Special-status Species

Special status species are plant and animal groups with regulatory protection under either the federal Endangered Species Act, or the endangered species program of the CDFW. Sierra staff searched the CDFW's Natural Diversity Data Base (CNDDB) for occurrences of rare, threatened, endangered, and/or sensitive animals, plants, and natural communities. The search was conducted for the proposed project area and surrounding area within the USGS's 7.5-minute Calneva Lake quadrangle. Sierra also consulted with CDFW concerning special-status species and received a letter with the CDFW's search results.

Vegetation communities (habitats) are generally considered "sensitive" if they; *(a)* are recognized by the CDFW or U.S. Fish and Wildlife Service as being locally depleted; *(b)* are considered rare within the region by local experts, *(c)* are known to support sensitive animal or plant species, including Listed Species; and/or *(d)* they are known to serve as important wildlife corridors. These sensitive habitats are typically depleted throughout their known ranges or are localized and/or highly fragmented.

The vegetation on the project lease area is not sensitive and is not considered a significant biological resource for analysis purposes.

Special-status Plant Species

Suitable habitat exists on the Proposed Project Area for the following nine (9) special-status plant species known to occur in the vicinity: Geyer's milk-vetch (*Astragalus geyeri Gray var. geyeri*), Dugway wild buckwheat (*Eriogonum nutans var. nutans*), sagebrush Loeflingia (*Loeflingia squarrosa var. artemisiarum*), intermontane lupine (*Lupinus pusillus var. intermontanus*), lance-leaved scurf pea (*Ladeania lanceolata*), winged dock (*Rumex venosus*), currant-leaved desert mallow (*Sphaeralcea grossulariifolia ssp. grossulariifolia*), many-flowered Thelypodium (*Thelypodium milleflorum*), and Nelson's evening primrose (*Eremothera minor*). These plant species were not observed on the Proposed Project Area during the focused surveys (April 22, April 30, May 4, and May 15); nor were any other special- status plant species.

California Department of Fish and Wildlife (CDFW) requested that the following eight (8) species be targeted during the special status plant surveys since they have been identified within a twelve (12) mile radius of the Proposed Project Area, despite no suitable habitat to support the following special-status plant species being present on the Proposed Project Area: Cruciform evening-primrose (*Camissonia claviformis ssp. cruciformis*), Hillman's Cleomella (*Cleomella hillmanii*), Bailey's Ivesia (*Ivesia baileyi var. baileyi*), ochre-flowered buckwheat (*Eriogonum ochrocephalum*), MacDougal's Lomatium (*Lomatium foeniculaceum var.*), Paiute Lomatium (*Lomatium ravenii*), western seablite (*Suaeda occidentalis Wats*), Kellogg's sand verbena (*Tripterocalyx crux-maltae*), and. These plant species were not observed on the Proposed Project Area during the focused surveys (April 22, April 30, May 4, and May 15); nor were any other special- status plant species.

Focused surveys for special-status plant species were conducted on the Calneva BESS/PSES Proposed Project Area. Two qualified botanists performed the presence/absence surveys on April 22, April 30, May 4, and May 15, 2021. The surveys were conducted during April and May and consisted of eight (8) person days of surveys, or approximately eighty (80) person-hours. Surveys were conducted during the peak blooming periods for special status species determined to have potential to occur in the Proposed Project Area. Surveys were floristic in nature. No special status plant species were observed within the Proposed Project Area.

No special-status plant species were observed on the Proposed Project Area. Since both 2021 presence/absence plant surveys were performed during the appropriate blooming period for all of the potentially occurring special-status plant species known to occur in the region (within twelve (12) miles of the Proposed Project Area), and because the extent of the site was traversed by foot in appropriate habitats for supporting special-status plant species; and the site was geotagged with digital /images of the plant life

on site; and plant specimens collected for identification; no special-status plant species are expected to occur on the Proposed Project Area.

Table 6.4-1: Determinations for Federal, State, Listed Species or Special Status Species and Critical Habitat with Potential to Occur in Project Action Area

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
Geyer's milkvetch	*Astragalus geyeri var. geyeri*	An annual that blooms from May to August and is typically found on sandy flats, depressions within stabilized or mobile dunes, margins of alkaline sandy playas, and in sandy bottomed gullies. It is common in the northwestern section of the Great Basin of Nevada and there is potential habitat within the Proposed Project as Lassen County represents the western most extension of this species.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Cruciform evening-primrose	*Camissonia claviformis* ssp. *cruciformis*	An annual that blooms from May to July and grows in sandy or rocky slopes or washes in the Modoc Plateau. Known sites are north of the Proposed Project.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Dugway wild buckwheat	*Eriogonum nutans* var. *n*utans	An annual that blooms from May to September and grows in sand or gravel flats and slopes. It is known to occur in the northeastern part of Lassen County. No known occurrences in southeastern parts of Lassen County.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Bailey's ivesia	*Ivesia baileyi* var. *baileyi*	A perennial that blooms from May to August and is found in volcanic crevices. There is no potential habitat for this	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
		species within the Proposed Project.		endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Sagebrush loeflingia	*Loeflingia squarrosa* var. *artemisiarum*	An annual that blooms from April through May and is found on sandy, gravelly areas of sand dunes and sand flats in sagebrush scrub.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
MacDougal's lomatium	*Lomatium foeniculaceum* var. *macdougalii*	A perennial that blooms from April to July and is found in rocky clayey soils in sagebrush communities typical of the Proposed Project.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Intermontane lupine	*Lupinus pusillus* var. *intermontanus*	An annual that blooms from May to June in open sandy areas.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Lance-leaved scurf-pea	*Psoralidium lanceolatum*	A perennial that blooms from April to August in sandy soils with a preference for disturbed soils.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
				blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Winged dock	*Rumex venosus*	A perennial that blooms in May and June in dry, sandy soils, preferably in disturbed areas. In California it is found only in the Honey Lake valley.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Currant-leaved desert mallow	*Sphaeralcea grossulariifolia* ssp. *grossularifolia*	A perennial found in dry alkaline or volcanic soils. Known populations are north and northeast of the project area.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Western seablite	*Suaeda occidentalis*	An annual that blooms from July to September in dry, saline, or alkaline wetland soils. This species may occur regionally bur are associated with habitat not present within the project lease area.	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Many-flowered thelypodium	*Thelypodium milleflorum*	A perennial that blooms April to June in sandy soils.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
				August will ensure any potential impacts will be mitigated to less than significant.
Hillman's cleomella	*Cleomella hillmanii*	An annual that blooms from April to June in clay soils within the Chenopod scrub habitat community	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Kellogg's sand verbena	*Tripterocalyx crux-maltae*	A perennial that blooms May to July in partially or fully stabilized sand dunes.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Nelson's evening primrose	*Eremothera minor*	An annual that blooms from April to July in the Chenopod scrub habitat	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Ochre-flowered buckwheat	*Eriogonum ochrocephalum*	A perennial that blooms May to June in volcanic or clay soils.	2.2	The proposed project may affect but is not likely to adversely affect the CNPS listed fairly endangered in California. Focused blooming surveys between May and August will ensure any potential impacts

Common Name	Scientific Name	Description of Habitat Type	CNPS/CDFW Status	Project Effect
				will be mitigated to less than significant.
Paiute lomatium	*Lomatium ravenii*	A perennial that blooms April to June in rocky, gravely, volcanic with underlying clay soils	2.3	The proposed project may affect but is not likely to adversely affect the CNPS listed not very endangered in California. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
American badger	*Taxidea taxus*	Badger has been known to occur in the western portions of the Basin and Range. CNDDB reported badger burrow in the vicinity.	Special Status Species	The proposed project may affect but is not likely to adversely affect the special status species American badger. Burrow survey was conducted in April and May of 2021 and no active burrows were found on project site.
Long-eared Owl	*Asio otus*	Project site does not provide adequate habitat for breeding. Project could provide foraging habitat.	Special Status Species	The proposed project may affect but is not likely to adversely affect the special status species Long-eared Owl.
prairie falcon	*Falco mexicanus*	Project site does not provide adequate habitat for breeding. Project could provide foraging habitat. Project area is yearlong range.	Watch List	The proposed project may affect but is not likely to adversely affect the watch list species prairie falcon.

Note:
CNPS Listing Definitions:
1A = Presumed extinct in California.
1B = Rare, threatened, or endangered in California and elsewhere.
2 = Rare in California but more common elsewhere.
2.1 = Seriously endangered in California
2.2 = Fairly endangered in California
2.3 = Not very endangered in California

Adhering to the mitigation measures outlined below will ensure that the proposed Calneva BESS/PSES project would have less than significant impact on special-status plant species.

Special-status Wildlife Species

While no federally listed endangered or threatened wildlife species were identified within 5 miles of the project lease area or action area, two (2) special-status wildlife species (or distinct populations of species) were found in record searches (refer to Appendix J: Biological Assessment, Table 3) which included the American badger (*Taxidea taxus)* and the Long-eared Owl (*Asio otus).* One (1) watch list wildlife species was found in the record searches for the project lease area or action area known as the prairie falcon (*Falco mexicanus)*. The prairie falcon is also protected by the Migratory Bird Treaty Act (MBTA). Adhering to the mitigation measures outlined below will ensure that the proposed Calneva BESS/PSES project would have a less than significant impact on special-status wildlife species.

Figure 6.4-1: California Natural Diversity Data Base Map

Wetlands and Jurisdictional Waters

Wetlands are lands that may be covered periodically, or permanently, with shallow water, and which include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, fens, and vernal pools. A search of the United States Fish and Wildlife Service's (USFWS) National Wetlands Inventory Map indicates the presence of previously classified wetlands in the project lease area identified as Palustrine, Unconsolidated Shore, Temporarily Flooded (PUSA). The PUSA mapped on the project lease area are alkali basins/flats/playas or interconnected basins. See Figure 6.4-3: National Wetlands Inventory Map.

Alkali Basins Flats or Playas – Interconnected Basins

The Desert sink scrub areas within the project lease area, borders on shallow, alkali basins/flats/playas where water has been known to collect intermittently. All the alkali basins/flats/playas within the project lease area are barren and unvegetated, they occur within a matrix of low mounds that support Desert sink scrub plant community. Therefore, these features alkali basins/flats/playas have been categorized on the project site as Desert sink scrub plant community underlain by Epot Soil series very-fine sandy loam and are alkali lacustrine soils. Water has been observed to puddle (reconnaissance survey January 2020) in the alkali basins/flats/playa areas of the project lease area. However, puddling is sporadic and unpredictable from one year to the next. The alkali basins/flats/playas on the lease area do not qualify as jurisdictional wetlands because of the lack of hydrophytic vegetation and lack of wetland hydrology and hydric soils. Wetland hydrology is not present due to low average annual precipitation and low frequency of rainfall during the growing season, and the alkali basins/flats/playas abilities to dry rapidly following a rainfall event. Alkali basins/flats/playas were included in the National Wetland Inventory in the past as potentially jurisdictional non-wetland waters of the United States based on the presence of visible ordinary high-water marks around the margins in the form of drift lines, and dramatic changes in vegetation in the past. (See Figure 6.4-3: National Wetlands Inventory Map.)

Figure 6.4-2: Typical Alkali Basin/Flat/Playa on Project Lease Area



Waters of the United States

A search of the United States Fish and Wildlife Service's (USFWS) National Wetlands Inventory Map indicates the presence of previously classified wetlands in the project vicinity. These maps indicate that the project area has historically been subject to seasonal, unconsolidated Palustrine wetlands, commonly referred to as alkali flats or playas. USFWS documents the characteristic vegetation and physiographic features as "salt". Additionally, Calneva lake, just north of the project lease area is identified as unconsolidated, seasonal Lacustrine feature with documented vegetation and physiographic features limited to "sand". However, the current guidelines of EPA and Department of the Army, on the Navigable Waters Protection Rule, officially redefined the criteria by which the waters of the United States are classified and establish federal regulatory authority under the Clean Water Act. Under this adopted rule four clear categories of waters are federally regulated:

1) The territorial seas and traditional navigable waters,
2) Perennial and intermittent tributaries to those waters,
3) Certain lakes, ponds, and impoundments, and
4) Wetlands adjacent to jurisdictional waters

Under this framework, the historically recognized wetland features shown in the existing mapping within the project lease area no longer benefit from federal protection as they are not adjacent to anybody of jurisdictional water.

Waters of the State

The California State Water Resources Control Board (CSWRCB) has issued guidance for wetland protections at the state level in the form of the *2020 State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* which defines an area as a wetland if, under normal circumstances:

1) The area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;
2) The duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and
3) The area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The proposed project lease area fails to meet any of these conditions outlined above and is therefore not recognized as wetland by current state or federal policy, despite USFW's documentation of historical alkali flats in the region. On site reconnaissance (December 2019 and February 2021) surveys during the wet season demonstrate the alkali basins/flats/playas do not qualify as wetlands (Do Not Retain Water during Rain Events), according to the current adopted criteria at both the federal and state level.

No Wetlands On the Proposed Project Site

In order to meet the Wetland criteria established by the State and the Federal Governments the water which is the basis of the wetland must be "continuous or recurrent" and sufficient to saturate the soil. A consultation of the dictionary confirms that for something to be "recurrent" it must occur at regular intervals, a detail which the federal wetland registry explicitly discounts in the case of the Alkali flats present on the proposed project site.

Sierra Geotech submitted to Lassen County in June of 2020 a soils survey and geotechnical report dated April 8, 2020, with boring logs, and laboratory testing results which analyzes the soils of the proposed project site. This soil report documents that the project site soils do not meet the first criteria of the California State Water Resources Control Board definition of a wetland. "(1) The site is underlain by silty to clean sands with interbedded layers of clayey sands, sandy clays and sandy silts to the maximum depth explored (24.5 feet below the ground surface). The near-surface soils are loose to medium dense and consist predominately of cohesionless sand. The entire proposed project site is made up of Epot-Ragtown Playas complex soils which are a well-drained class of soil with a very high runoff characteristic and saline within 40 inches of the surface. This soil is incapable of continuous or recurrent saturation of the upper substrate caused by groundwater.

The California State Water Resources Control Board first criteria of a wetland requires either groundwater or shallow surface water. Sierra Geotech borings documented groundwater was not encountered at any of the test locations (termination depth of 24.5 feet) within the proposed project site. Groundwater contour data from California Department of Water Resources (DWR) Groundwater Information Center GIS database was researched but no data was available for the proposed project site. While groundwater was not encountered during Sierra Geotech's exploration it is estimated based on publicly available information that the ground water ranges in depths from 30 feet to greater than 60 feet below the ground surface.

According to the California Department of Water Resources online GIS tool available at wdl.water.ca.gov, there are two (2) monitoring wells within the vicinity of the proposed project site. The recent groundwater level data and historical groundwater level data indicate the depth to ground water level as being steady throughout the year at approximately 30 feet below the existing ground surface (bgs). The monitoring wells IDs are 401555N1200189W001 and 401412N1200073W001. All this information and soil analysis documenting the absence of hydric soils that are saturated, flooded, or ponding long enough during the growing season to develop anaerobic conditions that supports the growth and regeneration of hydrophytic vegetation has been provided in the Initial Study and as an appendix to the Initial Study to Lassen County in June of 2020.

The second criteria of the California State Water Resources Control Board definition of a wetland states: *"(2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate".* There is no data available that establishes the proposed project site soils have anaerobic conditions in the upper substrate. The depletion of oxygen by soil microbes and the resulting anaerobiosis (without molecular oxygen or O2) promotes certain biogeochemical processes, such as the accumulation of organic matter and the reduction, translocation, or accumulation of iron and other reducible elements. These processes result in distinctive characteristics that persist in the soil during both wet and dry periods, making them particularly useful for identifying anaerobic conditions in the upper substrate of soils in the field (USDA Natural Resources Conservation Service 2006b).

Cracked soil throughout the proposed project site is present. The cause for cracking in the soils at the proposed project site is salinization, which is the precipitation of salts in the project site soils and is found mostly in desert soils such as the Epot-Ragtown Playas complex soils of the proposed project site. The most common salts are halite and gypsum, which can form either as clear crystals within soil cracks or as sand crystals that engulf the pre-existing soil matrix. Salts are easily dissolved by rain and so accumulate in regions where there is a marked excess of evaporation over precipitation such as in the Honey Lake Valley where the project site is located. There is a strong relationship between mean annual precipitation and the depth of leaching of salts in soils and appearance of cracks in the soil. Salinized soils are sparsely vegetated or lack vegetation.

The last and third criteria used by the California State Water Resources Control Board definition of a wetland states "*and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation*." The CDFW commentator assuming his cracked soil photo analysis was accurate concerning wetlands also jumped to the conclusion that lack of vegetation was also caused by saturated soil conditions associated with wetlands. Thus, the project soils by evidence of soil samples, and observations do not meet any of the three criteria established as the definition of wetland by the California State Water Resources Control Board.

Use of the California State Water Resources Control Board technical definition for wetland identification and delineation requires careful consideration of hydrology, substrate, and vegetation in every case and as provided by Sierra Geotech in the CEQA Initial Study and Technical Appendices to the Initial Study. In cases where the hydrology and substrate criteria are present, but vegetation is absent, an analysis must be conducted to determine if that absence is a natural consequence of the hydrologic and substrate conditions, and if it is not, if the expected vegetation would be predominately hydrophytic or not.
The proposed project description, construction and operational characteristics descriptions, and analysis of how the project components will interreact with the alkali flats clearly makes the findings that impacts to the alkali flats will only be temporary.

Figure 6.4-3: USFWS National Wetlands Inventory Map

Natural Areas

Natural areas include officially designated wilderness areas, wildlife preserves, sanctuaries, and refuges, wild and scenic rivers, national parks, forests, monuments, wildlife sanctuaries, preserves, refuges, and federal wilderness areas. Based on an electronic search of federal data from the Bureau of Land Management, National Park Service, National Forest Service, and Fish and Wildlife Service, CDFW no officially designated natural areas exist on or within one (1) mile of the proposed project lease area. CDFW manages the Doyle Wildlife Area which is located approximately three (3) miles south of the proposed project lease area and includes some 10,400 acres of foothills and alluvial terraces. The habitats present in the Doyle Wildlife Area include Great basin shrub types, with riparian habitat along Long Valley Creek. Common plant species includes bitterbrush, curl-leaf mountain mahogany, big sage, and California juniper. Many of these plant species are important in the diet of the local deer and pronghorn populations. Wildlife includes waterfowl, bobcats, coyotes, badgers, and various raptor species.

Standards of Significance

Under CEQA, an impact to biological resources is considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the CDFW or USFWS;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources such as a tree preservation policy or ordinance; and/or

- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan.

In the evaluation process, it is noted that *Section 15380* of the *CEQA Guidelines* defines endangered, rare, or threatened species as follows:

> *1)"Endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, over-exploitation, predation, competition, disease, or other factors; or*
>
> *2)"Rare" (all animals designated as rare by the Fish and Game Commission prior to January 1, 1985 were automatically reclassified as threatened by Fish and Game Code Sec. 2067) when either:*
>
> > *(a)Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or*
> >
> > *(b)The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the Federal Endangered Species Act.*

(c)A species of animal or plant shall be presumed to be endangered, rare, or threatened, if it is listed in:

(1) Sections 670.2 or 670.5, Title 14, California Administrative Code of Regulations; or

(2) Title 50, Code of Federal Regulations Sections 17.11 or 17.2 pursuant to the Federal Endangered Species Act as rare, threatened, or endangered.

(d)A species not included in any listing identified in subsection (c) shall nevertheless be considered to be rare or endangered if the species can be shown to meet the criteria in subsection (b).

(e)This definition shall not include any species of the Class Insecta, which is a pest whose protection under the provisions of CEQA would present an overwhelming and overriding task to man as determined by:

(1) The Director of Food and Agriculture with regard to economic pests; or
(2) The Director of Health Services with regard to health risks.

Impacts and Mitigation Measures

Based on site observations conducted on September 26, 2019, December 20, 2019 and February 26, 2021, the proposed project area for the Calneva BESS/PSES facility consists of alkali basins/flats/playa barren and void of all vegetation with shrub vegetation (Holland's 36120 Desert Sink Scrub Plant Community) interspersed; the proposed project lease area or action area does not contain any wetland or riparian areas under federal or state regulatory jurisdiction; and favorable conditions for nesting birds, badger burrows, or other specific features which might foster a favorable habitat for special status species recognized in the area were not observed. The proposed Calneva BESS/PSES project will not have any significant impacts to biological resources or special status species with mitigations measures BIO 1 through BIO 25 outlined above. Although no evidence was observed to indicate the active presence of special-status species within the project lease area, the following mitigation measures will ensure that conservation guidelines stipulated by public policy shall be implemented to mitigate for any project-related potential impacts. (See Appendix J: Biological Assessment for full discussion of impact avoidance and minimization recommendations)

The following mitigation measures will be implemented by Calneva BESS/PSES to avoid or minimize the potential impacts to biological resources that may result from project construction, operation, and maintenance. These mitigation measures have been grouped into two categories: general measures and species or habitat-specific measures.

General mitigation measures apply to the entire project, and are organized into preconstruction, during construction, and postconstruction measures. General mitigation measures include worker education training, erosion control, ROW restoration, and seasonal construction-timing restrictions.

Specific measures include those that will be implemented for specific species or habitat types, and detail procedures that will be utilized such as special plant species-blooming focus surveys prior to construction, migratory and nesting bird surveys and monitoring, and special status species avoidance and minimization measures.

General Preconstruction

BIO 1: Project Maps: Detailed construction maps showing location of sensitive environmental resources, construction sites and related features, environmental protection measures, and access routes will be provided to construction supervisors, and will be available to the construction crew members and environmental monitors prior to during construction activities.

BIO 2: Worker Training: Calneva BESS/PSES contractor will provide a qualified biologist(s) to conduct environmental compliance training, including an endangered species/sensitive habitat education program for construction crews prior to the commencement of the project and during construction activities. Additional "tailgate" training will be conducted for new construction personnel as needed during construction. Sessions will include discussions of regulatory requirements, including the federal and California Endangered Species Acts, the CWA, California Department of Fish and Wildlife's (CDFW) Fish and Game Code, and consequences of noncompliance with these acts and requirements. Training will also include identification of special-status species that are likely to occur in the project area and discussion of the values of sensitive habitats. Training will also brief construction crews on the blooming focus surveys results concerning special status plant species for the project lease area and the findings and mitigation requirements.

BIO 3: Educational Brochure: As part of construction training, Calneva BESS/PSES will produce an educational brochure for crews working on the project. Color photos of threatened and endangered species, likely to occur in the area will be included, as well as a discussion of protective measures agreed to by Calneva BESS/PSES and the resource agencies.

BIO 4: Exclusion Zone Fencing: Calneva BESS/PSES will mark the boundaries of environmentally sensitive exclusion zones and sensitive habitat features that are to be avoided (active burrows, active nests, special status plant species locations, etc.) before and during construction with highly visible flagging or fencing to prevent impacts from vehicles. All construction personnel will be required to conduct work activities within the defined area only.

BIO 5: Vegetation Removal: Calneva BESS/PSES contractor will only remove vegetation within the approved work area. Low impact construction will be adhered to minimize removal of vegetation and restrict grading.

General Construction

BIO 6: Work Area: Calneva BESS/PSES will confine all heavy equipment, vehicles, and construction work to approved roads and work areas. Solar array work areas will be limited to what is necessary for construction (Pile Driver). Where possible, construction vehicles will be kept out of the project areas with the potential to support special-status species. Where these avoidance measures are not feasible, Calneva BESS/PSES will apply for and obtain the appropriate permits prior to construction from the Lahontan Regional Water Quality Control Board (LRWQCB), grading permit and will implement any additional avoidance or mitigation measures that are agreed upon during the grading permit process.

BIO 7: Construction Monitoring: Calneva BESS/PSES will retain a qualified biologist(s) to be on-site during construction activities to perform pre-activity surveys just prior to construction in order to clear the work area of any special-status species, and to monitor compliance with mitigation measures.

BIO 8: Workday Schedule: To the extent possible, Calneva BESS/PSES will conduct all construction activity during daylight hours only. Where it is deemed necessary and feasible, night lighting and monitors will be used for work that occurs after sundown.

BIO 9: Vehicle Inspection: Calneva BESS/PSES will ensure that all construction personnel are instructed to visually check for wildlife beneath vehicles and equipment before moving or operating them.

BIO 10: Speed Limit: Calneva BESS/PSES will enforce a speed limit of 15 miles per hour on private roads and the posted speed limit on public roads.

BIO 11: Trench Ramping: At the conclusion of each day's trenching or excavating activities, the end of the trench will be ramped at an approximate 2 to 1 slope to allow any wildlife that enters the trench to escape. A biological monitor may approve the use of boards placed at an approximate 2 to 1 slope for site-specific, pre-approved locations where earthen escape ramps are not feasible.

BIO 12: Sensitive Habitat Monitoring and Procedures if Listed Species are Found: In accordance with the FESA and CESA, Calneva BESS/PSES will retain a qualified biological monitor to inspect any construction activity in habitat that is to be avoided or preserved to ensure that no unauthorized or unnecessary take of listed species or destruction of their habitat occurs. Upon recommendation of the biological monitor, the Calneva BESS/PSES work supervisor will be responsible for avoiding and stopping all activities that may result in such take or destruction of habitat until appropriate corrective measures have been completed. Calneva BESS/PSES will be responsible for immediately reporting any unauthorized impacts to the USFWS and the CDFW.

BIO 13: Trash Cleanup: Calneva BESS/PSES will properly contain and remove all trash and waste items generated by construction or crew activities.

BIO 14: Prohibitions for Pets, Fire, Firearms: Calneva BESS/PSES will prohibit employees, contractors, and subcontractors from having pets, campfires, or firearms at the project site. Smoking will be limited to designated smoking areas only.

General Postconstruction

BIO 15: Restoration: Calneva BESS/PSES will restore work areas to pre-existing contours and conditions upon completion of work. Restoration, including revegetation and soil stabilization, will be performed as outlined in the Restoration and Monitoring Plan described below.

BIO 16: Project Lease Area Restoration Plan: Calneva BESS/PSES will prepare a Restoration and Monitoring Plan to address postconstruction revegetation, success criteria, and monitoring periods in natural areas. The intent of this plan will be to ensure that impacts are minimized and adequately mitigated to the satisfaction of the permitting agencies, property owners, and/or habitat managers. Restoration will result in restoration of temporarily disturbed areas to conditions similar to preconstruction conditions. The Restoration and Monitoring Plan to be developed by Calneva BESS/PSES for review with resource agencies will include, at a minimum, the following measures:

At the completion of construction activities, the ROW will be graded to restore flow lines and natural topography.
Ripping or disking will be performed to relieve compaction at identified locations as needed.
Stockpiled topsoil will be re-spread, providing organic matter and a seed bank for restoration.
At the completion of soil work, all areas disturbed by construction activities will be subject to implementation of permanent erosion control measures.
Permanent erosion control measures could include spreading a combination of native grass and forb seed, fertilizer, compost, and mulch for soil protection.
Seed mixes will be identified, for Desert sink scrub areas and existing disturbed habitat areas.

BIO 17: Seed Mix and Success Criteria: In sensitive communities such as Desert sink scrub areas, Calneva's Restoration and Monitoring Plan will include the use of native seed or plantings and will specify native species lists and propagule types, quantities of material, and appropriate success criteria and monitoring requirements to be determined in discussion with the appropriate resource agencies with responsibility for those areas (e.g., Lassen County, CDFW, and/or LRWQCB).

BIO 18: Erosion Control: Calneva BESS/PSES will install and maintain appropriate temporary erosion and sediment control measures until revegetation is successful as defined by the success criteria to be outlined in the Restoration and Monitoring Plan.

Special-status and Nesting Birds

BIO 19: Bird Nest Surveys and Monitoring: Because construction will take place during the breeding and nesting season of avian species in the project area (typically February 1 through August 31), Calneva BESS/PSES will conduct nesting bird surveys prior to construction for avian species with potential to occur on-site, or where accessible, in areas adjacent to construction. Where nesting migratory birds are found in or near the project area, the birds and their nests will be evaluated by a qualified biologist. If nest disturbance is anticipated, the biologist will ensure adequate mitigation measures are implemented (**BIO 20**).

BIO 20: Nesting Birds: In accordance with the MBTA, if an active nest is observed in the project area during construction, Calneva BESS/PSES will stop work within the appropriate buffer for the species and contact the biological monitor immediately. Nest disturbance is dependent on a number of site-specific and activity-specific factors, including the sensitivity of the species, proximity to work activity, amount of noise or frequency of the work activity, and intervening topography, vegetation, structures, etc. Additional mitigation may be required to minimize disturbance of detected nesting activity, such as allowing nesting activity to conclude before continuing construction in an area, restricting certain types of construction practices/activities, creating screening devices to shield nest sites from construction activity, and establishing buffer areas around active nest sites. For inactive nests, measures could include removal and/or handling of nest materials, which will be conducted under the supervision of a qualified biologist.

American Badgers

BIO 21: Burrowing American Badger Surveys: Calneva BESS/PSES will retain a qualified biologist to conduct burrowing American badger surveys and to identify any occupied burrows in all project action areas and buffer zones with suitable habitat. These surveys will be conducted not more than 30 days prior to initial ground-disturbing activities. If the survey results are negative (no badger dens observed), no additional work would be necessary. If the results are positive (badger dens observed), the qualified biologist shall install a game camera at the den(s) for three (3) days and three (3) nights to determine if the den is in use. If the game camera does not capture an individual entering/exiting the den, the den can be excavated by hand. If the camera captures badger use of the den, the qualified biologist shall install a one-way door in the den opening and continue use of the game camera. Once the camera captures the individual exiting the one-way door, the den can be excavated by hand.

BIO 22: Burrow Avoidance: If occupied burrows are identified during surveys, Calneva BESS/PSES will maintain a buffer of approximately 160 feet from occupied burrows during the nonbreeding season of October through July, and approximately 250 feet during the breeding season of August through September. Occupied burrows will not be disturbed within these buffers during the breeding season, from August through September, unless a qualified biologist has verified that the badgers have not begun mating, or the offspring from those burrows are foraging independently and capable of independent survival at a given date.

BIO 23: American Badger Monitoring Plan: If relocation of burrows is required, Calneva BESS/PSES will prepare a American Badger Monitoring Plan, which will include mitigation success criteria and a timeline for submittal of annual reports to the CDFW. Annual reports will describe the number and locations of relocations, relocation procedures used, and the degree of success.

Biological Resources Initial Study Responses

Table 6.4-2: Biological Resources Initial Study Responses

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☑	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
c) Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑

WOULD THE PROJECT:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

Responses to Initial Study Questions

Species Impacts: Less than Significant with Mitigation Incorporated

The entire project area is crisscrossed with road, rail, and other easements which accommodate various improvements which, despite the isolated nature of the property, have altered the natural aspect to the land it occupies. Vegetation cover is limited to mottled shrub vegetation interspersed with alkali basins/flats/playas which are barren and void of vegetation. Habitats (*Holland's Desert Sink Scrub*) contained within the project area is, therefore, less than ideal for special status species identified in the region. However, should these species appear within the bounds of the proposed project lease area or perimeter, implementation of mitigation measures BIO-1 through BIO-25 would be taken within the proposed project lease area. Thus, there would be no potential for special status plant or wildlife species to be significantly impacted within the project lease area with mitigations incorporated and proper design and avoidance. The proposed project would not directly impact any special status species or habitat of such species given the avoidance of such species if they were to occur within the project lease area. The construction of the proposed Calneva BESS/PSES facilities could possibly, however, disturb potential bird nesting in the project lease area or nearby surrounding area that contain thorny scrub vegetation to protect nesting birds, as well as other special-status species within the project lease area if they occur. However, with the implementation of mitigation measures outlined above BIO-1, through BIO-25 they would reduce any potential impacts to sensitive species to a less-than-significant level.

Riparian and Other Sensitive Habitats: No Impact

There are no riparian habitats or sensitive natural communities within the proposed project lease area. The proposed project lease area is comprised of disturbed habitat, alkali basins/flats/playas which are barren and void of vegetation as well as Desert sink scrub plant community that supports some limited vegetation. The proposed Calneva BESS/PSES project would have no impact on riparian or other sensitive habitats. No impact.

Federally and State Protected Wetlands: No Impact

There are no federal or state jurisdictional wetland features at the proposed Calneva BESS/PSES project lease area as defined by the United States' Navigable Waters Protection Rule or the California State Water Resources Control Board's 2020 State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (New Rule effective May 28, 2020). Therefore, the proposed Calneva BESS/PSES project would have no Impact on federally/state protected wetlands.

Interfere with Movement of Native Wildlife: No Impact

Although the proposed project lease area is along the Pacific Flyway, an established air route of waterfowl and other birds migrating between wintering grounds in Central and South America and nesting grounds in Pacific Coast states and provinces of North America, the lack of aquatic features and higher-quality vegetation communities preclude migratory bird species from using the proposed project area as a stopover during their migration. The lack of aquatic features would also preclude potential project-related impacts to resident and migratory fish. Therefore, the proposed project area does not provide wildlife movement corridors and the project will have no impact on the movement of terrestrial or aquatic wildlife.

Conflict with Local Policies: No Impact

The proposed Calneva BESS/PSES project would adhere to the proposed policies and implementation measures of all local policies or ordinances protecting biological resources. This project is consistent with Lassen County General Plan 2000 goals and policies for wildlife. Therefore, No Impact is anticipated.

Conflict with Conservation Plans: No Impact

The proposed Calneva BESS/PSES facility will comply with all conservation plans and would not conflict with any approved local, regional, or state habitat conservation plans.